An Introduction and Explanation of the Common Core State Standards as produced by the Common Core State Standards Initiative

Prepared for the
House and Senate Interim Committees on Education

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Contents

The standards can also be downloaded from the Common Core State Standards website:
www.corestandards.org/the-standards/download-the-standards

Introduction to the Common Core State Standards

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June 2, 2010

The Council of Chief State School Officers (CCSSO) and the National Governors Association Center for Best Practices (NGA Center) are pleased to present the final Kindergarten-12 Common Core State Standards documents that our organizations have produced on behalf of 48 states, two territories, and the District of Columbia. These English language arts and mathematics standards represent a set of expectations for student knowledge and skills that high school graduates need to master to succeed in college and careers.

To develop these standards, CCSSO and the NGA Center worked with representatives from participating states, a wide range of educators, content experts, researchers, national organizations, and community groups. These final standards reflect the invaluable feedback from the general public, teachers, parents, business leaders, states, and content area experts and are informed by the standards of other high performing nations.

You will notice that the college- and career-readiness standards have been incorporated into the K-12 standards, as was promised in the March 10, 2010 draft. The criteria that we used to develop the college- and career-readiness standards, as well as these K-12 standards are:

- Aligned with college and work expectations;
- Include rigorous content *and* application of knowledge through high-order skills;
- Build upon strengths and lessons of current state standards;
- Informed by top-performing countries, so that all students are prepared to succeed in our global economy and society; and,
- Evidence and/or research-based.

The following links provide more information about the criteria and considerations for standards development. The standards development process has incorporated the best practices and research from across the nation and the world. While we have used all available research to shape these documents, we recognize that there is more to be learned about the most essential knowledge for student success. As new research is conducted and we evaluate the implementation of the common core standards, we plan to revise the standards on a set review cycle.

Our organizations would like to thank our advisory group, which provides advice and guidance on this initiative. Additional thanks are also given to the writers of the standards, who devoted countless weekends and late nights to ensuring that the standards meet the high expectations for rigor and clarity.

Application of the Common Core State Standards for English Language Learners

Application of Common Core State Standards for English Language Learners

The National Governors Association Center for Best Practices and the Council of Chief State School Officers strongly believe that all students should be held to the same high expectations outlined in the Common Core State Standards. This includes students who are English language learners (ELLs). However, these students may require additional time, appropriate instructional support, and aligned assessments as they acquire both English language proficiency and content area knowledge.

ELLs are a heterogeneous group with differences in ethnic background, first language, socioeconomic status, quality of prior schooling, and levels of English language proficiency. Effectively educating these students requires diagnosing each student instructionally, adjusting instruction accordingly, and closely monitoring student progress. For example, ELLs who are literate in a first language that shares cognates with English can apply first-language vocabulary knowledge when reading in English; likewise ELLs with high levels of schooling can often bring to bear conceptual knowledge developed in their first language when reading in English. However, ELLs with limited or interrupted schooling will need to acquire background knowledge prerequisite to educational tasks at hand. Additionally, the development of native like proficiency in English takes many years and will not be achieved by all ELLs especially if they start schooling in the US in the later grades. Teachers should recognize that it is possible to achieve the standards for reading and literature, writing & research, language development and speaking & listening without manifesting native-like control of conventions and vocabulary.

English Language Arts

The Common Core State Standards for English language arts (ELA) articulate rigorous grade-level expectations in the areas of speaking, listening, reading, and writing to prepare all students to be college and career ready, including English language learners. Second-language learners also will benefit from instruction about how to negotiate situations outside of those settings so they are able to participate on equal footing with native speakers in all aspects of social, economic, and civic endeavors.

ELLs bring with them many resources that enhance their education and can serve as resources for schools and society. Many ELLs have first language and literacy knowledge and skills that boost their acquisition of language and literacy in a second language; additionally, they bring an array of talents and cultural practices and perspectives that enrich our schools and society. Teachers must build on this enormous reservoir of talent and provide those students who need it with additional time and appropriate instructional support. This includes language proficiency standards that teachers can use in conjunction with the ELA standards to assist ELLs in becoming proficient and literate in English. To help ELLs meet high academic standards in language arts it is essential that they have access to:

- Teachers and personnel at the school and district levels who are well prepared and qualified to support ELLs while taking advantage of the many strengths and skills they bring to the classroom;

- Literacy-rich school environments where students are immersed in a variety of language experiences;
- Instruction that develops foundational skills in English and enables ELLs to participate fully in grade-level coursework;
- Coursework that prepares ELLs for postsecondary education or the workplace, yet is made comprehensible for students learning content in a second language (through specific pedagogical techniques and additional resources);
- Opportunities for classroom discourse and interaction that are well-designed to enable ELLs to develop communicative strengths in language arts;
- Ongoing assessment and feedback to guide learning; and
- Speakers of English who know the language well enough to provide ELLs with models and support.

Mathematics

ELLs are capable of participating in mathematical discussions as they learn English. Mathematics instruction for ELL students should draw on multiple resources and modes available in classrooms—such as objects, drawings, inscriptions, and gestures—as well as home languages and mathematical experiences outside of school. Mathematics instruction for ELLs should address mathematical discourse and academic language. This instruction involves much more than vocabulary lessons. Language is a resource for learning mathematics; it is not only a tool for communicating, but also a tool for thinking and reasoning mathematically. All languages and language varieties (e.g., different dialects, home or everyday ways of talking, vernacular, slang) provide resources for mathematical thinking, reasoning, and communicating.

Regular and active participation in the classroom—not only reading and listening but also discussing, explaining, writing, representing, and presenting—is critical to the success of ELLs in mathematics. Research has shown that ELLs can produce explanations, presentations, etc. and participate in classroom discussions *as they are learning English*.

ELLs, like English-speaking students, require regular access to teaching practices that are most effective for improving student achievement. Mathematical tasks should be kept at high cognitive demand; teachers and students should attend explicitly to concepts; and students should wrestle with important mathematics.

Overall, research suggests that:

- Language switching can be swift, highly automatic, and facilitate rather than inhibit solving word problems in the second language, as long as the student’s language proficiency is sufficient for understanding the text of the word problem;
- Instruction should ensure that students understand the text of word problems before they attempt to solve them;
- Instruction should include a focus on “mathematical discourse” and “academic language” because these are important for ELLs. Although it is critical that

- students who are learning English have opportunities to communicate mathematically, this is not primarily a matter of learning vocabulary. Students learn to participate in mathematical reasoning, not by learning vocabulary, but by making conjectures, presenting explanations, and/or constructing arguments; and
- While vocabulary instruction is important, it is not sufficient for supporting mathematical communication. Furthermore, vocabulary drill and practice are not the most effective instructional practices for learning vocabulary. Research has demonstrated that vocabulary learning occurs most successfully through instructional environments that are language-rich, actively involve students in using language, require that students both understand spoken or written words and also express that understanding orally and in writing, and require students to use words in multiple ways over extended periods of time. To develop written and oral communication skills, students need to participate in negotiating meaning for mathematical situations and in mathematical practices that require output from students.

Application to Students with Disabilities

Application to Students with Disabilities

The Common Core State Standards articulate rigorous grade-level expectations in the areas of mathematics and English language arts.. These standards identify the knowledge and skills students need in order to be successful in college and careers

Students with disabilities —students eligible under the Individuals with Disabilities Education Act (IDEA)—must be challenged to excel within the general curriculum and be prepared for success in their post-school lives, including college and/or careers. These common standards provide an historic opportunity to improve access to rigorous academic content standards for students with disabilities. The continued development of understanding about research-based instructional practices and a focus on their effective implementation will help improve access to mathematics and English language arts (ELA) standards for all students, including those with disabilities.

Students with disabilities are a heterogeneous group with one common characteristic: the presence of disabling conditions that significantly hinder their abilities to benefit from general education (IDEA 34 CFR §300.39, 2004). Therefore, *how* these high standards are taught and assessed is of the utmost importance in reaching this diverse group of students.

In order for students with disabilities to meet high academic standards and to fully demonstrate their conceptual and procedural knowledge and skills in mathematics, reading, writing, speaking and listening (English language arts), their instruction must incorporate supports and accommodations, including:

- supports and related services designed to meet the unique needs of these students and to enable their access to the general education curriculum (IDEA 34 CFR §300.34, 2004).

- An Individualized Education Program (IEP)[1] which includes annual goals aligned with and chosen to facilitate their attainment of grade-level academic standards.

- Teachers and specialized instructional support personnel who are prepared and qualified to deliver high-quality, evidence-based, individualized instruction and support services.

Promoting a culture of high expectations for all students is a fundamental goal of the Common Core State Standards. In order to participate with success in the general curriculum, students with disabilities, as appropriate, may be provided additional supports and services, such as:

- Instructional supports for learning— based on the principles of Universal Design for Learning (UDL)[2] —which foster student engagement by presenting information in multiple ways and allowing for diverse avenues of action and expression.

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[1] According to IDEA, an IEP includes appropriate accommodations that are necessary to measure the individual achievement and functional performance of a child

[2] UDL is defined as "a scientifically valid framework for guiding educational practice that (a) provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and (b) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains

- Instructional accommodations (Thompson, Morse, Sharpe & Hall, 2005) —changes in materials or procedures— which do not change the standards but allow students to learn within the framework of the Common Core.

- Assistive technology devices and services to ensure access to the general education curriculum and the Common Core State Standards.

Some students with the most significant cognitive disabilities will require substantial supports and accommodations to have meaningful access to certain standards in both instruction and assessment, based on their communication and academic needs. These supports and accommodations should ensure that students receive access to multiple means of learning and opportunities to demonstrate knowledge, but retain the rigor and high expectations of the Common Core State Standards.

References

Individuals with Disabilities Education Act (IDEA), 34 CFR §300.34 (a). (2004).

Individuals with Disabilities Education Act (IDEA), 34 CFR §300.39 (b)(3). (2004).

Thompson, Sandra J., Amanda B. Morse, Michael Sharpe, and Sharon Hall. "Accommodations Manual: How to Select, Administer and Evaluate Use of Accommodations and Assessment for Students with Disabilities," 2nd Edition. Council for Chief State School Officers, 2005 http://www.ccsso.org/content/pdfs/AccommodationsManual.pdf . (Accessed January, 29, 2010).

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high achievement expectations for all students, including students with disabilities and students who are limited English proficient." by Higher Education Opportunity Act (PL 110-135)

English Language Arts

Appendix A:

Research Supporting Key Elements of the Standards

Glossary of Key Terms

COMMON CORE STATE STANDARDS FOR

English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

Appendix A:

Research Supporting
Key Elements of the Standards

Glossary of Key Terms

Reading

One of the key requirements of the Common Core State Standards for Reading is that all students must be able to comprehend texts of steadily increasing complexity as they progress through school. By the time they complete the core, students must be able to read and comprehend independently and proficiently the kinds of complex texts commonly found in college and careers. The first part of this section makes a research-based case for why the complexity of what students read matters. In brief, while reading demands in college, workforce training programs, and life in general have held steady or increased over the last half century, K–12 texts have actually declined in sophistication, and relatively little attention has been paid to students' ability to read complex texts independently. These conditions have left a serious gap between many high school seniors' reading ability and the reading requirements they will face after graduation. The second part of this section addresses how text complexity can be measured and made a regular part of instruction. It introduces a three-part model that blends qualitative and quantitative measures of text complexity with reader and task considerations. The section concludes with three annotated examples showing how the model can be used to assess the complexity of various kinds of texts appropriate for different grade levels.

Why Text Complexity Matters

In 2006, ACT, Inc., released a report called *Reading Between the Lines* that showed which skills differentiated those students who equaled or exceeded the benchmark score (21 out of 36) in the reading section of the ACT college admissions test from those who did not. Prior ACT research had shown that students achieving the benchmark score or better in reading—which only about half (51 percent) of the roughly half million test takers in the 2004–2005 academic year had done—had a high probability (75 percent chance) of earning a C or better in an introductory, credit-bearing course in U.S. history or psychology (two common reading-intensive courses taken by first-year college students) and a 50 percent chance of earning a B or better in such a course.[1]

Surprisingly, what chiefly distinguished the performance of those students who had earned the benchmark score or better from those who had not was not their relative ability in making inferences while reading or answering questions related to particular cognitive processes, such as determining main ideas or determining the meaning of words and phrases in context. Instead, the clearest differentiator was students' ability to answer questions associated with complex texts. Students scoring below benchmark performed no better than chance (25 percent correct) on four-option multiple-choice questions pertaining to passages rated as "complex" on a three-point qualitative rubric described in the report. These findings held for male and female students, students from all racial/ethnic groups, and students from families with widely varying incomes. The most important implication of this study was that a pedagogy focused only on "higher-order" or "critical" thinking was insufficient to ensure that students were ready for college and careers: what students could read, in terms of its complexity, was at least as important as what they could do with what they read.

The ACT report is one part of an extensive body of research attesting to the importance of text complexity in reading achievement. The clear, alarming picture that emerges from the evidence, briefly summarized below[2], is that while the reading demands of college, workforce training programs, and citizenship have held steady or risen over the past fifty years or so, K–12 texts have, if anything, become less demanding. This finding is the impetus behind the Standards' strong emphasis on increasing text complexity as a key requirement in reading.

College, Careers, and Citizenship: Steady or Increasing Complexity of Texts and Tasks

Research indicates that the demands that college, careers, and citizenship place on readers have either held steady or increased over roughly the last fifty years. The difficulty of college textbooks, as measured by Lexile scores, has not decreased in any block of time since 1962; it has, in fact, increased over that period (Stenner, Koons, & Swartz, in press). The word difficulty of every scientific journal and magazine from 1930 to 1990 examined by Hayes and Ward (1992) had actually increased, which is important in part because, as a 2005 College Board study (Milewski, Johnson, Glazer, & Kubota, 2005) found, college professors assign more readings from periodicals than do high school teachers. Workplace reading, measured in Lexiles, exceeds grade 12 complexity significantly, although there is considerable variation (Stenner, Koons, & Swartz, in press). The vocabulary difficulty of newspapers remained stable over the 1963–1991 period Hayes and his colleagues (Hayes, Wolfer, & Wolfe, 1996) studied.

Furthermore, students in college are expected to read complex texts with substantially greater independence (i.e., much less scaffolding) than are students in typical K–12 programs. College students are held more accountable for what they read on their own than are most students in high school (Erickson & Strommer, 1991; Pritchard, Wilson, & Yamnitz, 2007). College instructors assign readings, not necessarily explicated in class, for which students might be held accountable through exams, papers, presentations, or class discussions. Students in high school, by contrast, are

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[1]In the 2008–2009 academic year, only 53 percent of students achieved the reading benchmark score or higher; the increase from 2004–2005 was not statistically significant. See ACT, Inc. (2009).

[2]Much of the summary found in the next two sections is heavily influenced by Marilyn Jager Adams's painstaking review of the relevant literature. See Adams (2009).

rarely held accountable for what they are able to read independently (Heller & Greenleaf, 2007). This discrepancy in task demand, coupled with what we see below is a vast gap in text complexity, may help explain why only about half of the students taking the ACT Test in the 2004–2005 academic year could meet the benchmark score in reading (which also was the case in 2008–2009, the most recent year for which data are available) and why so few students in general are prepared for postsecondary reading (ACT, Inc., 2006, 2009).

K–12 Schooling: Declining Complexity of Texts and a Lack of Reading of Complex Texts Independently

Despite steady or growing reading demands from various sources, K–12 reading texts have actually trended downward in difficulty in the last half century. Jeanne Chall and her colleagues (Chall, Conard, & Harris, 1977) found a thirteen-year decrease from 1963 to 1975 in the difficulty of grade 1, grade 6, and (especially) grade 11 texts. Extending the period to 1991, Hayes, Wolfer, and Wolfe (1996) found precipitous declines (relative to the period from 1946 to 1962) in average sentence length and vocabulary level in reading textbooks for a variety of grades. Hayes also found that while science books were more difficult to read than literature books, only books for Advanced Placement (AP) classes had vocabulary levels equivalent to those of even newspapers of the time (Hayes & Ward, 1992). Carrying the research closer to the present day, Gary L. Williamson (2006) found a 350L (Lexile) gap between the difficulty of end-of-high school and college texts—a gap equivalent to 1.5 standard deviations and more than the Lexile difference between grade 4 and grade 8 texts on the National Assessment of Educational Progress (NAEP). Although legitimate questions can be raised about the tools used to measure text complexity (e.g., Mesmer, 2008), what is relevant in these numbers is the general, steady decline—over time, across grades, and substantiated by several sources—in the difficulty and likely also the sophistication of content of the texts students have been asked to read in school since 1962.

There is also evidence that current standards, curriculum, and instructional practice have not done enough to foster the independent reading of complex texts so crucial for college and career readiness, particularly in the case of informational texts. K–12 students are, in general, given considerable scaffolding—assistance from teachers, class discussions, and the texts themselves (in such forms as summaries, glossaries, and other text features)—with reading that is already less complex overall than that typically required of students prior to 1962.[3] What is more, students today are asked to read very little expository text—as little as 7 and 15 percent of elementary and middle school instructional reading, for example, is expository (Hoffman, Sabo, Bliss, & Hoy, 1994; Moss & Newton, 2002; Yopp & Yopp, 2006)—yet much research supports the conclusion that such text is harder for most students to read than is narrative text (Bowen & Roth, 1999; Bowen, Roth, & McGinn, 1999, 2002; Heller & Greenleaf, 2007; Shanahan & Shanahan, 2008), that students need sustained exposure to expository text to develop important reading strategies (Afflerbach, Pearson, & Paris, 2008; Kintsch, 1998, 2009; McNamara, Graesser, & Louwerse, in press; Perfetti, Landi, & Oakhill, 2005; van den Broek, Lorch, Linderholm, & Gustafson, 2001; van den Broek, Risden, & Husebye-Hartmann, 1995), and that expository text makes up the vast majority of the required reading in college and the workplace (Achieve, Inc., 2007). Worse still, what little expository reading students are asked to do is too often of the superficial variety that involves skimming and scanning for particular, discrete pieces of information; such reading is unlikely to prepare students for the cognitive demand of true understanding of complex text.

The Consequences: Too Many Students Reading at Too Low a Level

The impact that low reading achievement has on students' readiness for college, careers, and life in general is significant. To put the matter bluntly, a high school graduate who is a poor reader is a postsecondary student who must struggle mightily to succeed. The National Center for Education Statistics (NCES) (Wirt, Choy, Rooney, Provasnik, Sen, & Tobin, 2004) reports that although needing to take one or more remedial/developmental courses of any sort lowers a student's chance of eventually earning a degree or certificate, "the need for remedial reading appears to be the most serious barrier to degree completion" (p. 63). Only 30 percent of 1992 high school seniors who went on to enroll in postsecondary education between 1992 and 2000 and then took any remedial reading course went on to receive a degree or certificate, compared to 69 percent of the 1992 seniors who took no postsecondary remedial courses and 57 percent of those who took one remedial course in a subject other than reading or mathematics. Considering that 11 percent of those high school seniors required at least one remedial reading course, the societal impact of low reading achievement is as profound as its impact on the aspirations of individual students.

Reading levels among the adult population are also disturbingly low. The 2003 National Assessment of Adult Literacy (Kutner, Greenberg, Jin, Boyle, Hsu, & Dunleavy, 2007) reported that 14 percent of adults read prose texts at "below basic" level, meaning they could exhibit "no more than the most simple and concrete literacy skills"; a similarly small number (13 percent) could read prose texts at the "proficient level," meaning they could perform "more complex and challenging literacy activities" (p. 4). The percent of "proficient" readers had actually declined in a statistically significant way from 1992 (15 percent). This low and declining achievement rate may be connected to a general lack of reading. As reported by the National Endowment for the Arts (2004), the percent of U.S. adults reading literature dropped from 54.0 in 1992 to 46.7 in 2002, while the percent of adults reading *any* book also declined by 7 percent

[3] As also noted in "Key Considerations in Implementing Text Complexity," below, it is important to recognize that scaffolding often is entirely appropriate. The expectation that scaffolding will occur with particularly challenging texts is built into the Standards' grade-by-grade text complexity expectations, for example. The general movement, however, should be toward *decreasing scaffolding* and *increasing independence* both within and across the text complexity bands defined in the Standards.

during the same time period. Although the decline occurred in all demographic groups, the steepest decline by far was among 18-to-24- and 25-to-34-year-olds (28 percent and 23 percent, respectively). In other words, the problem of lack of reading is not only getting worse but doing so at an accelerating rate. Although numerous factors likely contribute to the decline in reading, it is reasonable to conclude from the evidence presented above that the deterioration in overall reading ability, abetted by a decline in K–12 text complexity and a lack of focus on independent reading of complex texts, is a contributing factor.

Being able to read complex text independently and proficiently is essential for high achievement in college and the workplace and important in numerous life tasks. Moreover, current trends suggest that if students cannot read challenging texts with understanding—if they have not developed the skill, concentration, and stamina to read such texts—they will read less in general. In particular, if students cannot read complex expository text to gain information, they will likely turn to text-free or text-light sources, such as video, podcasts, and tweets. These sources, while not without value, cannot capture the nuance, subtlety, depth, or breadth of ideas developed through complex text. As Adams (2009) puts it, "There may one day be modes and methods of information delivery that are as efficient and powerful as text, but for now there is no contest. To grow, our students must read lots, and more specifically they must read lots of 'complex' texts—texts that offer them new language, new knowledge, and new modes of thought" (p. 182). A turning away from complex texts is likely to lead to a general impoverishment of knowledge, which, because knowledge is intimately linked with reading comprehension ability, will accelerate the decline in the ability to comprehend complex texts and the decline in the richness of text itself. This bodes ill for the ability of Americans to meet the demands placed upon them by citizenship in a democratic republic and the challenges of a highly competitive global marketplace of goods, services, and ideas.

It should be noted also that the problems with reading achievement are not "equal opportunity" in their effects: students arriving at school from less-educated families are disproportionately represented in many of these statistics (Bettinger & Long, 2009). The consequences of insufficiently high text demands and a lack of accountability for independent reading of complex texts in K–12 schooling are severe for everyone, but they are disproportionately so for those who are already most isolated from text before arriving at the schoolhouse door.

The Standards' Approach to Text Complexity

To help redress the situation described above, the Standards define a three-part model for determining how easy or difficult a particular text is to read as well as grade-by-grade specifications for increasing text complexity in successive years of schooling (Reading standard 10). These are to be used together with grade-specific standards that require increasing sophistication in students' reading comprehension ability (Reading standards 1–9). The Standards thus approach the intertwined issues of what and how student read.

A Three-Part Model for Measuring Text Complexity

As signaled by the graphic at right, the Standards' model of text complexity consists of three equally important parts.

(1) Qualitative dimensions of text complexity. In the Standards, *qualitative dimensions* and *qualitative factors* refer to those aspects of text complexity best measured or only measurable by an attentive human reader, such as levels of meaning or purpose; structure; language conventionality and clarity; and knowledge demands.

(2) Quantitative dimensions of text complexity. The terms *quantitative dimensions* and *quantitative factors* refer to those aspects of text complexity, such as word length or frequency, sentence length, and text cohesion, that are difficult if not impossible for a human reader to evaluate efficiently, especially in long texts, and are thus today typically measured by computer software.

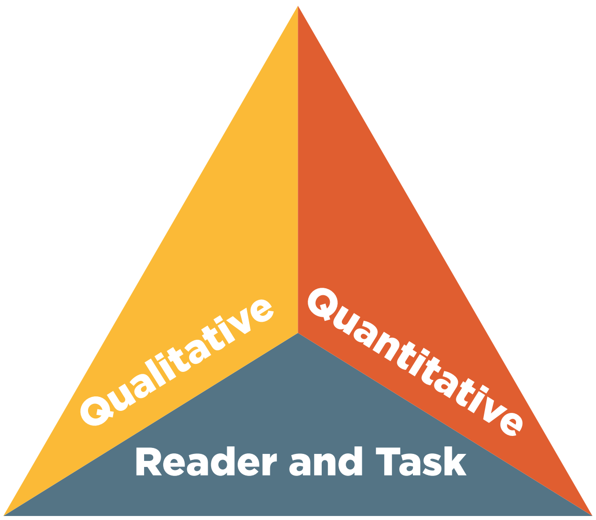


Figure 1: The Standards' Model of Text Complexity

(3) Reader and task considerations. While the prior two elements of the model focus on the inherent complexity of text, variables specific to particular readers (such as motivation, knowledge, and experiences) and to particular tasks (such as purpose and the complexity of the task assigned and the questions posed) must also be considered when determining whether a text is appropriate for a given student. Such assessments are best made by teachers employing their professional judgment, experience, and knowledge of their students and the subject.

The Standards presume that all three elements will come into play when text complexity and appropriateness are determined. The following pages begin with a brief overview of just some of the currently available tools, both qualitative and quantitative, for measuring text complexity, continue with some important considerations for using text complexity with students, and conclude with a series of examples showing how text complexity measures, balanced with reader and task considerations, might be used with a number of different texts.

Qualitative and Quantitative Measures of Text Complexity

The qualitative and quantitative measures of text complexity described below are representative of the best tools presently available. However, each should be considered only provisional; more precise, more accurate, and easier-to-use tools are urgently needed to help make text complexity a vital, everyday part of classroom instruction and curriculum planning.

Qualitative Measures of Text Complexity

Using qualitative measures of text complexity involves making an informed decision about the difficulty of a text in terms of one or more factors discernible to a human reader applying trained judgment to the task. In the Standards, qualitative measures, along with professional judgment in matching a text to reader and task, serve as a necessary complement and sometimes as a corrective to quantitative measures, which, as discussed below, cannot (at least at present) capture all of the elements that make a text easy or challenging to read and are not equally successful in rating the complexity of all categories of text.

Built on prior research, the four qualitative factors described below are offered here as a first step in the development of robust tools for the qualitative analysis of text complexity. These factors are presented as continua of difficulty rather than as a succession of discrete “stages” in text complexity. Additional development and validation would be needed to translate these or other dimensions into, for example, grade-level- or grade-band-specific rubrics. The qualitative factors run from easy (left-hand side) to difficult (right-hand side). Few, if any, authentic texts will be low or high on all of these measures, and some elements of the dimensions are better suited to literary or to informational texts.

(1) ***Levels of Meaning (literary texts) or Purpose (informational texts).*** Literary texts with a single level of meaning tend to be easier to read than literary texts with multiple levels of meaning (such as satires, in which the author’s literal message is intentionally at odds with his or her underlying message). Similarly, informational texts with an explicitly stated purpose are generally easier to comprehend than informational texts with an implicit, hidden, or obscure purpose.

(2) ***Structure.*** Texts of low complexity tend to have simple, well-marked, and conventional structures, whereas texts of high complexity tend to have complex, implicit, and (particularly in literary texts) unconventional structures. Simple literary texts tend to relate events in chronological order, while complex literary texts make more frequent use of flashbacks, flash-forwards, and other manipulations of time and sequence. Simple informational texts are likely not to deviate from the conventions of common genres and subgenres, while complex informational texts are more likely to conform to the norms and conventions of a specific discipline. Graphics tend to be simple and either unnecessary or merely supplementary to the meaning of texts of low complexity, whereas texts of high complexity tend to have similarly complex graphics, graphics whose interpretation is essential to understanding the text, and graphics that provide an independent source of information within a text. (Note that many books for the youngest students rely heavily on graphics to convey meaning and are an exception to the above generalization.)

(3) ***Language Conventionality and Clarity.*** Texts that rely on literal, clear, contemporary, and conversational language tend to be easier to read than texts that rely on figurative, ironic, ambiguous, purposefully misleading, archaic or otherwise unfamiliar language or on general academic and domain-specific vocabulary.

(4) ***Knowledge Demands.*** Texts that make few assumptions about the extent of readers’ life experiences and the depth of their cultural/literary and content/discipline knowledge are generally less complex than are texts that make many assumptions in one or more of those areas.

Figure 2: Qualitative Dimensions of Text Complexity

Levels of Meaning (literary texts) or Purpose (informational texts)

- Single level of meaning → Multiple levels of meaning
- Explicitly stated purpose → Implicit purpose, may be hidden or obscure

Structure

- Simple → Complex
- Explicit → Implicit
- Conventional → Unconventional (chiefly literary texts)
- Events related in chronological order → Events related out of chronological order (chiefly literary texts)
- Traits of a common genre or subgenre → Traits specific to a particular discipline (chiefly informational texts)
- Simple graphics → Sophisticated graphics
- Graphics unnecessary or merely supplementary to understanding the text → Graphics essential to understanding the text and may provide information not otherwise conveyed in the text

Language Conventionality and Clarity

- Literal → Figurative or ironic
- Clear → Ambiguous or purposefully misleading
- Contemporary, familiar → Archaic or otherwise unfamiliar
- Conversational → General academic and domain-specific

Knowledge Demands: Life Experiences (literary texts)

- Simple theme → Complex or sophisticated themes
- Single themes → Multiple themes
- Common, everyday experiences or clearly fantastical situations → Experiences distinctly different from one's own
- Single perspective → Multiple perspectives
- Perspective(s) like one's own → Perspective(s) unlike or in opposition to one's own

Knowledge Demands: Cultural/Literary Knowledge (chiefly literary texts)

- Everyday knowledge and familiarity with genre conventions required → Cultural and literary knowledge useful
- Low intertextuality (few if any references/allusions to other texts) → High intertextuality (many references/allusions to other texts)

Knowledge Demands: Content/Discipline Knowledge (chiefly informational texts)

- Everyday knowledge and familiarity with genre conventions required → Extensive, perhaps specialized discipline-specific content knowledge required
- Low intertextuality (few if any references to/citations of other texts) → High intertextuality (many references to/citations of other texts)

Adapted from ACT, Inc. (2006). *Reading between the lines: What the ACT reveals about college readiness in reading.* Iowa City, IA: Author; Carnegie Council on Advancing Adolescent Literacy. (2010). *Time to act: An agenda for advancing adolescent literacy for college and career success.* New York: Carnegie Corporation of New York; Chall, J. S., Bissex, G. L., Conrad, S. S., & Harris-Sharples, S. (1996). *Qualitative assessment of text difficulty: A practical guide for teachers and writers.* Cambridge, UK: Brookline Books; Hess, K., & Biggam, S. (2004). A discussion of "increasing text complexity." Published by the New Hampshire, Rhode Island, and Vermont departments of education as part of the New England Common Assessment Program (NECAP). Retrieved from www.nciea.org/publications/TextComplexity_KH05.pdf

Quantitative Measures of Text Complexity

A number of quantitative tools exist to help educators assess aspects of text complexity that are better measured by algorithm than by a human reader. The discussion is not exhaustive, nor is it intended as an endorsement of one method or program over another. Indeed, because of the limits of each of the tools, new or improved ones are needed quickly if text complexity is to be used effectively in the classroom and curriculum.

Numerous formulas exist for measuring the readability of various types of texts. Such formulas, including the widely used Flesch-Kincaid Grade Level test, typically use word length and sentence length as proxies for semantic and syntactic complexity, respectively (roughly, the complexity of the meaning and sentence structure). The assumption behind these formulas is that longer words and longer sentences are more difficult to read than shorter ones; a text with many long words and/or sentences is thus rated by these formulas as harder to read than a text with many short words and/or sentences would be. Some formulas, such as the Dale-Chall Readability Formula, substitute word frequency for word length as a factor, the assumption here being that less familiar words are harder to comprehend than familiar words. The higher the proportion of less familiar words in a text, the theory goes, the harder that text is to read. While these readability formulas are easy to use and readily available—some are even built into various word processing applications—their chief weakness is that longer words, less familiar words, and longer sentences are not inherently hard to read. In fact, series of short, choppy sentences can pose problems for readers precisely because these sentences lack the cohesive devices, such as transition words and phrases, that help establish logical links among ideas and thereby reduce the inference load on readers.

Like Dale-Chall, the Lexile Framework for Reading, developed by MetaMetrics, Inc., uses word frequency and sentence length to produce a single measure, called a Lexile, of a text's complexity. The most important difference between the Lexile system and traditional readability formulas is that traditional formulas only assign a score to texts, whereas the Lexile Framework can place both readers and texts on the same scale. Certain reading assessments yield Lexile scores based on student performance on the instrument; some reading programs then use these scores to assign texts to students. Because it too relies on word familiarity and sentence length as proxies for semantic and syntactic complexity, the Lexile Framework, like traditional formulas, may underestimate the difficulty of texts that use simple, familiar language to convey sophisticated ideas, as is true of much high-quality fiction written for adults and appropriate for older students. For this reason and others, it is possible that factors other than word familiarity and sentence length contribute to text difficulty. In response to such concerns, MetaMetrics has indicated that it will release the qualitative ratings it assigns to some of the texts it rates and will actively seek to determine whether one or more additional factors can and should be added to its quantitative measure. Other readability formulas also exist, such as the ATOS formula associated with the Accelerated Reader program developed by Renaissance Learning. ATOS uses word difficulty (estimated grade level), word length, sentence length, and text length (measured in words) as its factors. Like the Lexile Framework, ATOS puts students and texts on the same scale.

A nonprofit service operated at the University of Memphis, Coh-Metrix attempts to account for factors in addition to those measured by readability formulas. The Coh-Metrix system focuses on the cohesiveness of a text—basically, how tightly the text holds together. A high-cohesion text does a good deal of the work for the reader by signaling relationships among words, sentences, and ideas using repetition, concrete language, and the like; a low-cohesion text, by contrast, requires the reader him- or herself to make many of the connections needed to comprehend the text. High-cohesion texts are not necessarily "better" than low-cohesion texts, but they are easier to read.

The standard Coh-Metrix report includes information on more than sixty indices related to text cohesion, so it can be daunting to the layperson or even to a professional educator unfamiliar with the indices. Coh-Metrix staff have worked to isolate the most revealing, informative factors from among the many they consider, but these "key factors" are not yet widely available to the public, nor have the results they yield been calibrated to the Standards' text complexity grade bands. The greatest value of these factors may well be the promise they offer of more advanced and usable tools yet to come.

Reader and Task Considerations

The use of qualitative and quantitative measures to assess text complexity is balanced in the Standards' model by the expectation that educators will employ professional judgment to match texts to particular students and tasks. Numerous considerations go into such matching. For example, harder texts may be appropriate for highly knowledgeable or skilled readers, and easier texts may be suitable as an expedient for building struggling readers' knowledge or reading skill up to the level required by the Standards. Highly motivated readers are often willing to put in the extra effort required to read harder texts that tell a story or contain information in which they are deeply interested. Complex tasks may require the kind of information contained only in similarly complex texts.

Numerous factors associated with the individual reader are relevant when determining whether a given text is appropriate for him or her. The RAND Reading Study Group identified many such factors in the 2002 report *Reading for Understanding*:

> The reader brings to the act of reading his or her cognitive capabilities (attention, memory, critical analytic ability, inferencing, visualization); motivation (a purpose for reading, interest in the content, self-efficacy as a reader); knowledge (vocabulary and topic knowledge, linguistic and discourse knowledge, knowledge of

comprehension strategies); and experiences.

As part of describing the activity of reading, the RAND group also named important task-related variables, including the reader's purpose (which might shift over the course of reading), "the type of reading being done, such as skimming (getting the gist of the text) or studying (reading the text with the intent of retaining the information for a period of time)," and the intended outcome, which could include "an increase in knowledge, a solution to some real-world problem, and/or engagement with the text."[4]

Key Considerations in Implementing Text Complexity

Texts and Measurement Tools

The tools for measuring text complexity are at once useful and imperfect. Each of the qualitative and quantitative tools described above has its limitations, and none is completely accurate. The development of new and improved text complexity tools should follow the release of the Standards as quickly as possible. In the meantime, the Standards recommend that multiple quantitative measures be used whenever possible and that their results be confirmed or overruled by a qualitative analysis of the text in question.

Certain measures are less valid or inappropriate for certain kinds of texts. Current quantitative measures are suitable for prose and dramatic texts. Until such time as quantitative tools for capturing poetry's difficulty are developed, determining whether a poem is appropriately complex for a given grade or grade band will necessarily be a matter of a qualitative assessment meshed with reader-task considerations. Furthermore, texts for kindergarten and grade 1 may not be appropriate for quantitative analysis, as they often contain difficult-to-assess features designed to aid early readers in acquiring written language. The Standards' poetry and K–1 text exemplars were placed into grade bands by expert teachers drawing on classroom experience.

Many current quantitative measures underestimate the challenge posed by complex narrative fiction. Quantitative measures of text complexity, particularly those that rely exclusively or in large part on word- and sentence-level factors, tend to assign sophisticated works of literature excessively low scores. For example, as illustrated in example 2 below, some widely used quantitative measures, including the Flesch-Kincaid Grade Level test and the Lexile Framework for Reading, rate the Pulitzer Prize–winning novel *Grapes of Wrath* as appropriate for grades 2–3. This counterintuitive result emerges because works such as *Grapes* often express complex ideas in relatively commonplace language (familiar words and simple syntax), especially in the form of dialogue that mimics everyday speech. Until widely available quantitative tools can better account for factors recognized as making such texts challenging, including multiple levels of meaning and mature themes, preference should likely be given to qualitative measures of text complexity when evaluating narrative fiction intended for students in grade 6 and above.

Measures of text complexity must be aligned with college and career readiness expectations for all students. Qualitative scales of text complexity should be anchored at one end by descriptions of texts representative of those required in typical first-year credit-bearing college courses and in workforce training programs. Similarly, quantitative measures should identify the college- and career-ready reading level as one endpoint of the scale. MetaMetrics, for example, has realigned its Lexile ranges to match the Standards' text complexity grade bands and has adjusted upward its trajectory of reading comprehension development through the grades to indicate that all students should be reading at the college and career readiness level by no later than the end of high school.

Figure 3: Text Complexity Grade Bands and Associated Lexile Ranges (in Lexiles)

Text Complexity Grade Band in the Standards	Old Lexile Ranges	Lexile Ranges Aligned to CCR expectations
K–1	N/A	N/A
2–3	450–725	450–790
4–5	645–845	770–980
6–8	860–1010	955–1155
9–10	960–1115	1080–1305
11–CCR	1070–1220	1215–1355

[4]RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension.* Santa Monica, CA: RAND. The quoted text appears in pages xiii–xvi.

Readers and Tasks

Students' ability to read complex text does not always develop in a linear fashion. Although the progression of Reading standard 10 (see below) defines required grade-by-grade growth in students' ability to read complex text, the development of this ability in individual students is unlikely to occur at an unbroken pace. Students need opportunities to stretch their reading abilities but also to experience the satisfaction and pleasure of easy, fluent reading within them, both of which the Standards allow for. As noted above, such factors as students' motivation, knowledge, and experiences must also come into play in text selection. Students deeply interested in a given topic, for example, may engage with texts on that subject across a range of complexity. Particular tasks may also require students to read harder texts than they would normally be required to. Conversely, teachers who have had success using particular texts that are easier than those required for a given grade band should feel free to continue to use them so long as the general movement during a given school year is toward texts of higher levels of complexity.

Students reading well above and well below grade-band level need additional support. Students for whom texts within their text complexity grade band (or even from the next higher band) present insufficient challenge must be given the attention and resources necessary to develop their reading ability at an appropriately advanced pace. On the other hand, students who struggle greatly to read texts within (or even below) their text complexity grade band must be given the support needed to enable them to read at a grade-appropriate level of complexity.

Even many students on course for college and career readiness are likely to need scaffolding as they master higher levels of text complexity. As they enter each new grade band, many students are likely to need at least some extra help as they work to comprehend texts at the high end of the range of difficulty appropriate to the band. For example, many students just entering grade 2 will need some support as they read texts that are advanced for the grades 2–3 text complexity band. Although such support is educationally necessary and desirable, instruction must move generally toward *decreasing scaffolding* and *increasing independence*, with the goal of students reading independently and proficiently within a given grade band by the end of the band's final year (continuing the previous example, the end of grade 3).

The Standards' Grade-Specific Text Complexity Demands

As illustrated in figure 4, text complexity in the Standards is defined in grade bands: grades 2–3, 4–5, 6–8, 9–10, and 11–CCR.[5] Students in the first year(s) of a given band are expected by the end of the year to read and comprehend proficiently within the band, with scaffolding as needed at the high end of the range. Students in the last year of a band are expected by the end of the year to read and comprehend independently and proficiently within the band.

Figure 4: The Progression of Reading Standard 10

Grade(s)	Reading Standard 10 (individual text types omitted)
K	Actively engage in group reading activities with purpose and understanding.
1	With prompting and support, read prose and poetry [informational texts] of appropriate complexity for grade 1.
2	By the end of the year, read and comprehend literature [informational texts] in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
3	By the end of the year, read and comprehend literature [informational texts] at the high end of the grades 2–3 text complexity band independently and proficiently.
4	By the end of the year, read and comprehend literature [informational texts] in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
5	By the end of the year, read and comprehend literature [informational texts] at the high end of the grades 4–5 text complexity band independently and proficiently.
6	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.
7	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.
8	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 6–8 text complexity band independently and proficiently.
9–10	By the end of grade 9, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 9–10 text complexity band independently and proficiently.
11–12	By the end of grade 11, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 11–CCR text complexity band independently and proficiently.

[5]As noted above in "Key Considerations in Implementing Text Complexity," K–1 texts are not amenable to quantitative measure. Furthermore, students in those grades are acquiring the code at varied rates. Hence, the Standards' text complexity requirements begin formally with grade 2.

The Model in Action: Sample Annotated Reading Texts

The following examples demonstrate how qualitative and quantitative measures of text complexity can be used along with reader and task considerations to make informed decisions about whether a particular text is an appropriate challenge for particular students. The cases below illustrate some of the possibilities that can arise when multiple measures are used to assess text complexity and how discrepancies among those measures might be resolved. It is important to note that the conclusions offered below concerning the texts' appropriateness for particular grade bands are informed judgments based on qualitative and quantitative assessments of text complexity. Different conclusions could reasonably be drawn from the same data, and reader and task considerations may also warrant a higher or lower placement.

Example 1: *Narrative of the Life of Frederick Douglass* (Grades 6–8 Text Complexity Band)

Excerpt

> The plan which I adopted, and the one by which I was most successful, was that of making friends of all the little white boys whom I met in the street. As many of these as I could, I converted into teachers. With their kindly aid, obtained at different times and in different places, I finally succeeded in learning to read. When I was sent of errands, I always took my book with me, and by going one part of my errand quickly, I found time to get a lesson before my return. I used also to carry bread with me, enough of which was always in the house, and to which I was always welcome; for I was much better off in this regard than many of the poor white children in our neighborhood. This bread I used to bestow upon the hungry little urchins, who, in return, would give me that more valuable bread of knowledge. I am strongly tempted to give the names of two or three of those little boys, as a testimonial of the gratitude and affection I bear them; but prudence forbids;—not that it would injure me, but it might embarrass them; for it is almost an unpardonable offence to teach slaves to read in this Christian country. It is enough to say of the dear little fellows, that they lived on Philpot Street, very near Durgin and Bailey's ship-yard. I used to talk this matter of slavery over with them. I would sometimes say to them, I wished I could be as free as they would be when they got to be men. "You will be free as soon as you are twenty-one, but I am a slave for life! Have not I as good a right to be free as you have?" These words used to trouble them; they would express for me the liveliest sympathy, and console me with the hope that something would occur by which I might be free.
>
> I was now about twelve years old, and the thought of being a slave for life began to bear heavily upon my heart. Just about this time, I got hold of a book entitled "The Columbian Orator." Every opportunity I got, I used to read this book. Among much of other interesting matter, I found in it a dialogue between a master and his slave. The slave was represented as having run away from his master three times. The dialogue represented the conversation which took place between them, when the slave was retaken the third time. In this dialogue, the whole argument in behalf of slavery was brought forward by the master, all of which was disposed of by the slave. The slave was made to say some very smart as well as impressive things in reply to his master—things which had the desired though unexpected effect; for the conversation resulted in the voluntary emancipation of the slave on the part of the master.
>
> In the same book, I met with one of Sheridan's mighty speeches on and in behalf of Catholic emancipation. These were choice documents to me. I read them over and over again with unabated interest. They gave tongue to interesting thoughts of my own soul, which had frequently flashed through my mind, and died away for want of utterance. The moral which I gained from the dialogue was the power of truth over the conscience of even a slaveholder. What I got from Sheridan was a bold denunciation of slavery, and a powerful vindication of human rights. The reading of these documents enabled me to utter my thoughts, and to meet the arguments brought forward to sustain slavery; but while they relieved me of one difficulty, they brought on another even more painful than the one of which I was relieved. The more I read, the more I was led to abhor and detest my enslavers. I could regard them in no other light than a band of successful robbers, who had left their homes, and gone to Africa, and stolen us from our homes, and in a strange land reduced us to slavery. I loathed them as being the meanest as well as the most wicked of men. As I read and contemplated the subject, behold! that very discontentment which Master Hugh had predicted would follow my learning to read had already come, to torment and sting my soul to unutterable anguish. As I writhed under it, I would at times feel that learning to read had been a curse rather than a blessing. It had given me a view of my wretched condition, without the remedy. It opened my eyes to the horrible pit, but to no ladder upon which to get out. In moments of agony, I envied my fellow-slaves for their stupidity. I have often wished myself a beast. I preferred the condition of the meanest reptile to my own. Any thing, no matter what, to get rid of thinking! It was this everlasting thinking of my condition that tormented me. There was no getting rid of it. It was pressed

upon me by every object within sight or hearing, animate or inanimate. The silver trump of freedom had roused my soul to eternal wakefulness. Freedom now appeared, to disappear no more forever. It was heard in every sound, and seen in every thing. It was ever present to torment me with a sense of my wretched condition. I saw nothing without seeing it, I heard nothing without hearing it, and felt nothing without feeling it. It looked from every star, it smiled in every calm, breathed in every wind, and moved in every storm.

Douglass, Frederick. *Narrative of the Life of Frederick Douglass, an American Slave. Written by Himself*. Boston: Anti-Slavery Office, 1845.

Figure 5: Annotation of *Narrative of the Life of Frederick Douglass*

Qualitative Measures

Levels of Meaning

While the apparent aim of the text is to convince readers of the day of the evils of slavery, there are other aims as well; among the latter, not fully revealed in the excerpt, are Douglass's efforts to assert his own manhood (and that of other black men) and to create an extended analogy between his own literal rise to freedom and a spiritual awakening.

Structure

The *Narrative* uses a fairly simple, explicit, and conventional story structure, with events largely related chronologically by a narrator recounting his past. There are some philosophical discussions that may, to the reader just looking for a story, seem like digressions.

Language Conventionality and Clarity

Douglass's language is largely clear and meant to be accessible. He does, however, use some figurative language (e.g., juxtaposing literal *bread* with the metaphorical *bread of knowledge*) and literary devices (e.g., personifying *freedom*). There are also some now-archaic and unusual words and phrasings (e.g., *choice documents*).

Knowledge Demands

The *Narrative* discusses moderately sophisticated themes. The experiences of slavery Douglass describes are obviously outside students' own experiences, but Douglass renders them vivid. The text is bound by Douglass's authoritative perspective. General background knowledge about slavery and race in mid-nineteenth-century America is helpful, as is knowledge of Christianity, to which Douglass makes frequent reference throughout the excerpt and the work as a whole.

Quantitative Measures

Various readability measures of the *Narrative* are largely in agreement that it is of appropriate complexity for grades 6–8. A Coh-Metrix analysis calls attention to this excerpt's complex syntax and the abstractness of some of the language (e.g., hard-to-define concepts such as *slavery* and *freedom*). Helping to balance out that challenge are the text's storylike structure and the way the text draws clear connections between words and sentences. Readers will still have to make many inferences to interpret and connect the text's central ideas, however.

Reader-Task Considerations

These are to be determined locally with reference to such variables as a student's motivation, knowledge, and experiences as well as purpose and the complexity of the task assigned and the questions posed.

Recommended Placement

Both the qualitative and quantitative measures support the Standards' inclusion of the *Narrative* in the grades 6–8 text complexity band, with the understanding that the text sits at the high end of the range and that it can be reread profitably in later years by more mature students capable of appreciating the deeper messages embedded in the story

.

Example 2: *The Grapes of Wrath* (Grades 9–10 Text Complexity Band)

Excerpt

The man took off his dark, stained hat and stood with a curious humility in front of the screen. "Could you see your way to sell us a loaf of bread, ma'am?"

Mae said, "This ain't a grocery store. We got bread to make san'widges."

"I know, ma'am." His humility was insistent. "We need bread and there ain't nothin' for quite a piece, they say."

"'F we sell bread we gonna run out." Mae's tone was faltering.

"We're hungry," the man said.

"Whyn't you buy a san'widge? We got nice san'widges, hamburgs."

"We'd sure admire to do that, ma'am. But we can't. We got to make a dime do all of us." And he said embarrassedly, "We ain't got but a little."

Mae said, "You can't get no loaf a bread for a dime. We only got fifteen-cent loafs."

From behind her Al growled, "God Almighty, Mae, give 'em bread."

"We'll run out 'fore the bread truck comes."

"Run out then, goddamn it," said Al. He looked sullenly down at the potato salad he was mixing.

Mae shrugged her plump shoulders and looked to the truck drivers to show them what she was up against.

She held the screen door open and the man came in, bringing a smell of sweat with him. The boys edged behind him and they went immediately to the candy case and stared in—not with craving or with hope or even with desire, but just with a kind of wonder that such things could be. They were alike in size and their faces were alike. One scratched his dusty ankle with the toe nails of his other foot. The other whispered some soft message and then they straightened their arms so that their clenched fists in the overall pockets showed through the thin blue cloth.

Mae opened a drawer and took out a long waxpaper-wrapped loaf. "This here is a fifteen-cent loaf."

The man put his hat back on his head. He answered with inflexible humility, "Won't you—can't you see your way to cut off ten cents' worth?"

Al said snarlingly, "Goddamn it, Mae. Give 'em the loaf."

The man turned toward Al. "No, we want ta buy ten cents' worth of it. We got it figgered awful close, mister, to get to California."

Mae said resignedly, "You can have this for ten cents."

"That'd be robbin' you, ma'am."

"Go ahead—Al says to take it." She pushed the waxpapered loaf across the counter. The man took a deep leather pouch from his rear pocket, untied the strings, and spread it open. It was heavy with silver and with greasy bills.

"May soun' funny to be so tight," he apologized. "We got a thousan' miles to go, an' we don' know if we'll make it." He dug in the pouch with a forefinger, located a dime, and pinched in for it. When he put it down on the counter he had a penny with it. He was about to drop the penny back into the pouch when his eye fell on the boys frozen before the candy counter. He moved slowly down to them. He pointed in the case at big long sticks of striped peppermint. "Is them penny candy, ma'am?"

Mae moved down and looked in. "Which ones?"

"There, them stripy ones."

The little boys raised their eyes to her face and they stopped breathing; their mouths were partly opened, their half-naked bodies were rigid.

"Oh—them. Well, no—them's two for a penny."

"Well, gimme two then, ma'am." He placed the copper cent carefully on the counter. The boys expelled their held breath softly. Mae held the big sticks out.

Steinbeck, John. *The Grapes of Wrath.*
New York: Viking, 1967 (1939).

Figure 6: Annotation of *The Grapes of Wrath*

Qualitative Measures

Levels of Meaning

There are multiple and often implicit levels of meaning within the excerpt and the novel as a whole. The surface level focuses on the literal journey of the Joads, but the novel also works on metaphorical and philosophical levels.

Structure

The text is relatively simple, explicit, and conventional in form. Events are largely related in chronological order.

Language Conventionality and Clarity

Although the language used is generally familiar, clear, and conversational, the dialect of the characters may pose a challenge for some readers. Steinbeck also puts a great deal of weight on certain less familiar words, such as *faltering*. In various portions of the novel not fully represented in the excerpt, the author combines rich, vivid, and detailed description with an economy of words that requires heavy inferencing.

Knowledge Demands

The themes are sophisticated. The experiences and perspective conveyed will be different from those of many students. Knowledge of the Great Depression, the "Okie Migration" to California, and the religion and music of the migrants is helpful, but the author himself provides much of the context needed for comprehension.

Quantitative Measures

The quantitative assessment of *The Grapes of Wrath* demonstrates the difficulty many currently existing readability measures have in capturing adequately the richness of sophisticated works of literature, as various ratings suggest a placement within the grades 2–3 text complexity band. A Coh-Metrix analysis also tends to suggest the text is an easy one since the syntax is uncomplicated and the author uses a conventional story structure and only a moderate number of abstract words. (The analysis does indicate, however, that a great deal of inferencing will be required to interpret and connect the text's words, sentences, and central ideas.)

Reader-Task Considerations

These are to be determined locally with reference to such variables as a student's motivation, knowledge, and experiences as well as purpose and the complexity of the task assigned and the questions posed.

Recommended Placement

Though considered extremely easy by many quantitative measures, *The Grapes of Wrath* has a sophistication of theme and content that makes it more suitable for early high school (grades 9–10), which is where the Standards have placed it. In this case, qualitative measures have overruled the quantitative measures.

Example 3: *The Longitude Prize* (Grades 9–10 Text Complexity Band)

Excerpt

From Chapter 1: "A Most Terrible Sea"

> At six in the morning I was awaked by a great shock, and a confused noise of the men on deck. I ran up, thinking some ship had run foul of us, for by my own reckoning, and that of every other person in the ship, we were at least thirty-five leagues distant from land; but, before I could reach the quarter-deck, the ship gave a great stroke upon the ground, and the sea broke over her. Just after this I could perceive the land, rocky, rugged and uneven, about two cables' length from us . . . the masts soon went overboard, carrying some men with them . . . notwithstanding a most terrible sea, one of the [lifeboats] was launched, and eight of the best men jumped into her; but she had scarcely got to the ship's stern when she was hurled to the bottom, and every soul in her perished. The rest of the boats were soon washed to pieces on the deck. We then made a raft . . . and waited with resignation for Providence to assist us.
>
> —From an account of the wreck of HMS *Litchfield* off the coast of North Africa, 1758

The *Litchfield* came to grief because no one aboard knew where they were. As the narrator tells us, by his own reckoning and that of everyone else they were supposed to be thirty-five leagues, about a hundred miles, from land. The word "reckoning" was short for "dead reckoning"—the system used by ships at sea to keep track of their position, meaning their longitude and latitude. It was an intricate system, a craft, and like every other craft involved the mastery of certain tools, in this case such instruments as compass, hourglass, and quadrant. It was an art as well.

Latitude, the north-south position, had always been the navigator's faithful guide. Even in ancient times, a Greek or Roman sailor could tell how far north of the equator he was by observing the North Star's height above the horizon, or the sun's at noon. This could be done without instruments, trusting in experience and the naked eye, although it is believed that an ancestor of the quadrant called the astrolabe—"star-measurer"—was known to the ancients, and used by them to measure the angular height of the sun or a star above the horizon.

Phoenicians, Greeks, and Romans tended to sail along the coasts and were rarely out of sight of land. As later navigators left the safety of the Mediterranean to plunge into the vast Atlantic—far from shore, and from the shorebirds that led them to it—they still had the sun and the North Star. And these enabled them to follow imagined parallel lines of latitude that circle the globe. Following a line of latitude—"sailing the parallel"—kept a ship on a steady east-west course. Christopher Columbus, who sailed the parallel in 1492, held his ships on such a safe course, west and west again, straight on toward Asia. When they came across an island off the coast of what would later be called America, Columbus compelled his crew to sign an affidavit stating that this island was no island but mainland Asia.

Dash, Joan. *The Longitude Prize*.
New York: Farrar, Straus and Giroux, 2000. (2000)

Figure 7: Annotation of *The Longitude Prize*

Qualitative Measures

Purpose

The single, relatively clear purpose of the text (not fully apparent in the excerpt but signaled by the title) is to recount the discovery of the concept of longitude.

Structure

The text is moderately complex and subtle in structure. Although the text may appear at first glance to be a conventional narrative, Dash mainly uses narrative elements in the service of illustrating historical and technical points.

Language Conventionality and Clarity

Language is used literally and is relatively clear, but numerous archaic, domain-specific, and otherwise unfamiliar terms are introduced in the course of citing primary historical sources and discussing the craft, art, and science of navigation.

Knowledge Demands

The text assumes relatively little prior knowledge regarding seafaring and navigation, but some general sense of the concepts of latitude and longitude, the nature of sailing ships, and the historical circumstances that promoted exploration and trade is useful to comprehending the text.

Quantitative Measures

Various readability measures of *The Longitude Prize* are largely in agreement that the text is appropriate for the grades 9–10 text complexity band. The Coh-Metrix analysis notes that the text is primarily informational in structure despite the narrative opening. (Recall from “Why Text Complexity Matters,” above, that research indicates that informational texts are generally harder to read than narratives.) While the text relies on concrete language and goes to some effort to connect central ideas for the reader, it also contains complex syntax and few explicit connections between words and sentences.

Reader-Task Considerations

These are to be determined locally with reference to such variables as a student’s motivation, knowledge, and experiences as well as purpose and the complexity of the task assigned and the questions posed.

Recommended Placement

The qualitative and quantitative measures by and large agree on the placement of *The Longitude Prize* into the grades 9–10 text complexity band, which is where the Standards have it.

Reading Foundational Skills

The following supplements the Reading Standards: Foundational Skills (K–5) in the main document (pp. 15–17). See page 37 in the bibliography of this appendix for sources used in helping construct the foundational skills and the material below.

Phoneme-Grapheme Correspondences

Consonants

Common graphemes (spellings) are listed in the following table for each of the consonant sounds. Note that the term *grapheme* refers to a letter or letter combination that corresponds to one speech sound.

Figure 8: Consonant Phoneme-Grapheme Correspondences in English

Phoneme	Word Examples	Common Graphemes (Spellings) for the Phoneme*
/p/	pit, spider, stop	p
/b/	bit, brat, bubble	b
/m/	mitt, comb, hymn	m, mb, mn
/t/	tickle, mitt, sipped	t, tt, ed
/d/	die, loved	d, ed
/n/	nice, knight, gnat	n, kn, gn
/k/	cup, kite, duck, chorus, folk, quiet	k, c, ck, ch, lk, q
/g/	girl, Pittsburgh	g, gh
/ng/	sing, bank	ng, n
/f/	fluff, sphere, tough, calf	f, ff, gh, ph, lf
/v/	van, dove	v, ve
/s/	sit, pass, science, psychic	s, ss, sc, ps
/z/	zoo, jazz, nose, as, xylophone	z, zz, se, s, x
/th/	thin, breath, ether	th
/th/	this, breathe, either	th
/sh/	shoe, mission, sure, charade, precious, notion, mission, special	sh, ss, s, ch, sc, ti, si, ci
/zh/	measure, azure	s, z
/ch/	cheap, future, etch	ch, tch
/j/	judge, wage	j, dge, ge
/l/	lamb, call, single	l, ll, le
/r/	reach, wrap, her, fur, stir	r, wr, er/ur/ir
/y/	you, use, feud, onion	y, (u, eu), i
/w/	witch, queen	w, (q)u
/wh/	where	wh
/h/	house, whole	h, wh

*Graphemes in the word list are among the most common spellings, but the list does not include all possible graphemes for a given consonant. Most graphemes are more than one letter.

Vowels

Common graphemes (spellings) are listed in the following table for each of the vowel sounds. Note that the term *grapheme* refers to a letter or letter combination that corresponds to one speech sound.

Figure 9: Vowel Phoneme-Grapheme Correspondences in English

Phoneme	Word Examples	Common Graphemes (Spellings) for the Phoneme*
/ē/	see, these, me, eat, key, happy, chief, either	ee, e_e, -e, ea, ey, -y, ie, ei
/ĭ/	sit, gym	i, y
/ā/	make, rain, play, great, baby, eight, vein, they	a_e, ai, ay, ea, -y, eigh, ei, ey
/ĕ/	bed, breath	e, ea
/ă/	cat	a
/ī/	time, pie, cry, right, rifle	i_e, ie, -y, igh, -i
/ŏ/	fox, swap, palm	o, wa, al
/ŭ/	cup, cover, flood, tough	u, o, oo, ou
/aw/	saw, pause, call, water, bought	aw, au, all, wa, ough
/ō.	vote, boat, toe, snow, open	o_e, oa, oe, ow, o-,
/o͝o/	took, put, could	oo, u, ou
/ū/ [o͞o]	moo, tube, blue, chew, suit, soup	oo, u_e, ue, ew, ui, ou
/y//ū/	use, few, cute	u, ew, u_e
/oi/	boil, boy	oi, oy
/ow/	out, cow	ou, ow
er	her, fur, sir	er, ur, ir
ar	cart	ar
or	sport	or

* Graphemes in the word list are among the most common spellings, but the list does not include all possible graphemes for a given vowel. Many graphemes are more than one letter.

Phonological Awareness

General Progression of Phonological Awareness Skills (PreK–1)

Word Awareness (Spoken Language)

Move a chip or marker to stand for each word in a spoken sentence.

The dog barks. (3)
The brown dog barks. (4)
The brown dog barks loudly. (5)

Rhyme Recognition during Word Play

Say "yes" if the words have the same last sounds (rhyme):

clock/dock (y)
red/said (y)
down/boy (n)

Repetition and Creation of Alliteration during Word Play

Nice, neat Nathan
Chewy, chunky chocolate

Syllable Counting or Identification (Spoken Language)

A spoken syllable is a unit of speech organized around a vowel sound.

Repeat the word, say each syllable loudly, and feel the jaw drop on the vowel sound:

chair (1) table (2) gymnasium (4)

Onset and Rime Manipulation (Spoken Language)

Within a single syllable, *onset* is the consonant sound or sounds that may precede the vowel; *rime* is the vowel and all other consonant sounds that may follow the vowel.

Say the two parts slowly and then blend into a whole word:

school	onset - /sch/; rime - /ool/
star	onset - /st/; rime - /ar/
place	onset - /pl/; rime - /ace/
all	onset (none); rime - /all/

General Progression of Phoneme Awareness Skills (K–2)

Phonemes are individual speech sounds that are combined to create words in a language system. Phoneme awareness requires progressive differentiation of sounds in spoken words and the ability to think about and manipulate those sounds. Activities should lead to the pairing of phonemes (speech sounds) with *graphemes* (letters and letter combinations that represent those sounds) for the purposes of word recognition and spelling.

Phoneme Identity

Say the sound that begins these words. What is your mouth doing when you make that sound?

milk, mouth, monster /m/ — The lips are together, and the sound goes through the nose.
thick, thimble, thank /th/ — The tongue is between the teeth, and a hissy sound is produced.
octopus, otter, opposite /o/ — The mouth is wide open, and we can sing that sound.

Phoneme Isolation

What is the first speech sound in this word?

ship	/sh/
van	/v/
king	/k/
echo	/e/

What is the last speech sound in this word?

comb	/m/
sink	/k/
rag	/g/
go	/o/

Phoneme Blending (Spoken Language)

Blend the sounds to make a word:

(Provide these sounds slowly.)

/s/ /ay/	say
/ou/ /t/	out
/sh/ /ar/ /k/	shark
/p/ /o/ /s/ /t/	post

Phoneme Segmentation (Spoken Language)

Say each sound as you move a chip onto a line or sound box:

no	/n/ /o/
rag	/r/ /a/ /g/
socks	/s/ /o/ /k/ /s/
float	/f/ /l/ /oa/ /t/

Phoneme Addition (Spoken Language)

What word would you have if you added /th/ to the beginning of "ink"? (think)

What word would you have if you added /d/ to the end of the word "fine"? (find)

What word would you have if you added /z/ to the end of the word "frog"? (frogs)

Phoneme Substitution (Spoken Language)

Say "rope." Change /r/ to /m/. What word would you get? (mope)

Say "chum." Change /u/ to /ar/. What word would you get? (charm)

Say "sing." Change /ng/ to /t/. What word would you get? (sit)

Phoneme Deletion (Spoken Language)

Say "park." Now say "park" without /p/. (ark)

Say "four." Now say "four" without /f/. (or)

Orthography

Categories of Phoneme-Grapheme Correspondences

Figure 10: Consonant Graphemes with Definitions and Examples

Grapheme Type	Definition	Examples
Single letters	A single consonant letter can represent a consonant phoneme.	b, d, f, g, h, j, k, l, m, n, p, r, s, t, v, w, y, z
Doublets	A doublet uses two of the same letter to spell one consonant phoneme.	ff, ll, ss, zz
Digraphs	A digraph is a two- (di-) letter combination that stands for one phoneme; neither letter acts alone to represent the sound.	th, sh, ch, wh ph, ng (sing) gh (cough) [ck is a guest in this category]
Trigraphs	A trigraph is a three- (tri-) letter combination that stands for one phoneme; none of the letters acts alone to represent the sound.	-tch -dge
Consonants in blends	A blend contains two or three graphemes because the consonant sounds are separate and identifiable. A blend is not "one sound."	s-c-r (scrape) th-r (thrush) c-l (clean) f-t (sift) l-k (milk) s-t (most) and many more
Silent letter combinations	Silent letter combinations use two letters: one represents the phoneme, and the other is silent. Most of these are from Anglo-Saxon or Greek.	kn (knock), wr (wrestle), gn (gnarl), ps (psychology), rh (rhythm), -mb (crumb), -lk (folk), -mn (hymn), -st (listen)
Combination qu	These two letters, always together, usually stand for two sounds, /k/ /w/.	quickly

Figure 11: Vowel Graphemes with Definitions and Examples

Grapheme Type	Definition	Examples
Single letters	A single vowel letter stands for a vowel sound.	(short vowels) cap, hit, gem, clod, muss (long vowels) me, no, music
Vowel teams	A combination of two, three, or four letters stands for a vowel.	(short vowels) head, hook (long vowels) boat, sigh, weigh (diphthongs) toil, bout
Vowel-r combinations	A vowel, followed by r, works in combination with /r/ to make a unique vowel sound.	car, sport, her, burn, first
Vowel-consonant-e (VCe)	The vowel–consonant–silent e pattern is common for spelling a long vowel sound.	gate, eve, rude, hope, five

Figure 12: Six Types of Written Syllable Patterns

Syllable Type	Definition	Examples
Closed	A syllable with a short vowel spelled with a single vowel letter ending in one or more consonants	dap-ple hos-tel bev-erage
Vowel-C-e (“Magic e”)	A syllable with a long vowel spelled with one vowel + one consonant + silent *e*	compete despite
Open	A syllable that ends with a long vowel sound, spelled with a single vowel letter	program table recent
Vowel Team	Syllables that use two to four letters to spell the vowel	beau-ti-ful train-er con-geal spoil-age
Vowel-r (r-controlled)	A syllable with **er, ir, or, ar**, or **ur** Vowel pronunciation often changes before /r/.	in-jur-ious con-sort char-ter
Consonant-le	An unaccented final syllable containing a consonant before /l/ followed by a silent *e*	dribble beagle little

Three Useful Principles for Chunking Longer Words into Syllables

1. VC-CV: Two or more consonants between two vowels

When syllables have two or more adjacent consonants between them, we divide between the consonants. The first syllable will be closed (with a short vowel).

sub-let nap-kin pen-ny emp-ty

2. V-CV and VC-V: One consonant between two vowels

a) First try dividing *before* the consonant. This makes the first syllable open and the vowel long. This strategy will work 75 percent of the time with VCV syllable division.

e-ven ra-bies de-cent ri-val

b) If the word is not recognized, try dividing *after* the consonant. This makes the first syllable closed and the vowel sound short. This strategy will work 25 percent of the time with VCV syllable division.

ev-er rab-id dec-ade riv-er

3. Consonant blends usually stick together. Do not separate digraphs when using the first two principles for decoding.

e-ther spec-trum se-quin

Morphemes Represented in English Orthography

Figure 13: Examples of Inflectional Suffixes in English

Inflection	Example
-s plural noun	I had two **eggs** for breakfast.
-s third person singular verb	She **gets** what she **wants**.
-ed past tense verb	We **posted** the notice.
-ing progressive tense verb	We will be **waiting** a long time.
-en past participle	He had **eaten** his lunch.
's possessive singular	The **frog's** spots were brown.
-er comparative adjective	He is **taller** than she is.
-est superlative adjective	Tom is the **tallest** of all.

Examples of Derivational Suffixes in English

Derivational suffixes, such as *-ful*, *-ation*, and *-ity*, are more numerous than inflections and work in ways that inflectional suffixes do not. Most derivational suffixes in English come from the Latin layer of language. Derivational suffixes mark or determine part of speech (verb, noun, adjective, adverb) of the suffixed word. Suffixes such as *-ment*, *-ity*, and *-tion* turn words into nouns; *-ful*, *-ous*, and *-al* turn words into adjectives; *-ly* turns words into adverbs.

nature (n. — from *nat*, birth)	permit (n. or v.)
natural (adj.)	permission (n.)
naturalize (v.)	permissive (adj.)
naturalizing (v.)	permissible (adj.)
naturalistic (adj.)	permissibly (adv.)

Writing

Definitions of the Standards' Three Text Types

Argument

Arguments are used for many purposes—to change the reader's point of view, to bring about some action on the reader's part, or to ask the reader to accept the writer's explanation or evaluation of a concept, issue, or problem. An argument is a reasoned, logical way of demonstrating that the writer's position, belief, or conclusion is valid. In English language arts, students make claims about the worth or meaning of a literary work or works. They defend their interpretations or judgments with evidence from the text(s) they are writing about. In history/social studies, students analyze evidence from multiple primary and secondary sources to advance a claim that is best supported by the evidence, and they argue for a historically or empirically situated interpretation. In science, students make claims in the form of statements or conclusions that answer questions or address problems. Using data in a scientifically acceptable form, students marshal evidence and draw on their understanding of scientific concepts to argue in support of their claims. Although young children are not able to produce fully developed logical arguments, they develop a variety of methods to extend and elaborate their work by providing examples, offering reasons for their assertions, and explaining cause and effect. These kinds of expository structures are steps on the road to argument. In grades K–5, the term "opinion" is used to refer to this developing form of argument.

Informational/Explanatory Writing

Informational/explanatory writing conveys information accurately. This kind of writing serves one or more closely related purposes: to increase readers' knowledge of a subject, to help readers better understand a procedure or process, or to provide readers with an enhanced comprehension of a concept. Informational/explanatory writing addresses matters such as types (*What are the different types of poetry?*) and components (*What are the parts of a motor?*); size, function, or behavior (*How big is the United States? What is an X-ray used for? How do penguins find food?*); how things work (*How does the legislative branch of government function?*); and why things happen (*Why do some authors blend genres?*). To produce this kind of writing, students draw from what they already know and from primary and secondary sources. With practice, students become better able to develop a controlling idea and a coherent focus on a topic and more skilled at selecting and incorporating relevant examples, facts, and details into their writing. They are also able to use a variety of techniques to convey information, such as naming, defining, describing, or differentiating different types or parts; comparing or contrasting ideas or concepts; and citing an anecdote or a scenario to illustrate a point. Informational/explanatory writing includes a wide array of genres, including academic genres such as literary analyses, scientific and historical reports, summaries, and précis writing as well as forms of workplace and functional writing such as instructions, manuals, memos, reports, applications, and résumés. As students advance through the grades, they expand their repertoire of informational/explanatory genres and use them effectively in a variety of disciplines and domains.

Although information is provided in both arguments and explanations, the two types of writing have different aims. Arguments seek to make people believe that something is true or to persuade people to change their beliefs or behavior. Explanations, on the other hand, start with the assumption of truthfulness and answer questions about why or how. Their aim is to make the reader understand rather than to persuade him or her to accept a certain point of view. In short, arguments are used for persuasion and explanations for clarification.

Like arguments, explanations provide information about causes, contexts, and consequences of processes, phenomena, states of affairs, objects, terminology, and so on. However, in an argument, the writer not only gives information but also presents a case with the "pros" (supporting ideas) and "cons" (opposing ideas) on a debatable issue. Because an argument deals with whether the main claim is true, it demands empirical descriptive evidence, statistics, or definitions for support. When writing an argument, the writer supports his or her claim(s) with sound reasoning and relevant and sufficient evidence.

Narrative Writing

Narrative writing conveys experience, either real or imaginary, and uses time as its deep structure. It can be used for many purposes, such as to inform, instruct, persuade, or entertain. In English language arts, students produce narratives that take the form of creative fictional stories, memoirs, anecdotes, and autobiographies. Over time, they learn to provide visual details of scenes, objects, or people; to depict specific actions (for example, movements, gestures,

Creative Writing beyond Narrative

The narrative category does not include all of the possible forms of creative writing, such as many types of poetry. The Standards leave the inclusion and evaluation of other such forms to teacher discretion.

postures, and expressions); to use dialogue and interior monologue that provide insight into the narrator's and characters' personalities and motives; and to manipulate pace to highlight the significance of events and create tension and suspense. In history/social studies, students write narrative accounts about individuals. They also construct event models of what happened, selecting from their sources only the most relevant information. In science, students write narrative descriptions of the step-by-step procedures they follow in their investigations so that others can replicate their procedures and (perhaps) reach the same results. With practice, students expand their repertoire and control of different narrative strategies.

Texts that Blend Types

Skilled writers many times use a blend of these three text types to accomplish their purposes. For example, *The Longitude Prize*, included above and in Appendix B, embeds narrative elements within a largely expository structure. Effective student writing can also cross the boundaries of type, as does the grade 12 student sample "Fact vs. Fiction and All the Grey Space In Between" found in Appendix C.

The Special Place of Argument in the Standards

While all three text types are important, the Standards put particular emphasis on students' ability to write sound arguments on substantive topics and issues, as this ability is critical to college and career readiness. English and education professor Gerald Graff (2003) writes that "argument literacy" is fundamental to being educated. The university is largely an "argument culture," Graff contends; therefore, K–12 schools should "teach the conflicts" so that students are adept at understanding and engaging in argument (both oral and written) when they enter college. He claims that because argument is not standard in most school curricula, only 20 percent of those who enter college are prepared in this respect. Theorist and critic Neil Postman (1997) calls argument the soul of an education because argument forces a writer to evaluate the strengths and weaknesses of multiple perspectives. When teachers ask students to consider two or more perspectives on a topic or issue, something far beyond surface knowledge is required: students must think critically and deeply, assess the validity of their own thinking, and anticipate counterclaims in opposition to their own assertions.

The unique importance of argument in college and careers is asserted eloquently by Joseph M. Williams and Lawrence McEnerney (n.d.) of the University of Chicago Writing Program. As part of their attempt to explain to new college students the major differences between good high school and college writing, Williams and McEnerney define *argument* not as "wrangling" but as "a serious and focused conversation among people who are intensely interested in getting to the bottom of things *cooperatively*":

> Those values are also an integral part of your education in college. For four years, you are asked to read, do research, gather data, analyze it, think about it, and then communicate it to readers in a form . . . which enables them to assess it and use it. You are asked to do this not because we expect you all to become professional scholars, but because in just about any profession you pursue, you will do research, think about what you find, make decisions about complex matters, and then explain those decisions—usually in writing—to others who have a stake in your decisions being sound ones. In an Age of Information, what most professionals do is research, think, and make arguments. (And part of the value of doing your own thinking and writing is that it makes you much better at evaluating the thinking and writing of others.) (ch. 1)

In the process of describing the special value of argument in college- and career-ready writing, Williams and McEnerney also establish argument's close links to research in particular and to knowledge building in general, both of which are also heavily emphasized in the Standards.

Much evidence supports the value of argument generally and its particular importance to college and career readiness. A 2009 ACT national curriculum survey of postsecondary instructors of composition, freshman English, and survey of American literature courses (ACT, Inc., 2009) found that "write to argue or persuade readers" was virtually tied with "write to convey information" as the most important type of writing needed by incoming college students. Other curriculum surveys, including those conducted by the College Board (Milewski, Johnson, Glazer, & Kubota, 2005) and

"Argument" and "Persuasion"

When writing to persuade, writers employ a variety of persuasive strategies. One common strategy is an appeal to the credibility, character, or authority of the writer (or speaker). When writers establish that they are knowledgeable and trustworthy, audiences are more likely to believe what they say. Another is an appeal to the audience's self-interest, sense of identity, or emotions, any of which can sway an audience. A logical argument, on the other hand, convinces the audience because of the perceived merit and reasonableness of the claims and proofs offered rather than either the emotions the writing evokes in the audience or the character or credentials of the writer. The Standards place special emphasis on writing logical arguments as a particularly important form of college- and career-ready writing.

the states of Virginia and Florida[6], also found strong support for writing arguments as a key part of instruction. The 2007 writing framework for the National Assessment of Educational Progress (NAEP) (National Assessment Governing Board, 2006) assigns persuasive writing the single largest targeted allotment of assessment time at grade 12 (40 percent, versus 25 percent for narrative writing and 35 percent for informative writing). (The 2011 prepublication framework [National Assessment Governing Board, 2007] maintains the 40 percent figure for persuasive writing at grade 12, allotting 40 percent to writing to explain and 20 percent to writing to convey experience.) Writing arguments or writing to persuade is also an important element in standards frameworks for numerous high-performing nations.[7]

Specific skills central to writing arguments are also highly valued by postsecondary educators. A 2002 survey of instructors of freshman composition and other introductory courses across the curriculum at California's community colleges, California State University campuses, and University of California campuses (Intersegmental Committee of the Academic Senates of the California Community Colleges, the California State University, and the University of California, 2002) found that among the most important skills expected of incoming students were articulating a clear thesis; identifying, evaluating, and using evidence to support or challenge the thesis; and considering and incorporating counterarguments into their writing. On the 2009 ACT national curriculum survey (ACT, Inc., 2009), postsecondary faculty gave high ratings to such argument-related skills as "develop ideas by using some specific reasons, details, and examples," "take and maintain a position on an issue," and "support claims with multiple and appropriate sources of evidence."

The value of effective argument extends well beyond the classroom or workplace, however. As Richard Fulkerson (1996) puts it in *Teaching the Argument in Writing*, the proper context for thinking about argument is one "in which the goal is not victory but a good decision, one in which all arguers are at risk of needing to alter their views, one in which a participant takes seriously and fairly the views different from his or her own" (pp. 16–17). Such capacities are broadly important for the literate, educated person living in the diverse, information-rich environment of the twenty-first century.

[6]Unpublished data collected by Achieve, Inc.
[7]See, for example, frameworks from Finland, Hong Kong, and Singapore as well as Victoria and New South Wales in Australia.

Speaking and Listening

The Special Role of Speaking and Listening in K–5 Literacy

If literacy levels are to improve, the aims of the English language arts classroom, especially in the earliest grades, must include oral language in a purposeful, systematic way, in part because it helps students master the printed word. Besides having intrinsic value as modes of communication, listening and speaking are necessary prerequisites of reading and writing (Fromkin, Rodman, & Hyams, 2006; Hulit, Howard, & Fahey, 2010; Pence & Justice, 2007; Stuart, Wright, Grigor, & Howey, 2002). The interrelationship between oral and written language is illustrated in the table below, using the distinction linguists make between *receptive language* (language that is heard, processed, and understood by an individual) and *expressive language* (language that is generated and produced by an individual).

Figure 14: Receptive and Expressive Oral and Written Language

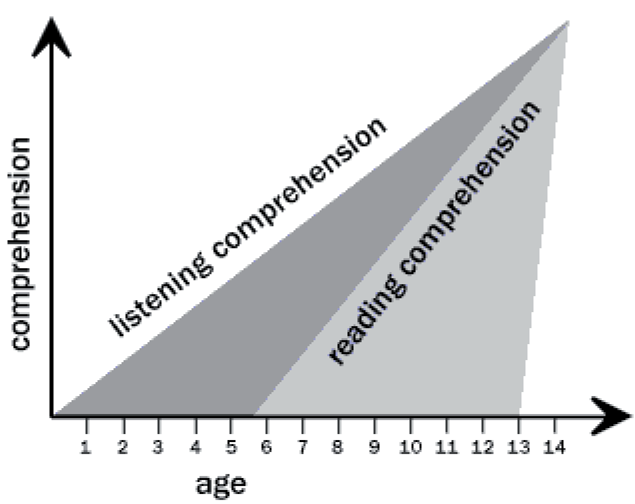
	Receptive Language	Expressive Language
Oral Language	Listening	Speaking
Written Language	Reading (decoding + comprehension)	Writing (handwriting, spelling, written composition)

Oral language development precedes and is the foundation for written language development; in other words, oral language is primary and written language builds on it. Children's oral language competence is strongly predictive of their facility in learning to read and write: listening and speaking vocabulary and even mastery of syntax set boundaries as to what children can read and understand no matter how well they can decode (Catts, Adolf, & Weismer, 2006; Hart & Risley, 1995; Hoover & Gough, 1990: Snow, Burns, & Griffin, 1998).

For children in preschool and the early grades, receptive and expressive abilities do not develop simultaneously or at the same pace: receptive language generally precedes expressive language. Children need to be able to understand words before they can produce and use them.

Oral language is particularly important for the youngest students. Hart and Risley (1995), who studied young children in the context of their early family life and then at school, found that the total number of words children had heard as preschoolers predicted how many words they understood and how fast they could learn new words in kindergarten. Preschoolers who had heard more words had larger vocabularies once in kindergarten. Furthermore, when the students were in grade 3, their early language competence from the preschool years still accurately predicted their language and reading comprehension. The preschoolers who had heard more words, and subsequently had learned more words orally, were better readers. In short, early language advantage persists and manifests itself in higher levels of literacy. A meta-analysis by Sticht and James (1984) indicates that the importance of oral language extends well beyond the earliest grades. As illustrated in the graphic below, Sticht and James found evidence strongly suggesting that children's listening comprehension outpaces reading comprehension until the middle school years (grades 6–8).

Figure 15: Listening and Reading Comprehension, by Age



The research strongly suggests that the English language arts classroom should explicitly address the link between oral and written language, exploiting the influence of oral language on a child's later ability to read by allocating instructional time to building children's listening skills, as called for in the Standards. The early grades should not focus on decoding alone, nor should the later grades pay attention only to building reading comprehension. Time should be devoted to reading fiction and content-rich selections aloud to young children, just as it is to providing those same children with the skills they will need to decode and encode.

This focus on oral language is of greatest importance for the children most at risk—children for whom English is a second language and children who have not been exposed at home to the kind of language found in written texts (Dickinson & Smith, 1994). Ensuring that all children in the United States have access to an excellent education requires that issues of oral language come to the fore in elementary classrooms.

Read-Alouds and the Reading-Speaking-Listening Link

Generally, teachers will encourage children in the upper elementary grades to read texts independently and reflect on them in writing. However, children in the early grades—particularly kindergarten through grade 3—benefit from participating in rich, structured conversations with an adult in response to written texts that are read aloud, orally comparing and contrasting as well as analyzing and synthesizing (Bus, Van Ijzendoorn, & Pellegrini, 1995; Feitelstein, Goldstein, Iraqui, & Share, 1993; Feitelstein, Kita, & Goldstein, 1986; Whitehurst et al., 1988). The Standards acknowledge the importance of this aural dimension of early learning by including a robust set of K–3 Speaking and Listening standards and by offering in Appendix B an extensive number of read-aloud text exemplars appropriate for K–1 and for grades 2–3.

Because, as indicated above, children's listening comprehension likely outpaces reading comprehension until the middle school years, it is particularly important that students in the earliest grades build knowledge through being read to as well as through reading, with the balance gradually shifting to reading independently. By reading a story or nonfiction selection aloud, teachers allow children to experience written language without the burden of decoding, granting them access to content that they may not be able to read and understand by themselves. Children are then free to focus their mental energy on the words and ideas presented in the text, and they will eventually be better prepared to tackle rich written content on their own. Whereas most titles selected for kindergarten and grade 1 will need to be read aloud exclusively, some titles selected for grades 2–5 may be appropriate for read-alouds as well as for reading independently. Reading aloud to students in the upper grades should not, however, be used as a substitute for independent reading by students; read-alouds at this level should supplement and enrich what students are able to read by themselves.

Language

Overview

The Standards take a hybrid approach to matters of conventions, knowledge of language, and vocabulary. As noted in the table below, certain elements important to reading, writing, and speaking and listening are included in those strands to help provide a coherent set of expectations for those modes of communication.

Figure 16: Elements of the Language Standards
in the Reading, Writing, and Speaking and Listening Strands

Strand	Standard
Reading	**R.CCR.4.** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
Writing	**W.CCR.5.** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
Speaking and Listening	**SL.CCR.6.** Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

In many respects, however, conventions, knowledge of language, and vocabulary extend across reading, writing, speaking, and listening. Many of the conventions-related standards are as appropriate to formal spoken English as they are to formal written English. Language choice is a matter of craft for both writers and speakers. New words and phrases are acquired not only through reading and being read to but also through direct vocabulary instruction and (particularly in the earliest grades) through purposeful classroom discussions around rich content.

The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, knowledge of language, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Conventions and Knowledge of Language

Teaching and Learning the Conventions of Standard English

Development of Grammatical Knowledge

Grammar and usage development in children and in adults rarely follows a linear path. Native speakers and language learners often begin making new errors and seem to lose their mastery of particular grammatical structures or print conventions as they learn new, more complex grammatical structures or new usages of English, such as in college-level persuasive essays (Bardovi-Harlig, 2000; Bartholomae, 1980; DeVilliers & DeVilliers, 1973; Shaughnessy, 1979). These errors are often signs of language development as learners synthesize new grammatical and usage knowledge with their current knowledge. Thus, students will often need to return to the same grammar topic in greater complexity as they move through K–12 schooling and as they increase the range and complexity of the texts and communicative contexts in which they read and write. The Standards account for the recursive, ongoing nature of grammatical knowledge in two ways. First, the Standards return to certain important language topics in higher grades at greater levels of sophistication. For instance, instruction on verbs in early elementary school (K–3) should address simple present, past, and future tenses; later instruction should extend students' knowledge of verbs to other tenses (progressive and perfect tenses[8] in grades 4 and 5), mood (modal auxiliaries in grade 4 and grammatical mood in grade 8) and voice (active and passive voice in grade 8). Second, the Standards identify with an asterisk (*) certain skills and understandings that students are to be introduced to in basic ways at lower grades but that are likely in need of being

[8]Though progressive and perfect are more correctly *aspects* of verbs rather than *tenses*, the Standards use the more familiar notion here and throughout for the sake of accessibility.

retaught and relearned in subsequent grades as students' writing and speaking matures and grows more complex. (See "Progressive Language Skills in the Standards," below.)

Making Appropriate Grammar and Usage Choices in Writing and Speaking

Students must have a strong command of the grammar and usage of spoken and written standard English to succeed academically and professionally. Yet there is great variety in the language and grammar features of spoken and written standard English (Biber, 1991; Krauthamer, 1999), of academic and everyday standard English, and of the language of different disciplines (Schleppegrell, 2001). Furthermore, in the twenty-first century, students must be able to communicate effectively in a wide range of print and digital texts, each of which may require different grammatical and usage choices to be effective. Thus, grammar and usage instruction should acknowledge the many varieties of English that exist and address differences in grammatical structure and usage between these varieties in order to help students make purposeful language choices in their writing and speaking (Fogel & Ehri, 2000; Wheeler & Swords, 2004). Students must also be taught the *purposes* for using particular grammatical features in particular disciplines or texts; if they are taught simply to vary their grammar and language to keep their writing "interesting," they may actually become more confused about how to make effective language choices (Lefstein, 2009). The Standards encourage this sort of instruction in a number of ways, most directly through a series of grade-specific standards associated with Language CCR standard 3 that, beginning in grade 1, focuses on making students aware of language variety.

Using Knowledge of Grammar and Usage for Reading and Listening Comprehension

Grammatical knowledge can also aid reading comprehension and interpretation (Gargani, 2006; Williams, 2000, 2005). Researchers recommend that students be taught to use knowledge of grammar and usage, as well as knowledge of vocabulary, to comprehend complex academic texts (García & Beltrán, 2003; Short & Fitzsimmons, 2007; RAND Reading Study Group, 2002). At the elementary level, for example, students can use knowledge of verbs to help them understand the plot and characters in a text (Williams, 2005). At the secondary level, learning the grammatical structures of nonstandard dialects can help students understand how accomplished writers such as Harper Lee, Langston Hughes, and Mark Twain use various dialects of English to great advantage and effect, and can help students analyze setting, character, and author's craft in great works of literature. Teaching about the grammatical patterns found in specific disciplines has also been shown to help English language learners' reading comprehension in general and reading comprehension in history classrooms in particular (Achugar, Schleppegrell, & Oteíza, 2007; Gargani, 2006).

As students learn more about the patterns of English grammar in different communicative contexts throughout their K–12 academic careers, they can develop more complex understandings of English grammar and usage. Students can use this understanding to make more purposeful and effective choices in their writing and speaking and more accurate and rich interpretations in their reading and listening.

Progressive Language Skills in the Standards

While all of the Standards are cumulative, certain Language skills and understandings are more likely than others to need to be retaught and relearned as students advance through the grades. Beginning in grade 3, the Standards note such "progressive" skills and understandings with an asterisk (*) in the main document; they are also summarized in the table on pages 29 and 55 of that document as well as on page 34 of this appendix. These skills and understandings should be mastered at a basic level no later than the end of the grade in which they are introduced in the Standards. In subsequent grades, as their writing and speaking become more sophisticated, students will need to learn to apply these skills and understandings in more advanced ways.

The following example shows how one such task—ensuring subject-verb agreement, formally introduced in the Standards in grade 3—can become more challenging as students' writing matures. The sentences in the table below are taken verbatim from the annotated writing samples found in Appendix C. The example is illustrative only of a general development of sophistication and not meant to be exhaustive, to set firm grade-specific expectations, or to establish a precise hierarchy of increasing difficulty in subject-verb agreement.

Figure 17: Example of Subject-Verb Agreement Progression across Grades

Example	Condition
Horses are so beautiful and fun to ride. [Horses, grade 3]	Subject and verb next to each other
When I started out the door, I noticed that Tigger and Max were following me to school. [Glowing Shoes, grade 4]	Compound subject joined by *and*
A mother or female horse is called a mare. [Horses, grade 3]	Compound subject joined by *or*; each subject takes a singular verb[1]
The first thing to do is research, research, research! [Zoo Field Trip, grade 4]	Intervening phrase between subject and verb
If the watershed for the pools is changed, the condition of the pools changes. [A Geographical Report, grade 7]	Intervening phrase between each subject and verb suggesting a different number for the verb than the subject calls for
Another was the way to the other evil places. [Getting Shot and Living Through It, grade 5] *All his stories are the same type.* [Author Response: Roald Dahl, grade 5] *All the characters that Roald Dahl ever made were probably fake characters.* [Author Response: Roald Dahl, grade 5] *One of the reasons why my cat Gus is the best pet is because he is a cuddle bug.* [A Pet Story About My Cat . . . Gus, grade 6]	Indefinite pronoun as subject, with increasing distance between subject and verb

[1]In this particular example, *or female horse* should have been punctuated by the student as a nonrestrictive appositive, but the sentence as is illustrates the notion of a compound subject joined by or.

Figure 18: Language Progressive Skills, by Grade

The following standards, marked with an asterisk (*) in the main Standards document, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standard	Grade(s)							
	3	4	5	6	7	8	9–10	11–12
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.								
L.3.3a. Choose words and phrases for effect.								
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.								
L.4.1g. Correctly use frequently confused words (e.g., *to/too/two; there/their*).								
L.4.3a. Choose words and phrases to convey ideas precisely.[*]								
L.4.3b. Choose punctuation for effect.								
L.5.1d. Recognize and correct inappropriate shifts in verb tense.								
L.5.2a. Use punctuation to separate items in a series.[†]								
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.								
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).								
L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.								
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.								
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.[‡]								
L.6.3b. Maintain consistency in style and tone.								
L.7.1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.								
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.								
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.								
L.9–10.1a. Use parallel structure.								

[*] Subsumed by L.7.3a
[†] Subsumed by L.9–10.1a
[‡] Subsumed by L.11–12.3a

Vocabulary

Acquiring Vocabulary

> Words are not just words. They are the nexus—the interface—between communication and thought. When we read, it is through words that we build, refine, and modify our knowledge. What makes vocabulary valuable and important is not the words themselves so much as the understandings they afford.
>
> Marilyn Jager Adams (2009, p. 180)

The importance of students acquiring a rich and varied vocabulary cannot be overstated. Vocabulary has been empirically connected to reading comprehension since at least 1925 (Whipple, 1925) and had its importance to comprehension confirmed in recent years (National Institute of Child Health and Human Development, 2000). It is widely accepted among researchers that the difference in students' vocabulary levels is a key factor in disparities in academic achievement (Baumann & Kameenui, 1991; Becker, 1977; Stanovich, 1986) but that vocabulary instruction has been neither frequent nor systematic in most schools (Biemiller, 2001; Durkin, 1978; Lesaux, Kieffer, Faller, & Kelley, 2010; Scott & Nagy, 1997).

Research suggests that if students are going to grasp and retain words and comprehend text, they need incremental, repeated exposure in a variety of contexts to the words they are trying to learn. When students make multiple connections between a new word and their own experiences, they develop a nuanced and flexible understanding of the word they are learning. In this way, students learn not only what a word means but also how to use that word in a variety of contexts, and they can apply appropriate senses of the word's meaning in order to understand the word in different contexts (Landauer & Dumais, 1997; Landauer, McNamara, Dennis, & Kintsch, 2007; Nagy, Herman, & Anderson, 1985).

Initially, children readily learn words from oral conversation because such conversations are context rich in ways that aid in vocabulary acquisition: in discussions, a small set of words (accompanied by gesture and intonation) is used with great frequency to talk about a narrow range of situations children are exposed to on a day-to-day basis. Yet as children reach school age, new words are introduced less frequently in conversation, and consequently vocabulary acquisition eventually stagnates by grade 4 or 5 unless students acquire additional words from written context (Hayes & Ahrens, 1988).

Written language contains literally thousands of words more than are typically used in conversational language. Yet writing lacks the interactivity and nonverbal context that make acquiring vocabulary through oral conversation relatively easy, which means that purposeful and ongoing concentration on vocabulary is needed (Hayes & Ahrens, 1988). In fact, at most between 5 and 15 percent of new words encountered upon first reading are retained, and the weaker a student's vocabulary is the smaller the gain (Daneman & Green, 1986; Hayes & Ahrens, 1988; Herman, Anderson, Pearson, & Nagy, 1987; Sternberg & Powell, 1983). Yet research shows that if students are truly to understand what they read, they must grasp upward of 95 percent of the words (Betts, 1946; Carver, 1994; Hu & Nation, 2000; Laufer, 1988).

The challenge in reaching what we might call "lexical dexterity" is that, in any given instance, it is not the entire spectrum of a word's history, meanings, usages, and features that matters but only those aspects that are relevant at that moment. Therefore, for a reader to grasp the meaning of a word, two things must happen: first, the reader's internal representation of the word must be sufficiently complete and well articulated to allow the intended meaning to be known to him or her; second, the reader must understand the context well enough to select the intended meaning from the realm of the word's possible meanings (which in turn depends on understanding the surrounding words of the text).

Key to students' vocabulary development is building rich and flexible word knowledge. Students need plentiful opportunities to use and respond to the words they learn through playful informal talk, discussion, reading or being read to, and responding to what is read. Students benefit from instruction about the connections and patterns in language. Developing in students an analytical attitude toward the logic and sentence structure of their texts, alongside an awareness of word parts, word origins, and word relationships, provides students with a sense of how language works such that syntax, morphology, and etymology can become useful cues in building meaning as students encounter new words and concepts (Beck, McKeown, & Kucan, 2008). Although direct study of language is essential to student progress, most word learning occurs indirectly and unconsciously through normal reading, writing, listening, and speaking (Miller, 1999; Nagy, Anderson, & Herman, 1987).

As students are exposed to and interact with language throughout their school careers, they are able to acquire understandings of word meanings, build awareness of the workings of language, and apply their knowledge to comprehend and produce language.

Three Tiers of Words

Isabel L. Beck, Margaret G. McKeown, and Linda Kucan (2002, 2008) have outlined a useful model for conceptualizing categories of words readers encounter in texts and for understanding the instructional and learning challenges that words in each category present. They describe three levels, or *tiers*, of words in terms of the words' commonality (more to less frequently occurring) and applicability (broader to narrower).

While the term *tier* may connote a hierarchy, a ranking of words from least to most important, the reality is that all three tiers of words are vital to comprehension and vocabulary development, although learning tier two and three words typically requires more deliberate effort (at least for students whose first language is English) than does learning tier one words.

- **Tier One words** are the words of everyday speech usually learned in the early grades, albeit not at the same rate by all children. They are not considered a challenge to the average native speaker, though English language learners of any age will have to attend carefully to them. While Tier One words are important, they are not the focus of this discussion.

- **Tier Two words** (what the Standards refer to as *general academic* words) are far more likely to appear in written texts than in speech. They appear in all sorts of texts: informational texts (words such as *relative*, *vary*, *formulate*, *specificity*, and *accumulate*), technical texts (*calibrate*, *itemize*, *periphery*), and literary texts (*misfortune*, *dignified*, *faltered*, *unabashedly*). Tier Two words often represent subtle or precise ways to say relatively simple things—*saunter* instead of *walk*, for example. Because Tier Two words are found across many types of texts, they are highly generalizable.

- **Tier Three words** (what the Standards refer to as *domain-specific* words) are specific to a domain or field of study (*lava*, *carburetor*, *legislature*, *circumference*, *aorta*) and key to understanding a new concept within a text. Because of their specificity and close ties to content knowledge, Tier Three words are far more common in informational texts than in literature. Recognized as new and "hard" words for most readers (particularly student readers), they are often explicitly defined by the author of a text, repeatedly used, and otherwise heavily scaffolded (e.g., made a part of a glossary).

Tier Two Words and Access to Complex Texts

Because Tier Three words are obviously unfamiliar to most students, contain the ideas necessary to a new topic, and are recognized as both important and specific to the subject area in which they are instructing students, teachers often define Tier Three words prior to students encountering them in a text and then reinforce their acquisition throughout a lesson. Unfortunately, this is not typically the case with Tier Two words, which by definition are not unique to a particular discipline and as a result are not the clear responsibility of a particular content area teacher. What is more, many Tier Two words are far less well defined by contextual clues in the texts in which they appear and are far less likely to be defined explicitly within a text than are Tier Three words. Yet Tier Two words are frequently encountered in complex written texts and are particularly powerful because of their wide applicability to many sorts of reading. Teachers thus need to be alert to the presence of Tier Two words and determine which ones need careful attention.

Tier Three Words and Content Learning

This normal process of word acquisition occurs up to four times faster for Tier Three words when students have become familiar with the domain of the discourse and encounter the word in different contexts (Landauer & Dumais, 1997). Hence, vocabulary development for these words occurs most effectively through a coherent course of study in which subject matters are integrated and coordinated across the curriculum and domains become familiar to the student over several days or weeks.

Examples of Tier Two and Tier Three Words in Context

The following annotated samples call attention to **Tier Two** and **Tier Three** words in particular texts and, by singling them out, foreground the importance of these words to the meaning of the texts in which they appear. Both samples appear without annotations in Appendix B.

Example 1: *Volcanoes* (Grades 4–5 Text Complexity Band

Excerpt

> In **early times**, no one knew how **volcanoes** **formed** or why they **spouted** **red-hot** **molten** rock. In **modern times**, scientists began to study **volcanoes**. They still don't know all the answers, but they know much about how a **volcano** works.

> Our planet made up of many **layers** of rock. The top **layers** of **solid** rock are called the **crust**. Deep beneath the **crust** is the **mantle**, where it is so hot that some rock melts. The melted, or **molten,** rock is called **magma**.
>
> **Volcanoes** are **formed** when **magma** pushes its way up through the crack in Earth's **crust**. This is called a **volcanic** **eruption**. When **magma** **pours forth** on the **surface**, it is called **lava**.
>
> Simon, Seymour. *Volcanoes.* New York: HarperCollins, 2006. (2006)

Of the Tier Two words, among the most important to the overall meaning of the excerpt is **layers**. An understanding of the word **layers** is necessary both to visualize the structure of the crust ("the top **layers** of **solid** rock are called the **crust**") and to grasp the notion of the planet being composed of **layers**, of which the **crust** and the **mantle** are uppermost. Perhaps equally important are the word **spouted** and the phrase **pours forth**; an understanding of each of these is needed to visualize the action of a volcano. The same could be said of the word **surface**. Both **layers** and **surface** are likely to reappear in middle and high school academic texts in both literal and figurative contexts ("this would seem plausible on the surface"; "this story has layers of meaning"), which would justify more intensive instruction in them in grades 4–5.

Tier Three words often repeat; in this excerpt, all of the Tier Three words except **mantle** and **lava** appear at least twice. V**olcano(es)** appears four times—five if **volcanic** is counted. As is also typical with Tier Three words, the text provides the reader with generous support in determining meaning, including explicit definitions (e.g., "the melted, or **molten**, rock is called **magma**") and repetition and overlapping sentences (e.g., . . . called the **crust**. Deep beneath the **crust** . . .).

Example 2: *Freedom Walkers* (Grades 6–8 Text Complexity Band)

Excerpt

> From the Introduction: "Why They Walked"
>
> Not so long ago in Montgomery, Alabama, the color of your skin **determined** where you could sit on a public bus. If you happened to be an African American, you had to sit in the back of the bus, even if there were empty seats up front.
>
> Back then, **racial segregation** was the rule throughout the American South. Strict laws—called **"Jim Crow"** laws—enforced a system of **white supremacy** that **discriminated** against blacks and kept them in their place as **second-class** citizens.
>
> People were separated by race from the moment they were born in **segregated** hospitals until the day they were buried in **segregated** cemeteries. Blacks and whites did not attend the same schools, **worship** in the same churches, eat in the same restaurants, sleep in the same hotels, drink from the same water fountains, or sit together in the same movie theaters.
>
> In Montgomery, it was against the law for a white person and a Negro to play checkers on public property or ride together in a taxi.
>
> Most southern blacks were denied their right to vote. The biggest **obstacle** was the **poll tax**, a special tax that was required of all voters but was too costly for many blacks and for poor whites as well. Voters also had to pass a **literacy** test to prove that they could read, write, and understand the U.S. Constitution. These tests were often **rigged** to **disqualify** even highly educated blacks. Those who overcame the **obstacles** and insisted on **registering** as voters faced threats, **harassment** and even physical violence. As a result, African Americans in the South could not express their **grievances** in the voting booth, which for the most part, was closed to them. But there were other ways to protest, and one day a half century ago, the black citizens in Montgomery rose up in protest and united to demand their rights—by walking peacefully.
>
> It all started on a bus.
>
> Freedman, Russell. *Freedom Walkers: The Story of the Montgomery Bus Boycott.* New York: Holiday House, 2006. (2006)

The first Tier Two word encountered in the excerpt, **determined**, is essential to understanding the overall meaning of the text. The power of **determined** here lies in the notion that skin color in Montgomery, Alabama, at that time was the causal agent for all that follows. The centrality of **determined** to the topic merits the word intensive attention. Its study is further merited by the fact that it has multiple meanings, is likely to appear in future literary and informational texts, and is part of a family of related words (*determine*, *determination*, *determined*, *terminate*, *terminal*).

Understanding the excerpt's Tier Three words is also necessary to comprehend the text fully. As was the case in example 1, these words are often repeated and defined in context. **Segregation**, for example, is introduced in the second paragraph, and while determining its meaning from the sentence in which it appears might be difficult, several closely related concepts (**white supremacy**, **discriminated**, **second-class**) appears in the next sentence to provide more context.

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A Note on International Sources for the Standards

In the course of developing the Standards, the writing team consulted numerous international models, including those from Ireland, Finland, New Zealand, Australia (by state), Canada (by province), Singapore, the United Kingdom, and others. Several patterns emerging from international standards efforts influenced the design and content of the Standards:

(1) *Other nations pay equal attention to what students read and how they read*. Many countries set standards for student reading by providing a reading list. The United Kingdom has standards for the "range and content" of student reading. While lacking the mandate to set particular reading requirements, the Standards nonetheless follow the spirit of international models by setting explicit expectations for the range, quality, and complexity of what students read along with more conventional standards describing how well students must be able to read.

(2) *Students are required to write in response to sources*. In several international assessment programs, students are confronted with a text or texts and asked to gather evidence, analyze readings, and synthesize content. The Standards likewise require students to "draw evidence from literary or informational texts to support analysis, reflection, and research" (Writing CCR standard 9).

(3) *Writing arguments and writing informational/explanatory texts are priorities*. The Standards follow international models by making writing arguments and writing informational/explanatory texts the dominant modes of writing in high school to demonstrate readiness for college and career.

Glossary of Key Terms

Every effort has been made to ensure that the phrasing of the Standards is as clear and free of jargon as possible. When used, specialized and discipline-specific terms (e.g., *simile*, *stanza*, *declarative sentence*) typically conform to their standard definition, and readers are advised to consult high-quality dictionaries or standard resources in the field for clarification. The terms defined below are limited to those words and phrases particularly important to the Standards and that have a meaning unique to this document. *CCSS* refers to the main Common Core State Standards document; the names of various sections (e.g., "Reading") refer to parts of this appendix.

Definitions of many important terms associated with reading foundational skills appear in Reading Foundational Skills, pages 17–22. Descriptions of the Standards' three writing types (argument, informative/explanatory writing, and narrative) can be found in Writing, pages 23–24.

Domain-specific words and phrases – Vocabulary specific to a particular field of study (domain), such as the human body (CCSS, p. 33); in the Standards, *domain-specific words and phrases* are analogous to Tier Three words (Language, p. 33).

Editing – A part of writing and preparing presentations concerned chiefly with improving the clarity, organization, concision, and correctness of expression relative to task, purpose, and audience; compared to *revising*, a smaller-scale activity often associated with surface aspects of a text; see also *revising*, *rewriting*

Emergent reader texts – Texts consisting of short sentences comprised of learned sight words and CVC words; may also include rebuses to represent words that cannot yet be decoded or recognized; see also *rebus*

Evidence – Facts, figures, details, quotations, or other sources of data and information that provide support for claims or an analysis and that can be evaluated by others; should appear in a form and be derived from a source widely accepted as appropriate to a particular discipline, as in details or quotations from a text in the study of literature and experimental results in the study of science

Focused question – A query narrowly tailored to task, purpose, and audience, as in a research query that is sufficiently precise to allow a student to achieve adequate specificity and depth within the time and format constraints

Formal English – See *standard English*

General academic words and phrases – Vocabulary common to written texts but not commonly a part of speech; in the Standards, *general academic words and phrases* are analogous to Tier Two words and phrases (Language, p. 33)

Independent(ly) – A student performance done without *scaffolding* from a teacher, other adult, or peer; in the Standards, often paired with *proficient(ly)* to suggest a successful student performance done without *scaffolding*; in the Reading standards, the act of reading a text without scaffolding, as in an assessment; see also *proficient(ly)*, *scaffolding*

More sustained research project – An investigation intended to address a relatively expansive query using several sources over an extended period of time, as in a few weeks of instructional time

Point of view – Chiefly in literary texts, the narrative point of view (as in first- or third-person narration); more broadly, the position or perspective conveyed or represented by an author, narrator, speaker, or character

Print or digital (texts, sources) – Sometimes added for emphasis to stress that a given standard is particularly likely to be applied to electronic as well as traditional texts; the Standards are generally assumed to apply to both

Proficient(ly) – A student performance that meets the criterion established in the Standards as measured by a teacher or assessment; in the Standards, often paired with *independent(ly)* to suggest a successful student performance done without *scaffolding*; in the Reading standards, the act of reading a text with comprehension; see also *independent(ly)*, *scaffolding*

Rebus – A mode of expressing words and phrases by using pictures of objects whose names resemble those words

Revising – A part of writing and preparing presentations concerned chiefly with a reconsideration and reworking of the content of a text relative to task, purpose, and audience; compared to *editing*, a larger-scale activity often associated with the overall content and structure of a text; see also *editing*, *rewriting*

Rewriting – A part of writing and preparing presentations that involves largely or wholly replacing a previous, unsatisfactory effort with a new effort, better aligned to task, purpose, and audience, on the same or a similar topic or theme; compared to *revising*, a larger-scale activity more akin to replacement than refinement; see also *editing*, *revising*

Scaffolding – Temporary guidance or assistance provided to a student by a teacher, another adult, or a more capable peer, enabling the student to perform a task he or she otherwise would not be able to do alone, with the goal of fostering the student's capacity to perform the task on his or her own later on[*]

Short research project – An investigation intended to address a narrowly tailored query in a brief period of time, as in a few class periods or a week of instructional time

Source – A text used largely for informational purposes, as in research.

Standard English – In the Standards, the most widely accepted and understood form of expression in English in the United States; used in the Standards to refer to formal English writing and speaking; the particular focus of Language standards 1 and 2 (CCSS, pp. 26, 28, 52, 54)

Technical subjects – A course devoted to a practical study, such as engineering, technology, design, business, or other workforce-related subject; a technical aspect of a wider field of study, such as art or music

Text complexity – The inherent difficulty of reading and comprehending a text combined with consideration of reader and task variables; in the Standards, a three-part assessment of text difficulty that pairs qualitative and quantitative measures with reader-task considerations (CCSS, pp. 31, 57; Reading, pp. 4–16)

Text complexity band – A range of text difficulty corresponding to grade spans within the Standards; specifically, the spans from grades 2–3, grades 4–5, grades 6–8, grades 9–10, and grades 11–CCR (college and career readiness)

Textual evidence – See *evidence*

With prompting and support/with (some) guidance and support – See *scaffolding*

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[*] Though Vygotsky himself does not use the term *scaffolding*, the educational meaning of the term relates closely to his concept of the zone of proximal development. See L. S. Vygotsky (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

English Language Arts

Appendix B:

Text Exemplars and Sample Performance Tasks

COMMON CORE STATE STANDARDS FOR

English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

Appendix B: Text Exemplars and Sample Performance Tasks

Exemplars of Reading Text Complexity, Quality, and Range & Sample Performance Tasks Related to Core Standards

Selecting Text Exemplars

The following text samples primarily serve to exemplify the level of complexity and quality that the Standards require all students in a given grade band to engage with. Additionally, they are suggestive of the breadth of texts that students should encounter in the text types required by the Standards. The choices should serve as useful guideposts in helping educators select texts of similar complexity, quality, and range for their own classrooms. They expressly do not represent a partial or complete reading list.

The process of text selection was guided by the following criteria:

- Complexity. Appendix A describes in detail a three-part model of measuring text complexity based on qualitative and quantitative indices of inherent text difficulty balanced with educators' professional judgment in matching readers and texts in light of particular tasks. In selecting texts to serve as exemplars, the work group began by soliciting contributions from teachers, educational leaders, and researchers who have experience working with students in the grades for which the texts have been selected. These contributors were asked to recommend texts that they or their colleagues have used successfully with students in a given grade band. The work group made final selections based in part on whether qualitative and quantitative measures indicated that the recommended texts were of sufficient complexity for the grade band. For those types of texts—particularly poetry and multimedia sources—for which these measures are not as well suited, professional judgment necessarily played a greater role in selection.

- Quality. While it is possible to have high-complexity texts of low inherent quality, the work group solicited only texts of recognized value. From the pool of submissions gathered from outside contributors, the work group selected classic or historically significant texts as well as contemporary works of comparable literary merit, cultural significance, and rich content.

- Range. After identifying texts of appropriate complexity and quality, the work group applied other criteria to ensure that the samples presented in each band represented as broad a range of sufficiently complex, high-quality texts as possible. Among the factors considered were initial publication date, authorship, and subject matter.

Copyright and Permissions

For those exemplar texts not in the public domain, we secured permissions and in some cases employed a conservative interpretation of Fair Use, which allows limited, partial use of copyrighted text for a nonprofit educational purpose as long as that purpose does not impair the rights holder's ability to seek a fair return for his or her work. In instances where we could not employ Fair Use and have been unable to secure permission, we have listed a title without providing an excerpt. Thus, some short texts are not excerpted here, as even short passages from them would constitute a substantial portion of the entire work. In addition, illustrations and other graphics in texts are generally not reproduced here. Such visual elements are particularly important in texts for the youngest students and in many informational texts for readers of all ages. (Using the qualitative criteria outlined in Appendix A, the work group considered the importance and complexity of graphical elements when placing texts in bands.)

When excerpts appear, they serve only as stand-ins for the full text. The Standards require that students engage with appropriately complex literary and informational works; such complexity is best found in whole texts rather than passages from such texts.

Please note that these texts are included solely as exemplars in support of the Standards. Any additional use of those texts that are not in the public domain, such as for classroom use or curriculum development, requires independent permission from the rights holders. The texts may not be copied or distributed in any way other than as part of the overall Common Core State Standards Initiative documents.

Sample Performance Tasks

The text exemplars are supplemented by brief performance tasks that further clarify the meaning of the Standards. These sample tasks illustrate specifically the application of the Standards to texts of sufficient complexity, quality, and range. Relevant Reading standards are noted in brackets following each task, and the words in italics in the task reflect the wording of the Reading standard itself. (Individual grade-specific Reading standards are identified by their strand, grade, and number, so that RI.4.3, for example, stands for Reading, Informational Text, grade 4, standard 3.)

How to Read This Document

The materials that follow are divided into text complexity grade bands as defined by the Standards: K–1, 2–3, 4–5, 6–8, 9–10, and 11–CCR. Each band's exemplars are divided into text types matching those required in the Standards for a given grade. K–5 exemplars are separated into stories, poetry, and informational texts (as well as read-aloud texts in kindergarten through grade 3). The 6–CCR exemplars are divided into English language arts (ELA), history/social studies, and science, mathematics, and technical subjects, with the ELA texts further subdivided into stories, drama, poetry, and informational texts. (The history/social studies texts also include some arts-related texts.) Citations introduce each excerpt, and additional citations are included for texts not excerpted in the appendix. Within each grade band and after each text type, sample performance tasks are included for select texts.

Media Texts

Selected excerpts are accompanied by annotated links to related media texts freely available online at the time of the publication of this document.

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K–1 Text Exemplars

Stories

Minarik, Else Holmelund. *Little Bear*. Illustrated by Maurice Sendak. New York: HarperCollins, 1957. (1957)
From "Birthday Soup"

"Mother Bear, Mother Bear, Where are you?" calls Little Bear.

"Oh, dear, Mother Bear is not here, and today is my birthday.

"I think my friends will come, but I do not see a birthday cake. My goodness – no birthday cake. What can I do?

The pot is by the fire. The water in the pot is hot. If I put something in the water, I can make Birthday Soup. All my friends like soup.

Let me see what we have. We have carrots and potatoes, peas and tomatoes; I can make soup with carrots, potatoes, peas and tomatoes."

So Little Bear begins to make soup in the big black pot. First, Hen comes in. "Happy Birthday, Little Bear," she says. "Thank you, Hen," says Little Bear.

Hen says, "My! Something smells good here. Is it in the big black pot?"

"Yes," says Little Bear, "I am making Birthday Soup. Will you stay and have some?"

"Oh, yes, thank you," says Hen. And she sits down to wait.

Next, Duck comes in. "Happy Birthday, Little bear," says Duck. "My, something smells good. Is it in the big black pot?"

"Thank you, Duck," says Little Bear. "Yes, I am making Birthday Soup. Will you stay and have some with us?"

"Thank you, yes, thank you," says Duck. And she sits down to wait.

Next, Cat comes in.

"Happy Birthday, Little Bear," he says.

"Thank you, Cat," says Little Bear. "I hope you like Birthday Soup. I am making Birthday Soup.

Cat says, "Can you really cook? If you can really make it, I will eat it."

"Good," says Little Bear. "The Birthday Soup is hot, so we must eat it now. We cannot wait for Mother Bear. I do not know where she is."

"Now, here is some soup for you, Hen," says Little Bear. "And here is some soup for you, Duck, and here is some soup for you, Cat, and here is some soup for me. Now we can all have some Birthday Soup."

Cat sees Mother Bear at the door, and says, "Wait, Little Bear. Do not eat yet. Shut your eyes, and say one, two, three."

Little Bear shuts his eyes and says, "One, two, three."

Mother Bear comes in with a big cake.

"Now, look," says Cat.

"Oh, Mother Bear," says Little Bear, "what a big beautiful Birthday Cake! Birthday Soup is good to eat, but not as good as Birthday Cake. I am so happy you did not forget."

"Yes, Happy Birthday, Little Bear!" says Mother Bear. "This Birthday Cake is a surprise for you. I never did forget your birthday, and I never will."

Eastman, P. D. *Are You My Mother?* New York: Random House, 1960. (1960)

A mother bird sat on her egg.

The egg jumped.

"Oh oh!" said the mother bird. "My baby will be here! He will want to eat."

"I must get something for my baby bird to eat!" she said. "I will be back!"

So away she went.

Seuss, Dr. *Green Eggs and Ham*. New York: Random House, 1960. (1960)

Lopshire, Robert. *Put Me in the Zoo*. New York: Random House, 1960. (1960)

I will go into the zoo.
I want to see it.
Yes, I do.

I would like to live this way.
This is where I want to stay.

Will you keep me in the zoo?
I want to stay in here with you.

Mayer, Mercer. *A Boy, a Dog and a Frog.* New York: Dial, 2003. (1967)

This is a wordless book appropriate for kindergarten.

Lobel, Arnold. *Frog and Toad Together.* New York: HarperCollins, 1971. (1971)
From "The Garden"

Frog was in his garden. Toad came walking by.

"What a fine garden you have, Frog," he said.

"Yes," said Frog. "It is very nice, but it was hard work."

"I wish I had a garden," said Toad.

"Here are some flower seeds. Plant them in the ground," said Frog, "and soon you will have a garden."

"How soon?" asked Toad.

"Quite soon," said Frog.

Toad ran home. He planted the flower seeds.

"Now seeds," said Toad, "start growing."

Toad walked up and down a few times. The seeds did not start to grow. Toad put his head close to the ground and said loudly, "Now seeds, start growing!" Toad looked at the ground again. The seeds did not start to grow.

Toad put his head very close to the ground and shouted, "NOW SEEDS, START GROWING!"

Frog came running up the path. "What is all this noise?" he asked. "My seeds will not grow," said Toad. "You are shouting too much," said Frog. "These poor seeds are afraid to grow."

"My seeds are afraid to grow?" asked Toad.

"Of course," said Frog. "Leave them alone for a few days. Let the sun shine on them, let the rain fall on them. Soon your seeds will start to grow."

That night, Toad looked out of his window. "Drat!" said Toad. "My seeds have not started to grow. They must be afraid of the dark."

Toad went out to his garden with some candles. "I will read the seeds a story," said Toad. "Then they will not be afraid." Toad read a long story to his seeds.

All the next day Toad sang songs to his seeds.

And all the next day Toad read poems to his seeds.

And all the next day Toad played music for his seeds.

Toad looked at the ground. The seeds still did not start to grow. "What shall I do?" cried Toad. "These must be the most frightened seeds in the whole world!"

Then Toad felt very tired and he fell asleep.

"Toad, Toad, wake up," said Frog. "Look at your garden!"

Toad looked at his garden. Little green plants were coming up out of the ground.

"At last," shouted Toad, "my seeds have stopped being afraid to grow!"

"And now you will have a nice garden too," said Frog.

"Yes," said Toad, "but you were right, Frog. It was very hard work."

Lobel, Arnold. *Owl at Home*. New York: HarperCollins, 1975. (1975)
From "Owl and the Moon"

One night Owl went down to the seashore. He sat on a large rock and looked out at the waves. Everything was dark. Then a small tip of the moon came up over the edge of the sea.

Owl watched the moon. It climbed higher and higher into the sky. Soon the whole, round moon was shining. Owl sat on the rock and looked up at the moon for a long time. "If I am looking at you, moon, then you must be looking back at me. We must be very good friends."

The moon did not answer, but Owl said, "I will come back and see you again, moon. But now I must go home." Owl walked down the path. He looked up at the sky. The moon was still there. It was following him.

"No, no, moon," said Owl. "It is kind of you to light my way. But you must stay up over the sea where you look so fine." Owl walked on a little farther. He looked at the sky again. There was the moon coming right along with him. "Dear moon," said Owl, "you really must not come home with me. My house is small. You would not fit through the door. And I have nothing to give you for supper."

Owl kept on walking. The moon sailed after him over the tops of the trees. "Moon," said Owl, "I think that you do not hear me." Owl climbed to the top of a hill. He shouted as loudly as he could, "Good-bye, moon!"

The moon went behind some clouds. Owl looked and looked. The moon was gone. "It is always a little sad to say good-bye to a friend," said Owl.

Owl came home. He put on his pajamas and went to bed. The room was very dark. Owl was still feeling sad. All at once, Owl's bedroom was filled with silver light. Owl looked out of the window. The moon was coming from behind the clouds. "Moon, you have followed me all the way home. What a good, round friend you are!" said Owl.

Then Owl put his head on the pillow and closed his eyes. The moon was shining down through the window. Owl did not feel sad at all.

DePaola, Tomie. *Pancakes for Breakfast*. New York: Houghton Mifflin, 1978. (1978)

This is a wordless book appropriate for kindergarten.

Arnold, Tedd. *Hi! Fly Guy*. New York: Scholastic, 2006. (2006)
From Chapter 1

A fly went flying.
He was looking for something to eat—something tasty, something slimy.
A boy went walking
He was looking for something to catch—something smart, something for The Amazing Pet Show.
They met.
The boy caught the fly in a jar.
"A pet!" He said.
The fly was mad.
He wanted to be free.
He stomped his foot and said—Buzz!
The boy was surprised.
He said, "You know my name! You are the smartest pet in the world!"

Poetry

Anonymous. "As I Was Going to St. Ives." *The Oxford Dictionary of Nursery Rhymes.* Edited by Iona and Peter Opie. Oxford: Oxford University Press, 1997. (c1800, traditional)

As I was going to St. Ives,
I met a man with seven wives,
Each wife had seven sacks,
Each sack had seven cats,
Each cat had seven kits:
Kits, cats, sacks, and wives,
How many were there going to St. Ives?

Rossetti, Christina. "Mix a Pancake." *Read-Aloud Rhymes for the Very Young*. Selected by Jack Prelutsky. Illustrated by Marc Brown. New York: Knopf, 1986. (1893)

Mix a pancake,
Stir a pancake,
Pop it in the pan;
Fry the pancake,
Toss the pancake—
Catch it if you can.

Fyleman, Rose. "Singing-Time." *Read-Aloud Rhymes for the Very Young*. Selected by Jack Prelutsky. Illustrated by Marc Brown. New York: Knopf, 1986. (1919)

I wake in the morning early
And always, the very first thing,
I poke out my head and I sit up in bed
And I sing and I sing and I sing.

Milne, A. A. "Halfway Down." *When We Were Very Young*. Illustrated by Ernest H. Shepard. New York: Dutton, 1988. (1924)

Chute, Marchette. "Drinking Fountain." *Read-Aloud Rhymes for the Very Young*. Selected by Jack Prelutsky. Illustrated by Marc Brown. New York: Knopf, 1986. (1957)

When I climb up
To get a drink,
It doesn't work
The way you'd think.

I turn it up,
The water goes
And hits me right
Upon the nose.

I turn it down
To make it small
And don't get any
Drink at all.

Hughes, Langston. "Poem." *The Collected Poems of Langston Hughes*. New York: Knopf, 1994. (1958)

Ciardi, John. "Wouldn't You?" *Read-Aloud Rhymes for the Very Young*. Selected by Jack Prelutsky. Illustrated by Marc Brown. New York: Knopf, 1986. (1961)

If I
Could go
As high
And low
As the wind
As the wind
As the wind
Can blow—

I'd go!

Wright, Richard. "Laughing Boy." *Winter Poems*. Selected by Barbara Rogasky. Illustrated by Trina Schart Hyman. New York: Scholastic, 1994. (1973) [Note: This poem was originally titled "In the Falling Snow."]

Greenfield, Eloise. "By Myself." *Honey, I Love, and Other Love Poems*. Illustrated by Leo and Diane Dillon. New York: Crowell, 1978. (1978)

Giovanni, Nikki. "Covers." *The 20th Century Children's Poetry Treasury*. Selected by Jack Prelutsky. Illustrated by Meilo So. New York: Knopf, 1999. (1980)

Glass covers windows
  to keep the cold away
Clouds cover the sky
  to make a rainy day

Nighttime covers
  all the things that creep
Blankets cover me
when I'm asleep

Merriam, Eve. "It Fell in the City." *Read-Aloud Rhymes for the Very Young*. Selected by Jack Prelutsky. Illustrated by Marc Brown. New York: Knopf, 1986. (1985)

Lopez, Alonzo. "Celebration." *Song and Dance*. Selected by Lee Bennett Hopkins. Illustrated by Cheryl Munro Taylor. New York: Simon & Schuster, 1997. (1993)

I shall dance tonight.
When the dusk comes crawling,
There will be dancing
        and feasting.
I shall dance with the others
        in circles,
                in leaps,
                        in stomps.
Laughter and talk
Will weave into the night,
Among the fires
        of my people.
Games will be played
And I shall be
a part of it.

Agee, Jon. "Two Tree Toads." *Orangutan Tongs*. New York: Hyperion, 2009. (2009)

A three-toed tree toad tried to tie
A two-toed tree toad's shoe.
But tying two-toed shoes is hard
For three-toed toads to do,
Since three-toed shoes each have three toes,
And two-toed shoes have two.

"Please tie my two-toed tree toad shoe!"
The two-toed tree toad cried.
"I tried my best. Now I must go,"
The three-toed tree toad sighed.
The two-toed tree toad's two-toed shoe,
Alas, remained untied.

Read-Aloud Stories

Baum, L. Frank. *The Wonderful Wizard of Oz*. Illustrated by W. W. Denslow. New York: HarperCollins, 2000. (1900)
From Chapter 1: "The Cyclone"

Dorothy lived in the midst of the great Kansas prairies, with Uncle Henry, who was a farmer, and Aunt Em, who was the farmer's wife. Their house was small, for the lumber to build it had to be carried by wagon many miles. There were four walls, a floor and a roof, which made one room; and this room contained a rusty looking cookstove, a cupboard for the dishes, a table, three or four chairs, and the beds. Uncle Henry and Aunt Em had a big bed in one corner, and Dorothy a little bed in another corner. There was no garret at all, and no cellar—except a small hole dug in the ground, called a cyclone cellar, where the family could go in case one of those great whirlwinds arose, mighty enough to crush any building in its path. It was reached by a trap door in the middle of the floor, from which a ladder led down into the small, dark hole.

When Dorothy stood in the doorway and looked around, she could see nothing but the great gray prairie on every side. Not a tree nor a house broke the broad sweep of flat country that reached to the edge of the sky in all directions. The sun had baked the plowed land into a gray mass, with little cracks running through it. Even the grass was not green, for the sun had burned the tops of the long blades until they were the same gray color to be seen everywhere. Once the house had been painted, but the sun blistered the paint and the rains washed it away, and now the house was as dull and gray as everything else.

When Aunt Em came there to live she was a young, pretty wife. The sun and wind had changed her, too. They had taken the sparkle from her eyes and left them a sober gray; they had taken the red from her cheeks and lips, and they were gray also. She was thin and gaunt, and never smiled now. When Dorothy, who was an orphan, first came to her, Aunt Em had been so startled by the child's laughter that she would scream and press her hand upon her heart whenever Dorothy's merry voice reached her ears; and she still looked at the little girl with wonder that she could find anything to laugh at.

Uncle Henry never laughed. He worked hard from morning till night and did not know what joy was. He was gray also, from his long beard to his rough boots, and he looked stern and solemn, and rarely spoke.

It was Toto that made Dorothy laugh, and saved her from growing as gray as her other surroundings. Toto was not gray; he was a little black dog, with long silky hair and small black eyes that twinkled merrily on either side of his funny, wee nose. Toto played all day long, and Dorothy played with him, and loved him dearly.

Today, however, they were not playing. Uncle Henry sat upon the doorstep and looked anxiously at the sky, which was even grayer than usual. Dorothy stood in the door with Toto in her arms, and looked at the sky too. Aunt Em was washing the dishes.

Wilder, Laura Ingalls. *Little House in the Big Woods*. Illustrated by Garth Williams. New York: HarperCollins, 2007. (1932)
From "Two Big Bears"

The Story of Pa and the Bear in the Way

When I went to town yesterday with the furs I found it hard walking in the soft snow. It took me a long time to get to town, and other men with furs had come in earlier to do their trading. The storekeeper was busy, and I had to wait until he could look at my furs.

Then we had to bargain about the price of each one, and then I had to pick out the things I wanted to take in trade.

So it was nearly sundown before I could start home.

I tried to hurry, but the walking was hard and I was tired, so I had not gone far before night came. And I was alone in the Big Woods without my gun.

There were still six miles to walk, and I came along as fast as I could. The night grew darker and darker, and I wished for my gun, because I knew that some of the bears had come out of their winter dens. I had seen their tracks when I went to town in the morning.

Bears are hungry and cross at this time of year; you know they have been sleeping in their dens all winter long with nothing to eat, and that makes them thin and angry when they wake up. I did not want to meet one.

I hurried along as quick as I could in the dark. By and by the stars gave a little light. It was still black as pitch where the woods were thick, but in the open places I could see, dimly. I could see the snowy road ahead a little way, and I could see the dark woods standing all around me. I was glad when I came into an open place where the stars gave me this faint light.

All the time I was watching, as well as I could, for bears. I was listening for the sounds they make when they go carelessly through the bushes.

Then I came again into an open place, and there, right in the middle of my road, I saw a big black bear.

Atwater, Richard and Florence. *Mr. Popper's Penguins*. Illustrated by Robert Lawson. New York: Little, Brown, 1988. (1938)
From Chapter 1: "Stillwater"

It was an afternoon in late September. In the pleasant little city of Stillwater, Mr. Popper, the house painter was going home from work.

He was carrying his buckets, his ladders, and his boards so that he had rather a hard time moving along. He was spattered here and there with paint and calcimine, and there were bits of wallpaper clinging to his hair and whiskers, for he was rather an untidy man.

The children looked up from their play to smile at him as he passed, and the housewives, seeing him, said, "Oh dear, there goes Mr. Popper. I must remember to ask John to have the house painted over in the spring."

No one knew what went on inside of Mr.Popper's head, and no one guessed that he would one day be the most famous person in Stillwater.

He was a dreamer. Even when he was busiest smoothing down the paste on the wallpaper, or painting the outside of other people's houses, he would forget what he was doing. Once he had painted three sides of a kitchen green, and the other side yellow. The housewife, instead of being angry and making him do it over, had liked it so well that she had made him leave it that way. And all the other housewives, when they saw it, admired it too, so that pretty soon everybody in Stillwater had two-colored kitchens.

The reason Mr. Popper was so absent-minded was that he was always dreaming about far-away countries. He had never been out of Stillwater. Not that he was unhappy. He had a nice little house of his own, a wife whom he loved dearly, and two children, named Janie and Bill. Still, it would have been nice, he often thought, if he could have seen something of the world before he met Mrs. Popper and settled down. He had never hunted tigers in India, or climbed the peaks of the Himalayas, or dived for pearls in the South Seas. Above all, he had never seen the Poles.

Jansson, Tove. *Finn Family Moomintroll*. Translated by Elizabeth Portch. New York: Farrar, Straus and Giroux, 1990. (1948)
From "Preface"

One grey morning the first snow began to fall in the Valley of the Moomins. It fell softly and quietly, and in a few hours everything was white.

Moomintroll stood on his doorstep and watched the valley nestle beneath its winter blanket. "Tonight," he thought, "we shall settle down for our long winter's sleep." (All Moomintrolls go to sleep about November. This is a good idea, too if you don't like the cold and the long winter darkness.) Shutting the door behind him, Moomintroll stole in to his mother and said:

"The snow has come!"

"I know," said Moominmamma. "I have already made up all your beds with the warmest blankets. You're to sleep in the little room under the eaves with Sniff."

"But Sniff snores so horribly," said Moomintroll. "Couldn't I sleep with Snufkin instead?"

"As you like, dear," said Moominmamma. "Sniff can sleep in the room that faces east."

So the Moomin family, their friends, and all their acquaintances began solemnly and with great ceremony to prepare for the long winter. Moominmamma laid the table for them on the verandah but they only had pine-needles for supper. (It's important to have your tummy full of pine if you intend to sleep all the winter.) When the meal was over, and I'm afraid it didn't taste very nice, they all said good-night to each other, rather more cheerfully than usual, and Moominmamma encouraged them to clean their teeth.

Haley, Gail E. *A Story, A Story*. New York: Atheneum, 1970. (1970)

Once, oh small children round my knee, there were no stories on earth to hear. All the stories belonged to Nyame, the

Sky God. He kept them in a golden box next to his royal stool.

Ananse, the Spider Man, wanted to buy the Sky God's stories. So he spun a web up to the sky.

When the Sky God heard what Ananse wanted, he laughed: "Twe, twe, twe. The price of my stories is that you bring me Osebo the leopard of-the-terrible-teeth, Mmboro the hornet who-stings-like-fire, and Mmoatia the fairy whom-men-never-see."

Ananse bowed and answered: "I shall gladly pay the price."

"Twe, twe, twe," chuckled the Sky God. "How can a weak old man like you, so small, so small, so small, pay my price?"

But Ananse merely climbed down to earth to find the things that the Sky God demanded.

Ananse ran along the jungle path – yiridi, yiridi, yiridi – till he came to Osebo the leopard-of-the-terrible-teeth.

"Oho, Ananse," said the leopard, "you are just in time to be my lunch."

Ananse replied: "As for that, what will happen will happen. But first let us play the binding binding game."

The leopard, who was fond of games, asked: "How is it played?"

"With vine creepers," explained Ananse. "I will bind you by your foot and foot. Then I will untie you, and you can tie me up."

"Very well," growled the leopard, who planned to eat Ananse as soon as it was his turn to bind him.

So Ananse tied the leopard

by his foot

by his foot

by his foot

by his foot, with the vine creeper.

Then he said: "Now, Osebo, you are ready to meet the Sky God." And he hung the tied leopard in a tree in the jungle.

Bang, Molly. *The Paper Crane*. New York: Greenwillow, 1987. (1985)

A man once owned a restaurant on a busy road. He loved to cook good food and he loved to serve it. He worked from morning until night, and he was happy.

But a new highway was built close by. Travelers drove straight from one place to another and no longer stopped at the restaurant. Many days went by when no guests came at all. The man became very poor, and had nothing to do but dust and polish his empty plates and tables.

One evening a stranger came into the restaurant. His clothes were old and worn, but he had an unusual, gentle manner.

Though he said he had not money to pay for food, the owner invited him to sit down. He cooked the best meal he could make and served him like a king. When the stranger had finished, he said to his host, "I cannot pay you with money, but I would like to thank you in my own way."

He picked up a paper napkin from the table and folded it into the shape of a crane. "You have only to clap your hands," he said, "and this bird will come to life and dance for you. Take it, and enjoy it while it is with you." With these words the stranger left.

It happened just as the stranger had said. The owner had only to clap his hands and the paper crane became a living bird, flew down to the floor, and danced.

Soon word of the dancing crane spread, and people came from far and near to see the magic bird perform.

The owner was happy again, for his restaurant was always full of guests. He cooked and served and had company from morning until night.

The weeks passed. And the months.

One evening a man came into the restaurant. His clothes were old and worn, but had an unusual, gentle manner. The owner knew him at once and was overjoyed.

The stranger, however, said nothing. He took a flute from his pocket, raised it to his lips, and began to play.

The crane flew down from its place on the shelf and danced as it had never danced before.

The stranger finished playing, lowered the flute from his lips, and returned it to his pocket. He climbed on the back of the crane, and they flew out of the door and away.

The restaurant still stands by the side of the road, and guests still come to eat the good food and hear the story of the gentle stranger and the magic crane made from a paper napkin. But neither the stranger nor the dancing crane has ever been seen again.

Young, Ed. *Lon Po Po: A Red-Riding Hood Story from China*. New York: Putnam, 1989. (1989)

"Po Po," Shang shouted, but there was no answer.

"Po Po," Tao shouted, but there was no answer.

"Po Po," Paotze shouted. There was still no answer. The children climbed to the branches just above the wolf and saw that he was truly dead. Then they climbed down, went into the house, closed the door, locked the door with the latch and fell peacefully asleep.

On the next day their mother returned with baskets of food from their real Po Po, and the three sisters told her the story of the Po Po who had come.

Garza, Carmen Lomas. *Family Pictures*. San Francisco: Children's Book Press, 1990. (1990)
From "The Fair in Reynosa"

My friends and I once went to a very big fair across the border in Reynosa, Mexico. The fair lasted a whole week. Artisans and entertainers came from all over Mexico. There were lots of booths with food and crafts. This is one little section where everybody is ordering and eating tacos.

I painted a father buying tacos and the rest of the family sitting down at the table. The little girl is the father's favorite and that's why she gets to tag along with him. I can always recognize little girls who are their fathers' favorites.

From "Birthday Party"

That's me hitting the piñata at my sixth birthday party. It was also my brother's fourth birthday. My mother made a big birthday party for us and invited all kinds of friends, cousins and neighborhood kids.

You can't see the piñata when you're trying to hit it, because your eyes are covered with a handkerchief. My father is pulling the rope that makes the piñata go up and down. He will make sure that everybody has a chance to hit it at least once. Somebody will end up breaking it, and that's when all the candies will fall out and all the kids will run and try to grab them.

Mora, Pat. *Tomás and the Library Lady*. Illustrated by Raúl Colón. New York: Knopf, 1997. (1997)

When they got hot, they sat under a tree with Papá Grande. "Tell us the story about the man in the forest," said Tomás.

Tomás liked to listen to Papá Grande tell stories in Spanish. Papá Grande was the best storyteller in the family.

"*En un tiempo pasado*," Papá Grande began. "Once upon a time…on a windy night a man was riding a horse through a forest. The wind was howling, whoooooooo, and the leaves were blowing, whish, whish…

"All of a sudden something grabbed the man. He couldn't move. He was too scared to look around. All night long he wanted to ride away. But he couldn't.

"How the wind howled, *whoooooooo*. How the leaves blew. How his teeth chattered!

"Finally the sun came up. Slowly the man turned around. And who do you think was holding him?

Tomás smiled and said, "A thorny tree."

Papá Grande laughed. "Tomás, you know all my stories," he said. "There are many more in the library. You are big enough to go by yourself. Then you can teach us new stories."

The next morning Tomás walked downtown. He looked at the big library. Its tall windows were like eyes glaring at him. Tomás walked all around the big building. He saw children coming out carrying books. Slowly he started climbing up, up the steps. He counted them to himself in Spanish. *Uno, dos, tres, cuatro*…His mouth felt full of cotton.

Tomás stood in front of the library doors. He pressed his nose against the glass and peeked in. The library was huge!

Henkes, Kevin. *Kitten's First Full Moon*. New York: Greenwillow, 2004. (2004)

It was Kitten's first full moon.
When she saw it, she thought.
There's a little bowl of milk in the sky.
And she wanted it.

So she closed her eyes
and stretched her neck
and opened her mouth and licked.

But Kitten only ended up
with a bug on her tongue.
Poor Kitten!

Still, there was the little bowl of milk, just waiting.

So she pulled herself together
and wiggled her bottom
and sprang from the top step of the porch.

But Kitten only tumbled—
bumping her nose and banging her ear
and pinching her tail.
Poor Kitten!

Still, there was the little bowl of milk, just waiting.

So she chased it—
down the sidewalk,
        through the garden,
                past the field,
                        and by the pond.
But Kitten never seemed to get closer.
Poor Kitten!

Still, there was the little bowl of milk, just waiting.

So she ran
to the tallest tree
she could find,
and she climbed
and climbed
and climbed
to the very top.

But Kitten
still couldn't reach
the bowl of milk,
and now she was
scared.
Poor Kitten!
What could she do?

Then, in the pond, Kitten saw
another bowl of milk.
And it was bigger.
What a night!

So she raced down the tree
and raced through the grass

and raced to the edge of the pond.
She leaped with all her might—

Poor Kitten!
She was wet and sad and tired
and hungry.

So she went
back home—

and there was
        a great big
                bowl of milk
                        on the porch,

just waiting for her.

Lucky Kitten!

Read-Aloud Poetry

Anonymous. "The Fox's Foray." *The Oxford Nursery Rhyme Book*. Edited by Peter and Iona Opie. Oxford: Oxford University Press, 1955. (c1800, traditional)

A fox jumped out one winter's night,
And begged the moon to give him light.
For he'd many miles to trot that night
Before he reached his den O!
        Den O! Den O!
For he'd many miles to trot that night before he reached his den O!

The first place he came to was a farmer's yard,
Where the ducks and the geese declared it hard
That their nerves should be shaken and their rest so marred
By a visit from Mr. Fox O!
        Fox O! Fox O!

That their nerves should be shaken and their rest so marred
By a visit from Mr. Fox O!

He took the grey goose by the neck,
And swung him right across his back;
The grey goose cried out, Quack, quack, quack,
With his legs hanging dangling down O!
Down O! Down O!
The grey goose cried out, Quack, quack, quack,
With his legs hanging dangling down O!

Old Mother Slipper Slopper jumped out of bed,
And out of the window she popped her head:
Oh, John, John, the grey goose is gone,
And the fox is off to his den O!
Den O! Den O!
Oh, John, John, the grey goose is gone,
And the fox is off to his den O!

John ran up to the top of the hill.
And blew his whistle loud and shrill;
Said the fox, That is very pretty music still –
I'd rather be in my den O!
Den O! Den O!
Said the fox, That is very pretty music still –
I'd rather be in my den O!

The fox went back to his hungry den,
And his dear little foxes, eight, nine, ten;
Quoth they, Good daddy, you must go there again,
If you bring such god cheer from the farm O!
Farm O! Farm O!
Quoth they, Good daddy, you must go there again,
If you bring such god cheer from the farm O!

The fox and his wife, without any strife,
Said they never ate a better goose in all their life:
They did very well without fork or knife,
And the little ones chewed on the bones O!
Bones O! Bones O!
They did very well without fork or knife,
And the little ones chewed on the bones O!

Langstaff, John. *Over in the Meadow*. Illustrated by Feodor Rojankovsky. Orlando: Houghton Mifflin, 1973. (c1800, traditional)

Over in the meadow in a new little hive
Lived an old mother queen bee and her honeybees five.
"Hum," said the mother,
"We hum," said the five;
So they hummed and were glad in their new little hive.

Over in the meadow in a dam built of sticks
Lived an old mother beaver and her little beavers six.
"Build," said the mother,
"We build," said the six;
So they built and were glad in the dam built of sticks.

Over in the meadow in the green wet bogs
Lived an old mother froggie and her seven polliwogs.
"Swim," said the mother.
"We swim," said the 'wogs;
So they swam and were glad in the green wet bogs.

Over in the meadow as the day grew late
Lived an old mother owl and her little owls eight.

"Wink," said the mother,
"We wink," said the eight;
So they winked and were glad as the day grew late.

Lear, Edward. "The Owl and the Pussycat." (1871)

The Owl and the Pussy-cat went to sea
  In a beautiful pea-green boat,
They took some honey, and plenty of money,
  Wrapped up in a five-pound note.
The Owl looked up to the stars above,
  And sang to a small guitar,
'O lovely Pussy! O Pussy, my love,
  What a beautiful Pussy you are,
      You are,
      You are!
  What a beautiful Pussy are!'

Pussy said to the Owl, 'You elegant fowl!
  How charmingly sweet you sing!
O let us be married! Too long we have tarried:
  But what shall we do for a ring?'
They sailed away, for a year and a day,
  To the land where the Bong-tree grows
And there in a wood a Piggy-wig stood
  With a ring at the end of his nose,
      His nose,
      His nose,
  With a ring at the end of his nose.

'Dear Pig, are you willing to sell for one shilling
  Your ring?' Said the Piggy, 'I will.'
So they took it away, and were married next day
  By the turkey who lives on the hill.
They dined on mince, and slices of quince,
  Which they ate with a runcible spoon;
And hand in hand, on the edge of the sand,
  They danced by the light of the moon,
      The moon,
      The moon,
They danced by the light of the moon.

Hughes, Langston. "April Rain Song." *The 20th Century Children's Poetry Treasury*. Selected by Jack Prelutsky. Illustrated by Meilo So. New York: Knopf, 1999. (1932)

Moss, Lloyd. *Zin! Zin! Zin! a Violin*. Illustrated by Marjorie Priceman. New York: Simon & Schuster, 2000. (1995)

With mournful moan and silken tone,
Itself alone comes ONE TROMBONE.
Gliding, sliding, high notes go low;
ONE TROMBONE is playing SOLO.

Next a TRUMPET comes along,
And sings and stings its swinging song.
It joins TROMBONE, no more alone,
And ONE and TWO-O, they're a DUO.

The STRINGS all soar, the REEDS implore,
The BRASSES roar with notes galore.
It's music that we all adore.

It's what we go to concerts for.

The minutes fly, the music ends,
And so, good-bye to our new friends.
But when they've bowed and left the floor,
If we clap loud and shout, "Encore!"
They may come out and play once more.

And that would give us great delight
Before we say a late good night.

Sample Performance Tasks for Stories and Poetry

- Students (*with prompting and support from the teacher*) *describe the relationship between* key events *of the overall story* of *Little Bear* by Else Holmelund Minarik to the corresponding scenes illustrated by Maurice Sendak. [RL.K.7]
- Students *retell* Arnold Lobel's *Frog and Toad Together* while *demonstrating* their *understanding of a central message or lesson of the story* (e.g., how friends are able to solve problems together or how hard work pays off). [RL.1.2]
- Students (*with prompting and support from the teacher*) *compare and contrast the adventures and experiences* of the owl in Arnold Lobel's *Owl at Home* to those of the owl in Edward Lear's poem "The Owl and the Pussycat." [RL.K.9]
- Students read two texts on the topic of pancakes (Tomie DePaola's *Pancakes for Breakfast* and Christina Rossetti's "Mix a Pancake") and distinguish between the text that is a *storybook* and the text that is a *poem*. [RL.K.5]
- After listening to L. Frank Baum's *The Wonderful Wizard of Oz*, students *describe* the *characters* of Dorothy, Auntie Em, and Uncle Henry, the *setting* of Kansan prairie, and *major events* such as the arrival of the cyclone. [RL.1.3]
- Students (*with prompting and support from the teacher*) when listening to Laura Ingalls Wilder's *Little House in the Big Woods ask questions about* the events that occur (such as the encounter with the bear) and *answer* by offering *key details* drawn from the *text*. [RL.1.1]
- Students *identify* the *points* at which different characters are *telling the story* in the *Finn Family Moomintroll* by Tove Jansson. [RL.1.6]
- Students *identify words and phrases* within Molly Bang's *The Paper Crane* that *appeal to the senses* and *suggest the feelings* of happiness experienced by the owner of the restaurant (e.g., clapped, played, loved, overjoyed). [RL.1.4]

Informational Texts

Bulla, Clyde Robert. *A Tree Is a Plant*. Illustrated by Stacey Schuett. New York: HarperCollins, 2001. (1960)

A tree is a plant. A tree is the biggest plant that grows. Most kinds of trees grow from seeds the way most small plants do. There are many kinds of trees. Here are a few of them. How many do you know? [illustration is labeled with Maple, Conifer, Persimmon, Palms, Lemon, Willow]

This tree grows in the country. It might grow in your yard, too. Do you know what kind it is? This is an apple tree.

This apple tree came from a seed. The seed was small. It grew inside an apple. Have you ever seen an apple seed? Ask an adult to help you cut an apple in two. The seeds are in the center. They look like this.

Most apple trees come from seeds that are planted. Sometimes an apple tree grows from a seed that falls to the ground. The wind blows leaves over the seed. The wind blows soil over the seed.

All winter the seed lies under the leaves and the soil. All winter the seed lies under the ice and snow and is pushed into the ground. Spring comes. Rain falls. The sun comes out and warms the earth. The seed begins to grow.

At first the young plant does not look like a tree. The tree is very small. It is only a stem with two leaves. It has no apples on it. A tree must grow up before it has apples on it. Each year the tree grows. It grows tall. In seven years it is so tall that you can stand under its branches. In the spring there are blossoms on the tree. Spring is apple-blossom time.

[...]

We cannot see the roots. They are under the ground. Some of the roots are large. Some of them are as small as hairs. The roots grow like branches under the ground. A tree could not live without roots.

Roots hold the trunk in the ground. Roots keep the tree from falling when the wind blows. Roots keep the rain from washing the tree out of the ground.

Roots do something more. They take water from the ground. They carry the water into the trunk of the tree. The trunk carries the water to the branches. The branches carry the water to the leaves.

Hundreds and hundreds of leaves grow on the branches. The leaves make food from water and air. They make food when the sun shines. The food goes into the branches. It goes into the trunk and roots. It goes to every part of the tree.

Fall comes and winter is near. The work of the leaves is over. The leaves turn yellow and brown. The leaves die and fall to the ground.

Now the tree is bare. All winter it looks dead. But the tree is not dead. Under its coat of bark, the tree is alive.

Aliki. *My Five Senses*. New York: HarperCollins, 1989. (1962)

I can see! I see with my eyes.

I can hear! I hear with my ears.

I can smell! I smell with my nose.

I can taste! I taste with my tongue.

I can touch! I touch with my fingers.

I do all this with my senses.
I have five senses.

When I see the sun or a frog or my baby sister, I use my sense of sight. I am seeing.

When I hear a drum or a fire engine or a bird, I use my sense of hearing. I am hearing.

When I smell soap or a pine tree or cookies just out of the oven, I use my sense of smell. I am smelling.

When I drink my milk and eat my food, I use my sense of taste. I am tasting.

When I touch a kitten or a balloon or water, I use my sense of touch. I am touching.

Sometimes I use all my senses at once.
Sometimes I use only one.
I often play a game with myself.
I guess how many senses I am using at that time.

When I look at the moon and the stars, I use one sense. I am seeing.

When I laugh and play with my puppy, I use four senses. I see, hear, smell, and touch.

When I bounce a ball, I use three senses. I see, hear, touch.

Sometimes I use more of one sense and less of another.

But each sense is very important to me, because it makes me aware.

To be aware is to see all there is to see…
hear all there is to hear…
smell all there is to smell…
taste all there is to taste…
touch all there is to touch.

Wherever I go, whatever I do, every minute of the day, my senses are working.
They make me aware.

Hurd, Edith Thacher. *Starfish*. Illustrated by Robin Brickman. New York: HarperCollins, 2000. (1962)

Starfish live in the sea. Starfish live deep down in the sea. Starfish live in pools by the sea.

Some starfish are purple. Some starfish are pink.

This is the sunflower starfish. It is the biggest of all. Starfish have many arms. The arms are called rays. Starfish have arms, but no legs.

Starfish have feet, but no toes. They glide and slide on tiny tube feet. They move as slowly as a snail.

The basket star looks like a starfish, but it is a little different. It doesn't have tube feet. It moves with its rays. It has rays that go up and rays that go down.

Tiny brittle stars are like the basket star. They hide under rocks in pools by the sea.

The mud star hides in the mud. It is a starfish. It has tiny tube feet.

A starfish has no eyes. A starfish has no ears or nose. Its tiny mouth is on its underside. When a starfish is hungry, it slides and it glides on its tiny tube feet.

It hunts for mussels and oysters and clams. It feels for the mussels, It feels for the oysters. It feels for the clams. It feels for something to eat.

The starfish crawls over a clam. Its rays go over it. Its rays go under it. Its rays go all over the clam. The starfish pulls and pulls. It pulls the shells open. It eats the clam inside.

Sometimes a starfish loses a ray. A crab may pull it off. A rock may fall on it. But this does not hurt. It does not bother the starfish. The starfish just grows another ray.

In the spring when the sun shines warm, and the sea grows warm, starfish lay eggs. Starfish lay eggs in the water. They lay many, many, many tiny eggs. The eggs look like sand in the sea. The tiny eggs float in the water. They float up and down. They move with the waves and the tide, up and down, up and down.

Aliki. *A Weed is a Flower: The Life of George Washington Carver*. New York: Prentice Hall, 1965. (1965)

Crews, Donald. *Truck*. New York: HarperCollins, 1980. (1980)

This is a largely wordless book appropriate for kindergarten.

Hoban, Tana. *I Read Signs*. New York: HarperCollins, 1987 (1987)

This is a largely wordless book appropriate for kindergarten.

Reid, Mary Ebeltoft. *Let's Find Out About Ice Cream*. Photographs by John Williams. New York: Scholastic, 1996. (1996)

"Garden Helpers." *National Geographic Young Explorers* September 2009. (2009)

Not all bugs and worms are pests.
Some help your garden grow.

Earthworms make soil rich and healthy.
This helps plants grow strong!

A ladybug eats small bugs.
The bugs can't eat the plants.
This keeps your garden safe.

A praying mantis eats any bug it can catch.
Not many bugs can get past this quick hunter!

This spider catches bugs in its sticky web.
It keeps bugs away from your garden.

"Wind Power." *National Geographic Young Explorers* November/December 2009. (2009)

Wind is air on the move.
See what wind can do.

Wind can whip up some fun!

Wind starts with the sun.
The sun warms land and water.
The air above warms up too.

Warm air rises.
Cooler air rushes in.
That moving air is wind.

Wind is energy.
It can push a sailboat.

Look at the windmills spin!
They turn wind energy into electricity.
What else can wind do?

Read-Aloud Informational Texts

Provensen, Alice and Martin. *The Year at Maple Hill Farm*. New York: Simon & Schuster, 2001. (1978)

Gibbons, Gail. *Fire! Fire!* New York: HarperCollins, 1987. (1984)
From "Fire! Fire! In the city…"

In an apartment house, a breeze has blown a towel up into the flame of a hot stove. A fire begins. The smoke alarm screams.

A phone call alerts the fire-dispatch center. Instantly, a dispatcher calls the firehouse nearest the fire.

A loudspeaker blares out the address of the fire, and the firefighters go into action. They slide down brass poles to the ground floor, where the fire engines are, and hurry into their fire-fighting gear. Then they take their positions on their engines.

The big trucks roar out of the firehouse. Sirens scream and lights flash.

The fire engines arrive at the scene. The fire is bigger now. The fire chief is in charge. He decides the best way to fight this fire.

Hoses are pulled from the trucks. Each separate fire truck is called a "company." Each separate company has an officer in charge. The fire chief tells each officer in charge what he wants the firefighters to do.

Firefighters are ordered to search the building to make sure no one is still inside. A man is trapped. A ladder tower is swung into action. The man is rescued quickly.

At the same time, an aerial ladder is taking other firefighters to the floor above the fire. Inside, the firefighters attach a hose to the building's standpipe. Water is sprayed onto the fire to keep it from moving up through the apartment house.

Now the aerial ladder is swung over to the roof of the burning building. Firefighters break holes in the roof and windows to let out poisonous gases, heat, and smoke before they can cause a bad explosion. There's less danger now for the firefighters working inside the building.

Firefighters are battling the blaze from the outside of the building, too. Fire hoses carry water from the fire hydrants to the trucks.

Pumps in the fire trucks control the water pressure and push the water up through the discharge hoses. Streams of water hit the burning building and buildings next door to keep the fire from spreading.

The fire is under control.

The fire is out. The firefighters clean up the rubble. Back at the firehouse, they clean their equipment and make an official report on the fire.

Dorros, Arthur. *Follow the Water from Brook to Ocean*. New York: HarperCollins, 1993. (1991)

After the next big rain storm, put your boots on and go outside. Look at the water dripping from your roof. Watch it gush out of the drainpipes. You can see water flowing down your street too.

Water is always flowing. It trickles in the brook near your house.

Sometimes you see water rushing along in a stream or in a big river.

Water always flows downhill. It flows from high places to low places, just the way you and your skateboard move down a hill.

Sometimes water collects in a low spot in the land – a puddle, a pond, or a lake. The water's downhill journey may end there. Most of the time, though, the water will find a way to keep flowing downhill. Because water flows downhill, it will keep flowing until it can't go any lower. The lowest parts of the earth are the oceans. Water will keep flowing until it reaches an ocean.

Where does the water start? Where does the water in a brook or a stream or a river come from? The water comes from rain. And it comes from melting snow. The water from rain and melting snow runs over the ground. Some of it soaks into the ground, and some water is soaked up by trees and other plants. But a lot of the water keeps traveling over the ground, flowing downhill.

The water runs along, flowing over the ground. Trickles of water flow together to form a brook. A brook isn't very deep or wide. You could easily step across a brook to get to the other side.

The brook flows over small stones covered with algae. Algae are tiny plants. They can be green, red, or brown. Green algae make the water look green. Plop! A frog jumps into the brook. A salamander wiggles through leafy water plants. Slap! A trout's tail hits the water. Lots of creatures live in the moving water.

Rauzon, Mark, and Cynthia Overbeck Bix. *Water, Water Everywhere*. San Francisco: Sierra Club, 1994. (1994)

Llewellyn, Claire. *Earthworms*. New York: Franklin Watts, 2002. (2002)

Jenkins, Steve, and Robin Page. *What Do You Do With a Tail Like This?* Orlando: Houghton Mifflin, 2003. (2003)

What do you do with a nose like this?
If you're a platypus, you use your nose to dig in the mud.
If you're a hyena, you find your next meal with your nose.
If you're an elephant, you use your nose to give yourself a bath.
If you're a mole, you use your nose to find your way underground.
If you're an alligator, you breathe through your nose while hiding in the water.
What do you do with ears like these?
If you're a jackrabbit, you use your ears to keep cool.
If you're a bat you "see" with your ears.
If you're a cricket, you hear with ears that are on your knees.
If you're a humpback whale, you hear sounds hundreds of miles away.
If you're a hippopotamus, you close your ears when you're under water.
What do you do with a tail like this?
If you're a giraffe, you brush off pesky flies with your tail.
If you're a skunk, you lift your tail to warn that a stinky spray is on the way.
If you're a lizard, you break off your tail to get away.
If you're a scorpion, your tail can give a nasty sting.
If you're a monkey, you hang from a tree by your tail.
What do you do with eyes like these?
If you're an eagle, you spot tiny animals from high in the air.
If you're a chameleon, you look two ways at once.
If you're a four-eye fish, you look above and below the water at the same time.
If you're a bush baby, you use your large eyes to see clearly at night.
If you're a horned lizard, you squirt blood out of your eyes.
What do you do with feet like these?
If you're a chimpanzee, you feed yourself with your feet.
If you're a water strider, you walk on water.
If you're a blue-footed booby, you do a dance.
If you're a gecko, you use your sticky feet to walk on the ceiling.
If you're a mountain goat, you leap from ledge to ledge.
What do you do with a mouth like this?
If you're a pelican, you use your mouth as a net to scoop up fish.
If you're an egg-eating snake, you use your mouth to swallow eggs larger than your head.
If you're a mosquito, you use your mouth to suck blood.
If you're an anteater, you capture termites with your long tongue.
If you're an archerfish, you catch insects by shooting them down with a stream of water.

Pfeffer, Wendy. *From Seed to Pumpkin*. Illustrated by James Graham Hale. New York: HarperCollins, 2004. (2004)

When spring winds warm the earth, a farmer plants hundreds of pumpkin seeds.

Every pumpkin seed can become a baby pumpkin plant. Underground, covered with dark, moist soil, the baby plants begin to grow.

As the plants get bigger, the seeds crack open. Stems sprout up. Roots dig down. Inside the roots are tubes. Water travels up these tubes the way juice goes up a straw.

In less than two weeks from planting time, green shoots poke up through the earth.

These shoots grow into tiny seedlings. Two leaves, called seed leaves, uncurl on each stem. They reach up toward the sun.

Sunlight gives these leaves energy to make food. Like us, plants need food to grow. But green plants do not eat food as we do. Their leaves make it.

To make food, plants need light, water, and air. Leaves catch the sunlight. Roots soak up rainwater. And little openings in the leaves let air in. Using energy from the sun, the leaves mix the air with water from the soil to make sugar. This feeds the plant.

Soon broad, prickly leaves with jagged edges unfold on the stems.

The seed leaves dry up. Now the new leaves make food for the pumpkin plant.

Each pumpkin stem has many sets of tubes. One tube in each set takes water from the soil up to the leaves so they can make sugar. The other tube in each set sends food back down so the pumpkin can grow.

The days grow warmer. The farmer tends the pumpkin patch to keep weeds out. Weeds take water from the soil. Pumpkin plants need that water to grow.

Thomson, Sarah L. *Amazing Whales!* New York: HarperCollins, 2006. (2005)

A blue whale is as long as a basketball court. Its eyes are as big as softballs. Its tongue weighs as much as an elephant.

It is the biggest animal that has ever lived on Earth – bigger than any dinosaur.

But not all whales are this big. A killer whale is about as long as a fire truck. Dolphins and porpoises are whales too, very small whales. The smallest dolphin is only five feet long. That's probably shorter than your mom.

There are about 80 kinds of whales. All of them are mammals. Dogs and monkeys and people are mammals, too. They are warm-blooded. This means that their blood stays at the same temperature even if the air or water around them gets hot or cold.

Mammal babies drink milk from their mothers. Whale babies are called calves.

And mammals breathe air. A whale must swim to the ocean's surface to breathe or it will drown. After a whale calf is born, its mother may lift it up for its first breath of air.

A whale uses its blowholes to breathe. It can have one blowhole or two. The blowholes are on the top of its head. When a whale breathes out, the warm breath makes a cloud called a blow. Then the whale breathes in. Its blowholes squeeze shut. The whale dives under the water. It holds its breath until it comes back up.

When sperm whales hunt, they dive deeper than any other whale. They can hold their breath for longer than an hour and dive down more than a mile.

Deep in the ocean, where the water is dark and cold, sperm whales hunt for giant squid and other animals.

Some whales, like sperm whales, have teeth to catch their food. They are called toothed whales. Other whales have no teeth. They are called baleen whales. (Say it like this: bay-LEEN.) Blue whales and humpback whales are baleen whales. They have strips of baleen in their mouths. Baleen is made of the same stuff as your fingernails. It is strong but it can bend.

A baleen whale fills its mouth with water. In the water there might be fish or krill. Krill are tiny animals like shrimp. The whale closes its mouth. The water flows back out between the strips of baleen.

The fish or krill are trapped inside its mouth for the whale to eat.

Some whales, like killer whales, hunt in groups to catch their food. These groups are called pods. A whale mother and her children, and even her grandchildren sometimes live in one pod.

Hodgkins, Fran, and True Kelley. *How People Learned to Fly*. New York: HarperCollins, 2007. (2007)

When you see a bird flying, do you dream about flying too?

Do you run with your arms out, imagining that you're soaring among the clouds? Do you make paper airplanes? Do you fly kites?

If you do, you aren't alone. For thousands of years, people have dreamed of being able to fly.

They watched birds and bats soar.

They imagined people and other animals that could fly and told stories about them.

They designed machines that they thought would be able to fly.

They had many ideas. As they tried each new idea, they learned a lot.

They learned about gravity. Gravity is the force that keeps everything on the Earth's surface. Because of gravity, things have weight.

If there were no gravity, people, dogs, cats, and everything else would go floating off into space. Gravity keeps us on the ground, even if we would rather be flying.

People also learned about air. Air is made of tiny particles called molecules. When you walk or run, you push through air molecules. They push back on you, too, even though you don't really feel the push unless the wind blows.

People learned that wind could push a kite into the sky.

When air molecules push back on a moving object, that is a force called drag. You can feel drag for yourself. Hold out your arms. Now spin around. Feel the push of air on your arms and hands? That's drag. Like gravity, drag works against objects that are trying to fly.

Kites were useful and fun, but people wanted more. They wanted to fly like birds.

Birds had something that kites didn't: Birds had wings.

People made wings and strapped them to their arms. They flapped their arms but couldn't fly.

They built gliders, light aircraft with wings. Some didn't work, but some did.

The gliders that worked best had special wings. These wings were arched on both the top and the bottom. The air pulled the wings from above and pushed the wings from below. When the wings went up, so did the glider! Arched wings help create a force called lift. Lift is the force that keeps birds and gliders in the air.

Most gliders have long, thin wings. The wings create enough lift to carry the aircraft and its passengers. Gliders usually ride currents of air the same way a hawk soars.

Gliders are very light, and long wings and air currents can give them enough lift to fly. But to carry more than just a passenger or two, an aircraft needs a lot more lift. The question is: How do you create more lift?

The engine is the answer!

The engine is a machine that changes energy into movement. The forward movement that an airplane needs to fly is called thrust. More thrust makes an airplane move forward faster. Moving faster creates more lift. And with more lift, an airplane can carry more weight. So an aircraft with an engine can carry passengers or cargo.

In 1903 the Wright brothers figured out how to get wings and an engine to work together in order to give an airplane enough thrust to fly. They made the first powered flight at Kitty Hawk, North Carolina.

Since then, people have made airplanes that can fly faster than sound can travel. They have made airplanes that can fly all the way around the world without stopping.

Today, thousands of people travel in airplanes every day. People really have learned how to fly!

Nivola, Claire A. Planting the trees of Kenya: the story of Wangari Maathai. New York: Farrar, Straus & Giroux, 2008. (2008)

Sample Performance Tasks for Informational Texts

- Students *identify* the reasons Clyde Robert Bulla gives in his book *A Tree Is a Plant* in *support* of his *point* about the function of roots in germination. [RI.1.8]
- Students identify Edith Thacher Hurd as the *author* of *Starfish* and Robin Brickman as the *illustrator* of the text and *define* the role and materials *each* contributes to the *text*. [RI.K.6]
- Students (*with prompting and support from the teacher*) read “Garden Helpers” in *National Geographic Young Explorers* and demonstrate their understanding of *the main idea of the text*—not all bugs are bad—by *retelling key details*. [RI.K.2]
- After listening to Gail Gibbons’ *Fire! Fire!*, students *ask questions about* how firefighters respond to a fire and *answer* using *key details* from the *text*. [RI.1.1]
- Students *locate key facts or information in* Claire Llewellyn’s *Earthworms* by *using various text features (headings, table of contents, glossary)* found in the text. [RI.1.5]
- Students *ask and answer questions about* animals (e.g., hyena, alligator, platypus, scorpion) they encounter in Steve Jenkins and Robin Page’s *What Do You Do With a Tail Like This?* [RI.K.4]
- Students use the *illustrations* along with *textual details* in Wendy Pfeffer’s *From Seed to Pumpkin* to *describe* the *key idea* of how a pumpkin grows. [RI.1.7]
- Students (*with prompting and support from the teacher*) *describe the connection between* drag and flying in Fran Hodgkins and True Kelley’s *How People Learned to Fly* by performing the “arm spinning” experiment described in the text. [RI.K.3]

Grades 2–3 Text Exemplars

Stories

Gannett, Ruth Stiles. *My Father's Dragon*. Illustrated by Ruth Chrisman Gannett. New York: Random House, 1948. (1948).

From Chapter Seven "My Father Meets a Lion"

"Who are you?" the lion yelled at my father.

"My name is Elmer Elevator."

"Where do you think you are going?"

"I'm going home," said my father.

"That's what you think!" said the lion. "Ordinarily I'd save you for afternoon tea, but I happen to be upset enough and hungry enough to eat you right now." And he picked up my father in his front paws to feel how fat he was.

My father said, "Oh, please, Lion, before you eat me, tell me why you are so particularly upset today."

"It's my mane," said the lion, as he was figuring out how many bites a little boy would make. "You see what a dreadful mess it is, and I don't seem to be able to do anything about it. My mother is coming over on the dragon this afternoon, and if she sees me this way I'm afraid she'll stop my allowance. She can't stand messy manes! But I'm going to eat you now, so it won't make any difference to you."

"Oh, wait a minute," said my father, "and I'll give you just the things you need to make your mane a tidy and beautiful. I have them here in my pack."

"You do?" said the lion, "Well, give them to me, and perhaps I'll save you for afternoon tea after all," and he put my father down on the ground."

My father opened the pack and took out the comb and the brush and the seven hair ribbons of different colors. "Look," he said, "I'll show you what to do on your forelock, where you can watch me. First you brush a while, and then you comb, and then you brush again until all the twigs and snarls are gone. Then you divide it up into three and braid it like this and tie a ribbon around the end."

Ad my father was doing this, the lion watched very carefully and began to look much happier. When my father tied the ribbon he was all smiles. "Oh, that's wonderful, really wonderful!" said the lion. "Let me have the comb and brush and see if I can do it." So my father gave him the comb and brush and the lion began busily grooming his mane. As a matter of fact, he was so busy that he didn't even know when my father left.

Averill, Esther. *The Fire Cat*. New York: HarperCollins, 1960. (1960)
From "The Fire Cat"

Joe took Pickles to the Chief, who was sitting at his desk.

"Oh!" said the Chief. "I know this young cat. He is the one who chases little cats."

"How do you know?" asked Joe.

The Chief answered, "A Fire Chief knows many things."

Just then the telephone began to ring. "Hello," said the Chief. "Oh, hello, Mrs. Goodkind. Yes, Pickles is here. He came with Joe. What did you say? You think Pickles would like to live in our firehouse? Well, we shall see. Thank you, Mrs. Goodkind. Good-bye."

The Chief looked at Pickles and said, "Mrs. Goodkind says you are not a bad cat. And Joe likes you. I will let you live here IF you will learn to be a good firehouse cat."

Pickles walked quietly up the stairs after Joe. Joe and Pickles went into a room where the firemen lived.

The men were pleased to have a cat. They wanted to play with Pickles. But suddenly the fire bell rang. All the firemen ran to a big pole and down they went. The pole was the fast way to get to their trucks. Pickles could hear the trucks start up and rush off to the fire.

Pickles said to himself, "I must learn to do what the firemen do, I must learn to slide down the pole."

He jumped and put his paws around the pole. Down he fell with a BUMP.

"Bumps or no bumps, I must try again," said Pickles. Up the stairs he ran. Down the pole he came – and bumped. But by the time the firemen came back from the fire, Pickles could slide down the pole.

"What a wonderful cat you are!" said the firemen. The Chief did not say anything.

Pickles said to himself, "I must keep learning everything I can." So he learned to jump up on one of the big trucks. And he learned to sit up straight on the seat while the truck raced to a fire.

"What a wonderful cat you are!" said the firemen. The Chief did not say anything.

Pickles said to himself, "Now I must learn to help the firemen with their work."

At the next fire, he jumped down from the truck. He ran to a big hose, put his paws around it, and tried to help a fireman shoot water at the flames.

"What a wonderful cat you are!" said the firemen. The Chief did not say anything.

The next day the Chief called all the firemen to his desk. Then he called for Pickles. Pickles did not know what was going to happen. He said to himself, "Maybe the Chief does not like the way I work. Maybe he wants to send me back to my old yard." But Pickles went to the Chief.

At the Chief's desk stood all the firemen – and Mrs. Goodkind! The Chief said to Pickles, "I have asked Mrs. Goodkind to come because she was your first friend. Pickles, jump up on my desk. I have something to say to you."

Pickles jumped up on the desk and looked at the Chief. Out of the desk the Chief took – a little fire hat!

"Pickles," said the Chief, "I have watched you at your work. You have worked hard. The time has come for you to know that you are now our Fire Cat."

And with these words, the Chief put the little hat on Pickles' head.

Steig, William. *Amos & Boris*. New York: Farrar, Straus and Giroux, 1971. (1971)

Shulevitz, Uri. *The Treasure*. New York: Farrar, Straus and Giroux, 1978. (1978)

Cameron, Ann. *The Stories Julian Tells*. New York: Random House, 1981. (1981)

MacLachlan, Patricia. *Sarah, Plain and Tall*. New York: HarperCollins, 1985. (1985)
From Chapter I

"Did Mama sing every day?" asked Caleb. "Every-single-day?" He sat close to the fire, his chin in his hand. It was dusk, and the dogs lay beside him on the warm hearthstones.

"Every-single-day," I told him for the second time this week. For the twentieth time this month. The hundredth time this year? And the past few years?

"And did Papa sing, too?"

"Yes. Papa sang, too. Don't get so close, Caleb. You'll heat up."

He pushed his chair back. It made a hollow scraping sound on the hearthstones. And the dogs stirred. Lottie, small and black, wagged her tail and lifted her head. Nick slept on.

I turned the bread dough over and over on the marble slab on the kitchen table.

“Well, Papa doesn’t sing anymore,” said Caleb very softly. A log broke apart and crackled in the fireplace. He looked up at me. “What did I look like when I was born?”

“You didn’t have any clothes on,” I told him.

“I know that,” he said.

“You looked like this.” I held the bread dough up in a round pale ball.

“I had hair,” said Caleb seriously.

“Not enough to talk about,” I said.

“And she named me Caleb,” he went on, filling in the old familiar story.

“I would have named you Troublesome,” I said, making Caleb smile.

“And Mama handed me to you in the yellow blanket and said…” He waited for me to finish the story. “And said…?”

I sighed. “And Mama said. ‘Isn’t he beautiful, Anna?’”

“And I was,” Caleb finished.

Caleb thought the story was over, and I didn’t tell him what I had really thought. He was homely and plain, and he had a terrible holler and a horrid smell. But these were not the worst of him. Mama died the next morning. That was the worst thing about Caleb.

“Isn’t he beautiful, Anna?” her last words to me. I had gone to bed thinking how wretched he looked. And I forgot to say good night.

I wiped my hands on my apron and went to the window. Outside, the prairie reached out and touched the places where the sky came down. Though the winter was nearly over, there were patches of snow everywhere. I looked at the long dirt road that crawled across the plains, remembering the morning that Mama had died, cruel and sunny. They had come for her in a wagon and taken her away to be buried. And then the cousins and aunts and uncles had come and tried to fill up the house. But they couldn’t.

Slowly, one by one, they left. And then the days seemed long and dark like winter days, even though it wasn’t winter. And Papa didn’t sing.

Rylant, Cynthia. *Henry and Mudge: The First Book of Their Adventures*. Illustrated by Suçie Stevenson. New York: Atheneum, 1996. (1987)
From “Henry and Mudge”

Every day when Henry woke up, he saw Mudge’s big head. And every day when Mudge woke up, he saw Henry’s small face.

They ate breakfast at the same time; they ate supper at the same time.

And when Henry was at school, Mudge just lay around and waited. Mudge never went for a walk without Henry again. And Henry never worried that Mudge would leave.

Because sometimes, in their dreams, they saw long silent roads, big wide fields, deep streams, and pine trees.

In those dreams, Mudge was alone and Henry was alone. So when Mudge woke up and knew Henry was with him, he remembered the dream and stayed closer.

And when Henry woke up and knew Mudge was with him, he remembered the dream

and the looking
and the calling
and the fear
and he knew he would never lose Mudge again.

Stevens, Janet. *Tops and Bottoms*. New York: Harcourt, 1985. (1995)

Once upon a time there lived a very lazy bear who had lots of money and lots of land. His father had been a hard worker and a smart business bear, and he had given all of his wealth to his son.

But all Bear wanted to do was sleep.

Not far down the road lived a hare. Although Hare was clever, he sometimes got into trouble. He had once owned land, too, but now he had nothing. He had lost a risky bet with a tortoise and had sold off all of his land to Bear to pay off the debt.

Hare and his family were in very bad shape.

"The children are so hungry Father Hare! We must think of something!" Mrs. Hare cried one day. So Hare and Mrs. Hare put their heads together and cooked up a plan.

[…]

Bear stared at his pile. "But, Hare, all the best parts are in your half!"

"You chose the tops, Bear," Hare said.

"Now, Hare, you've tricked me. You plant this field again—and this season I want the bottoms!"

Hare agreed. "It's a done deal, Bear."

LaMarche, Jim. *The Raft*. New York: HarperCollins, 2000. (2000)

Somehow, on the river, it seemed like summer would never end. But of course it did.

On my last day, I got up extra early and crept down to the dock. The air was cool and a low pearly fog hung over the river. I untied the raft and quietly drifted downstream.

Ahead of me, through the fog, I saw two deer moving across the river, a doe and a fawn. When they reached the shore, the doe leaped easily up the steep bank, then turned to wait for her baby. But the fawn was in trouble. It kept slipping down the muddy bank, The doe returned to the water to help, but the more the fawn struggled, the deeper it got stuck in the mud.

I pushed off the river bottom and drove the raft hard onto the muddy bank, startling the doe. Then I dropped into the water. I was ankle-deep in mud.

You're okay," I whispered to the fawn, praying that the raft would calm it. "I won't hurt you."

Gradually the fawn stopped struggling, as if it understood that I was there to help. I put my arms around it and pulled. It barely moved. I pulled again, then again. Slowly the fawn eased out of the mud, and finally it was free. Carefully I carried the fawn up the bank to its mother.

Then, quietly, I returned to the raft. From there I watched the doe nuzzle and clean her baby, and I knew what I had to do. I pulled the stub of a crayon from my pocket, and drew the fawn, in all its wildness, onto the old gray boards of the raft. When I had finished, I knew it was just right.

Rylant, Cynthia. *Poppleton in Winter*. Illustrated by Mark Teague. New York: Scholastic, 2001. (2001)
From "The Sleigh Ride"

It was a very snowy day and Poppleton felt like a sleigh ride. He called his friend Cherry Sue.

"Would you like to go for a sleigh ride?" Poppleton asked.

"Sorry, Poppleton, I'm making cookies," said Cherry Sue.

Poppleton called his friend Hudson.

"Would you like to go for a sleigh ride?" Poppleton asked.

"Sorry," said Hudson, "I'm baking a cake."

Poppleton called his friend Fillmore.

"Would you like to go for a sleigh ride?" Poppleton asked.

"Sorry," said Fillmore. "I'm stirring some fudge."

Poppleton was disappointed. He couldn't find one friend for a sleigh ride. And besides that, they were all making such good things to eat!

He sat in front of his window, feeling very sorry for himself. Suddenly the doorbell rang.

"SURPRISE!"

There stood all of Poppleton's friends! With cookies and cake and fudge and presents! "HAPPY BIRTHDAY, POPPLETON!"

He had forgotten his own birthday! Everyone ate and laughed and played games with Poppleton.

Then, just before midnight, they all took him on a sleigh ride.

The moon was full and white. The stars twinkled. The owls hooted in the trees. Over the snow went the sleigh filled with Poppleton and all of his friends.

Poppleton didn't even make a birthday wish. He had everything already.

From POPPLETON IN WINTER by Cynthia Rylant. Scholastic Inc./Blue Sky Press. Copyright © 2001 by Cynthia Rylant. Used by permission.

Rylant, Cynthia. *The Lighthouse Family: The Storm*. Illustrated by Preston McDaniels. New York: Simon & Schuster, 2002. (2002)

In a lonely lighthouse, far from city and town, far from the comfort of friends, lived a kindhearted cat named Pandora.

She had been living in this lighthouse all alone for four long years, and it was beginning to wear. She found herself sighing long, deep, lonely sighs. She sat on the rocks overlooking the waves far too long. Sometimes her nose got a sunburn.

And at night, when she tried to read by the lantern light, her mind wandered and she would think for hours on her childhood when she had friends and company.

Why did Pandora accept this lonely lighthouse life?

Because a lighthouse had once saved her.

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Osborne, Mary Pope. *The One-Eyed Giant (Book One of Tales from the Odyssey)*. New York: Disney Hyperion, 2002. (2002)
From Chapter Five: "The One-Eyed Giant"

A hideous giant lumbered into the clearing. He carried nearly half a forest's worth of wood on his back. His monstrous head jutted from his body like a shaggy mountain peak. A single eye bulged in the center of his forehead.

The monster was Polyphemus. He was the most savage of all the Cyclopes, a race of fierce one-eyed giants who lived without laws or leader. The Cyclopes were ruthless creatures who were known to capture and devour any sailors who happened near their shores.

Polyphemus threw down his pile of wood. As it crashed to the ground, Odysseus and his men fled to the darkest corners of the cave.

Unaware that the Greeks were hiding inside, Polyphemus drove his animals into the cave. Then he rolled a huge boulder over its mouth to block out the light of day and imprison his flock inside.

Twenty-four wagons could not haul that rock away, Odysseus thought desperately. How will we escape this monster?

Odysseus' men trembled with terror as the giant made a small fire and milked his goats in the shadowy light. His milking done, he threw more wood on his fire. The flame blazed brightly, lighting up the corners of the cave where Odysseus and his men were hiding.

"What's this? Who are you? From where do you come?" the giant boomed. He glared at the Greeks with his single eye. "Are you pirates who steal the treasure of others?"

Odysseus' men were frozen with terror. But Odysseus hid his own fear and stepped toward the monster.

"We are not pirates," he said, "We are Greeks blown off course by storm winds. Will you offer us the gift of hospitality like a good host? If you do, mighty Zeus, king of the gods, will be pleased. Zeus is the guardian of all strangers."

"Fool!" the giant growled. "Who are you to tell me to please Zeus? I am a son of Poseidon, god of the seas! I am not afraid of Zeus!"

Odysseus men cowered in fear.

Polyphemus moved closer to Odysseus. He spoke in a soft, terrible voice. "But tell me, stranger, where is your ship? Near or far from shore?"

Odysseus knew Polyphemus was trying to trap him. "Our ship was destroyed in the storm," he lied. "It was dashed against the rocks. With these good men I escaped, I ask you again, will you welcome us?"

Silverman, Erica. *Cowgirl Kate and Cocoa*. Illustrated by Betsy Lewin. Orlando: Harcourt, 2005. (2005)
From Chapter 1: "A Story for Cocoa"

Cowgirl Kate rode her horse, Cocoa, out to the pasture.

"It's time to herd cows," said Cowgirl Kate.

"I am thirsty," said Cocoa.

He stopped at the creek and took a drink.

"Are you ready now?" asked Cowgirl Kate.

"No," said Cocoa. "Now I am hungry."

Cowgirl Kate gave him an apple. He ate it in one bite. Then he sniffed the saddlebag.

Cowgirl Kate gave him another apple. He ate that in one bite, too. He sniffed the saddlebag again.

"You are a pig," said Cowgirl Kate.

"No," said Cocoa. "I am a horse."

"A cowhorse?" she asked.

"Of course," he said.

"But a cowhorse herds cows," she said.

"Just now, I am too full," he said.

Cowgirl Kate smiled. "Then I will tell you a story."

"Once there was a cowgirl who needed a cowhorse. She went to a ranch and saw lots and lots of horses. Then she saw a horse whose coat was the color of chocolate. His tail and mane were the color of caramel. 'Yum,' said the cowgirl, 'you are the colors of my favorite candy.' The horse looked at her. He sniffed her."

"'Are you a real cowgirl?' he asked. 'I am a cowgirl from the boots up,' she said. 'Well, I am a cowhorse from the mane down,' he said. 'Will you work hard every day?' the cowgirl asked.. The horse raised his head high. 'Of course,' he said, 'a cowhorse always does his job.' 'At last,' said the cowgirl, 'I have found my horse.'"

"That was a good story," said Cocoa. He raised his head high. "And now I am ready to herd cows."

Poetry

Dickinson, Emily. "Autumn." *The Compete Poems of Emily Dickinson*. Boston: Little, Brown, 1960. (1893)

The morns are meeker than they were.
The nuts are getting brown;
The berry's cheek is plumper,
The rose is out of town.

The maple wears a gayer scarf,
The field a scarlet gown.
Lest I should be old-fashioned,
I'll put a trinket on.

Rossetti, Christina. "Who Has Seen the Wind?" *Sing a Song of Popcorn: Every Child's Book of Poems*. Selected by Beatrice Schenk de Regniers et al. Illustrated by Marcia Brown et al. New York: Scholastic, 1988. (1893)

Who has seen the wind?
  Neither I nor you;
But when the leaves hang trembling
  The wind is passing through.

Who has seen the wind?
  Neither you nor I;
But when the trees bow down their heads
  The wind is passing by.

Millay, Edna St. Vincent. "Afternoon on a Hill." *The Selected Poetry of Edna St. Vincent Millay*. Edited by Nancy Milford. New York: Modern Library, 2001. (1917)

I will be the gladdest thing
  Under the sun!
I will touch a hundred flowers
  And not pick one.

I will look at cliffs and clouds
  With quiet eyes,
Watch the wind bow down the grass,
  And the grass rise.

And when lights begin to show
  Up from the town,
I will mark which must be mine,
  And then start down!

Frost, Robert. "Stopping by Woods on a Snowy Evening." *The Poetry of Robert Frost: The Collected Poems*. Edited by Edward Connery Lathem. New York: Henry Holt, 1979. (1923)

Field, Rachel. "Something Told the Wild Geese." *Branches Green*. New York: Macmillan, 1934. (1934)

Hughes, Langston. "Grandpa's Stories." *The Collected Poems of Langston Hughes*. New York: Knopf, 1994. (1958)

Jarrell, Randall. "A Bat Is Born." *The Bat Poet*. New York: HarperCollins, 1964. (1964)

A bat is born
Naked and blind and pale.
His mother makes a pocket of her tail
And catches him. He clings to her long fur
By his thumbs and toes and teeth.
And them the mother dances through the night
Doubling and looping, soaring, somersaulting—
Her baby hangs on underneath.
All night, in happiness, she hunts and flies
Her sharp cries
Like shining needlepoints of sound
Go out into the night and, echoing back,
Tell her what they have touched.
She hears how far it is, how big it is,
Which way it's going:
She lives by hearing.
The mother eats the moths and gnats she catches
In full flight; in full flight

The mother drinks the water of the pond
She skims across. Her baby hangs on tight.
Her baby drinks the milk she makes him
In moonlight or starlight, in mid-air.
Their single shadow, printed on the moon
Or fluttering across the stars,
Whirls on all night; at daybreak
The tired mother flaps home to her rafter.
The others are all there.
They hang themselves up by their toes,
They wrap themselves in their brown wings.
Bunched upside down, they sleep in air.
Their sharp ears, their sharp teeth, their
        quick sharp faces
Are dull and slow and mild.
All the bright day, as the mother sleeps,
She folds her wings about her sleeping child.

Giovanni, Nikki. "Knoxville, Tennessee." *Sing a Song of Popcorn: Every Child's Book of Poems*. Selected by Beatrice Schenk de Regniers et al. Illustrated by Marcia Brown et al. New York: Scholastic, 1988. (1968)

I always like summer
best
you can eat fresh corn
from daddy's garden
and okra
and greens
and cabbage
and lots of
barbecue
and buttermilk

and homemade ice-cream
at the church picnic

and listen to
gospel music
outside
at the church
homecoming
and you go to the mountains
with
your grandmother
and go barefooted
and be warm
all the time
not only when you go to bed
and sleep

Merriam, Eve. "Weather." *Sing a Song of Popcorn: Every Child's Book of Poems*. Selected by Beatrice Schenk de Regniers et al. Illustrated by Marcia Brown et al. New York: Scholastic, 1988. (1969)

Soto, Gary. "Eating While Reading." *The 20th Century Children's Poetry Treasury*. Selected by Jack Prelutsky. Illustrated by Meilo So. New York: Knopf, 1999. (1995)

What is better
Than this book
And the churn of candy
In your mouth,
Or the balloon of bubble gum,
Or the crack of sunflower seeds,
Or the swig of soda,
Or the twist of beef jerky,
Or the slow slither
Of snow cone syrup
Running down your arms?

What is better than
This sweet dance
On the tongue,
And this book
That pulls you in?
It yells, "Over here!"
And you hurry along
With a red, sticky face.

Read-Aloud Stories

Kipling, Rudyard. "How the Camel Got His Hump." *Just So Stories*. New York: Puffin, 2008. (1902)

Now this is the next tale, and it tells how the Camel got his big hump.

In the beginning of years, when the world was so new and all, and the Animals were just beginning to work for Man, there was a Camel, and he lived in the middle of a Howling Desert because he did not want to work; and besides, he was a Howler himself. So he ate sticks and thorns and tamarisks and milkweed and prickles, most 'scruciating idle; and when anybody spoke to him he said "Humph!" Just "Humph!" and no more.

Presently the Horse came to him on Monday morning, with a saddle on his back and a bit in his mouth, and said, "Camel, O Camel, come out and trot like the rest of us."

"Humph!" said the Camel; and the Horse went away and told the Man.

Presently the Dog came to him, with a stick in his mouth, and said, "Camel, O Camel, come and fetch and carry like the rest of us."

"Humph !" said the Camel; and the Dog went away and told the Man.

Presently the Ox came to him, with the yoke on his neck and said, "Camel, O Camel, come and plough like the rest of us."

"Humph!" said the Camel; and the Ox went away and told the Man.

At the end of the day the Man called the Horse and the Dog and the Ox together, and said, "Three, O Three, I'm very sorry for you (with the world so new-and-all); but that Humph-thing in the Desert can't work, or he would have been here by now, so I am going to leave him alone, and you must work double-time to make up for it."

That made the Three very angry (with the world so new-and-all), and they held a palaver, and an indaba, and a punchayet, and a pow-wow on the edge of the Desert; and the Camel came chewing milkweed most 'scruciating idle, and laughed at them. Then he said "Humph!" and went away again.

Presently there came along the Djinn in charge of All Deserts, rolling in a cloud of dust (Djinns always travel that way because it is Magic), and he stopped to palaver and pow-wow with the Three.

"Djinn of All Deserts," said the Horse, "is it right for any one to be idle, with the world so new-and-all?"

"Certainly not," said the Djinn.

"Well," said the Horse, "there's a thing in the middle of your Howling Desert (and he's a Howler himself) with a long neck and long legs, and he hasn't done a stroke of work since Monday morning. He won't trot."

"Whew!" said the Djinn, whistling, "that's my Camel, for all the gold in Arabia! What does he say about it?"

"He says 'Humph!'" said the Dog; "and he won't fetch and carry."

"Does he say anything else?"

"Only 'Humph!'; and he won't plough," said the Ox.

"Very good," said the Djinn. "I'll humph him if you will kindly wait a minute."

Thurber, James. *The Thirteen Clocks*. Illustrated by Marc Simont. New York: New York Review Children's Collection, 2008. (1950)
From Chapter 1

Once upon a time, in a gloomy castle on a lonely hill, where there were thirteen clocks that wouldn't go, there lived a cold aggressive Duke, and his niece, the Princess Saralinda. She was warm in every wind and weather, but he was always cold. His hands were as cold as his smile and almost as cold as his heart. He wore gloves when he was asleep, and he wore gloves when he was awake, which made it difficult for him to pick up pins or coins or kernels of nuts, or to tear the wings from nightingales. He was six feet four, and forty-six, and even colder than he thought he was. One eye wore a velvet patch; the other glittered through a monocle, which made half of his body seem closer to you than the other half. He had lost one eye when he was twelve, for he was fond of peering into nests and lairs in search of birds and animals to maul. One afternoon, a mother shrike had mauled him first. His nights were spent in evil dreams, and his days were given to wicked schemes.

Wickedly scheming, he would limp and cackle through the cold corridors of the castle, planning new impossible feats for the suitors of Saralinda to perform. He did not wish to give her hand in marriage, since her hand was the only warm hand in the castle. Even the hands of his watch and the hands of all the thirteen clocks were frozen. They had all frozen at the same time, on a snowy night, seven years before, and after that it was always ten to five in the castle. Travelers and mariners would look up at the gloomy castle on the lonely hill and say, "Time lies frozen there. It's always Then. It's never Now."

White, E. B. *Charlotte's Web*. Illustrated by Garth Williams. New York: HarperCollins, 2001. (1952)
From Chapter 1: "Before Breakfast"

"Where's Papa going with that ax?" said Fern to her mother as they were setting the table for breakfast.

"Out to the hoghouse," replied Mrs. Arable. "Some pigs were born last night."

"I don't see why he needs an ax," continued Fern, who was only eight.

"Well," said her mother, "one of the pigs is a runt. It's very small and weak, and it will never amount to anything. So your father has decided to do away with it."

"Do away with it?" shrieked Fern. "You mean kill it? Just because it's smaller than the others?"

Mrs. Arable put a pitcher of cream on the table. "Don't yell, Fern!" she said. "Your father is right. The pig would probably die anyway."

Fern pushed a chair out of the way and ran outdoors. The grass was wet and the earth smelled of springtime. Fern's sneakers were sopping by the time she caught up with her father.

"Please don't kill it!" she sobbed. "It's unfair." Mr. Arable stopped walking.

"Fern," he said gently, "you will have to learn to control yourself."

"Control myself?" yelled Fern. "This is a matter of life and death, and you talk about controlling myself."

Tears ran down her cheeks and she took hold of the ax and tried to pull it out of her father's hand.

"Fern," said Mr. Arable, "I know more about raising a litter of pigs than you do. A weakling makes trouble. Now run along!"

"But it's unfair," cried Fern. "The pig couldn't help being born small, could it? If I had been very small at birth, would you have killed me?"

Mr. Arable smiled. "Certainly not," he said, looking down at his daughter with love. "But this is different. A little girl is one thing, a little runty pig is another."

"I see no difference," replied Fern, still hanging on to the ax. "This is the most terrible case of injustice I ever heard of."

Selden, George. *The Cricket in Times Square*. Illustrated by Garth Williams. New York: Farrar, Straus and Giroux, 1960. (1960)
From Chapter Three: "Chester"

Tucker Mouse had been watching the Bellinis and listening to what they said. Next to scrounging, eaves-dropping on human beings was what he enjoyed most. That was one of the reasons he lived in the Times Square subway station. As soon as the family disappeared, he darted out across the floor and scooted up to the newsstand. At one side the boards had separated and there was a wide space he could jump through. He'd been in a few times before—just exploring. For a moment he stood under the three-legged stool, letting his eyes get used to the darkness. Then he jumped up on it.

"Psst!" he whispered. "Hey, you up there—are you awake?"

There was no answer.

"Psst! Psst! Hey!" Tucker whispered again, louder this time.

From the shelf above came a scuffling, like little feet feeling their way to the edge. "Who is that going 'psst'?" said a voice.

"It's me," said Tucker. "Down here on the stool."

A black head, with two shiny black eyes, peered down at him. "Who are you?"

"A mouse," said Tucker. "Who are you?"

"I'm Chester Cricket, said the cricket. He had a high, musical voice. Everything he said seemed spoken in an unheard melody.

"My name's Tucker," said Tucker Mouse. "Can I come up?"

"I guess so," said Chester Cricket. "This isn't my house anyway."

Tucker jumped up beside the cricket and looked him all over. "A cricket," he said admiringly. "So you're a cricket. I never saw one before."

I've seen mice before," the cricket said. "I knew quite a few back in Connecticut."

"Is that where you're from?" asked Tucker.

"Yes," said Chester. "I guess I'll never see it again," he added wistfully.

Babbitt, Natalie. *The Search for Delicious*. New York: Farrar, Straus and Giroux, 1969. (1969)
From the Prologue

There was a time once when the earth was still very young, a time some call the oldest days. This was long before there were any people about to dig parts of it up and cut parts of it off. People came along much later, building their towns and castles (which nearly always fell down after a while) and plaguing each other with quarrels and supper parties. The creatures who lived on earth in that early time stayed each in his own place and kept it beautiful. There were dwarfs in the mountains, woldwellers in the forests, mermaids in the lakes, and, of course, winds in the air.

There was one particular spot on the earth where a ring of mountains enclosed a very dry and dusty place. There were winds and dwarfs there, but no mermaids because there weren't any lakes, and there were no woldwellers either because forests couldn't grow in so dry a place.

Then a remarkable thing happened. Up in the mountains one day a dwarf was poking about with a sharp tool, looking for a good spot to begin mining. He poked and poked until he had made a very deep hole in the earth. Then he poked again and clear spring water came spurting up in the hole. He hurried in great excitement to tell the other dwarfs and they all came running to see the water. They were so pleased that they built over it a fine house of heavy stones and they made a special door out of a flat rock and balanced it in its place very carefully on carved hinges. Then one of them made a whistle out of a small stone which blew a certain very high note tuned to just the right warble so that when you blew it, the door of the rock house would open, and when you blew it again, the door would shut. They took turns being in charge of the whistle and they worked hard to keep the spring clean and beautiful.

Curtis, Christopher Paul. *Bud, Not Buddy*. New York: Random House, 1999. (1999)
(Also listed as a narrative for grades 4–5)
From Chapter 1

Here we go again. We were all standing in line waiting for breakfast when one of the caseworkers came in and tap-tap-taped down the line. Uh-oh, this meant bad news, either they'd found a foster home for somebody or somebody was about to get paddled. All the kids watched the woman as she moved along the line, her high-heeled shoes sounding like little fire-crackers going off on the wooden floor.

Shoot! She stopped at me and said, "Are you Buddy Caldwell?"

I said, "It's Bud, not Buddy, ma'am."

She put her hand on my shoulder and took me out of the line. Then she pulled Jerry, one of the littler boys, over. "Aren't you Jerry Clark?" He nodded.

"Boys, good news! Now that the school year has ended, you both have been accepted in new temporary-care homes starting this afternoon!"

Jerry asked the same thing I was thinking, "Together?"

She said, "Why no, Jerry, you'll be in a family with three little girls…"

Jerry looked like he'd just found out they were going to dip him in a pot of boiling milk.

"…and Bud…" She looked at some papers she was holding. "Oh, yes, the Amoses, you'll be with Mr. and Mrs. Amos and their son, who's twelve years old, that makes him just two years older than you, doesn't it, Bud?"

Yes, ma'am."

She said, "I'm sure you'll both be very happy."

Me and Jerry looked at each other.

The woman said, "Now, now, boys, no need to look so glum, I know you don't understand what it means, but there's a depression going on all over this country. People can't find jobs and these are very, very difficult times for everybody. We've been lucky enough to find two wonderful families who've opened their doors for you. I think it's best that we show our new foster families that we're very..."

She dragged out the word very, waiting for us to finish her sentence for her.

Jerry said, "Cheerful, helpful and grateful." I moved my lips and mumbled.

She smiled and said, "Unfortunately, you won't have time for breakfast. I'll have a couple of pieces of fruit put in a bag. In the meantime go to the sleep room and strip your beds and gather all of your things."

Here we go again. I felt like I was walking in my sleep as I followed Jerry back to the room where all the boys' beds were jim-jammed together. This was the third foster home I was going to and I'm used to packing up and leaving, but it still surprises me that there are always a few seconds, right after they tell you you've got to go, when my nose gets all runny and my throat gets all choky and my eyes get all sting-y. But the tears coming out doesn't happen to me anymore, I don't know when it first happened, but is seems like my eyes don't cry anymore.

Say, Allen. *The Sign Painter*. New York: Houghton Mifflin, 2000. (2000)

"Are you lost, son?" the man asked.

"Yes . . . I mean no. I need a job," the young man stammered looking not much more than a boy.

"Tell me what you can do."

"I can paint."

"Ah, an artist. Are you good at faces?"

"I think so."

"Can you paint them big?"

"Yes."

"All right, I'm interested." The man put down the brush, and said, "Come with me."

Read-Aloud Poetry

Lear, Edward. "The Jumblies." *Sing a Song of Popcorn: Every Child's Book of Poems*. Selected by Beatrice Schenk de Regniers et al. Illustrated by Marcia Brown et al. New York: Scholastic, 1988. (1871)

They went to sea in a sieve, they did;
In a sieve they went to sea:
In spite of all their friends could say,
On a winter's morn, on a stormy day,
In a sieve they went to sea.
And when the sieve turned round and round,
And every one cried, "You'll all be drowned!"

They called aloud, "Our sieve ain't big;
But we don't care a button, we don't care a fig:
In a sieve we'll go to sea!"

Far and few, far and few,
Are the lands where the Jumblies live:
Their heads are green, and their hands are blue
And they went to sea in a sieve.

They sailed away in a sieve, they did,
In a sieve they sailed so fast,
With only a beautiful pea-green veil
Tied with a ribbon, by way of a sail,
To a small tobacco-pipe mast.
And every one said who saw them go,
"Oh! won't they be soon upset, you know?
For the sky is dark, and the voyage is long;
And, happen what may, it's extremely wrong
In a sieve to sail so fast."

Far and few, far and few,
Are the lands where the Jumblies live:
Their heads are green, and their hands are blue
And they went to sea in a sieve.

The water it soon came in, it did;
The water it soon came in:
So, to keep them dry, they wrapped their feet
In a pinky paper all folded neat;
And they fastened it down with a pin.
And they passed the night in a crockery-jar;
And each of them said, "How wise we are!
Though the sky be dark, and the voyage be long,
Yet we never can think we were rash or wrong,
While round in our sieve we spin."

Far and few, far and few,
Are the lands where the Jumblies live:
Their heads are green, and their hands are blue
And they went to sea in a sieve.

And all night long they sailed away;
And when the sun went down,
They whistled and warbled a moony song
To the echoing sound of a coppery gong,
In the shade of the mountains brown."
O Timballoo! How happy we are
When we live in a sieve and a crockery-jar!
And all night long, in the moonlight pale,
We sail away with a pea-green sail
In the shade of the mountains brown

Far and few, far and few,
Are the lands where the Jumblies live:
Their heads are green, and their hands are blue
And they went to sea in a sieve.

They sailed to the Western Sea, they did,—
To a land all covered with trees:
And they bought an owl, and a useful cart,
And a pound of rice, and a cranberry-tart,
And a hive of silvery bees;
And they bought a pig, and some green jackdaws,
And a lovely monkey with lollipop paws,
And forty bottles of ring-bo-ree,
And no end of Stilton cheese.

Far and few, far and few,
Are the lands where the Jumblies live:
Their heads are green, and their hands are blue
And they went to sea in a sieve.

And in twenty years they all came back,—
In twenty years or more;
And every one said, "How tall they've grown!
For they've been to the Lakes, and the Torrible Zone,
And the hills of the Chankly Bore.
"And they drank their health, and gave them a feast
Of dumplings made of beautiful yeast;
And every one said, "If we only live,
We, too, will go to sea in a sieve,
To the hills of the Chankly Bore.

Far and few, far and few,
Are the lands where the Jumblies live:
Their heads are green, and their hands are blue
And they went to sea in a sieve.

Browning, Robert. *The Pied Piper of Hamelin*. Illustrated by Kate Greenaway. New York: Knopf, 1993. (1888)

Hamelin Town's in Brunswick,
By famous Hanover city;
The river Weser, deep and wide,
Washes its wall on the southern side;
A pleasanter spot you never spied;
But, when begins my ditty,
Almost five hundred years ago,
To see the townsfolk suffer so
From vermin, was a pity.

Rats!
They fought the dogs and killed the cats,
And bit the babies in the cradles,
And ate the cheeses out of the vats.
And licked the soup from the cook's own ladles,
Split open the kegs of salted sprats,
Made nests inside men's Sunday hats,
And even spoiled the women's chats,
By drowning their speaking
With shrieking and squeaking
In fifty different sharps and flats.

At last the people in a body
To the Town Hall came flocking:
"Tis clear," cried they, "our Mayor's a noddy;
And as for our Corporation—shocking
To think we buy gowns lined with ermine
For dolts that can't or won't determine
What's best to rid us of our vermin!
You hope, because you're old and obese,
To find in the furry civic robe ease?
Rouse up, sirs! Give your brains a racking
To find the remedy we're lacking,
Or, sure as fate, we'll send you packing!"
At this the Mayor and Corporation
Quaked with a mighty consternation.

Johnson, Georgia Douglas. "Your World." ***Words with Wings: A Treasury of African-American Poetry and Art*****. Selected by Belinda Rochelle. New York: HarperCollins, 2001. (1918)**

Your world is as big as you make it.
I know, for I used to abide
In the narrowest nest in a corner,
My wings pressing close to my side.

But I sighted the distant horizon
Where the skyline encircled the sea
And I throbbed with a burning desire
To travel this immensity.

I battered the cordons around me
And cradled my wings on the breeze,
Then soared to the uttermost reaches
With rapture, with power, with ease!

Eliot, T. S. "The Song of the Jellicles." ***Old Possum's Book of Practical Cats*****. Illustrated by Edward Gorey. Orlando: Harcourt, 1982. (1939)**

Fleischman, Paul. "Fireflies." ***Joyful Noise: Poems for Two Voices*****. Illustrated by Eric Beddows. New York: HarperCollins, 1988. (1988)**

Light	Light
	is the ink we use
Night	Night
is our parchment	
	We're
	fireflies
fireflies	flickering
flitting	
	flashing
fireflies	
glimmering	fireflies
	gleaming
glowing	
Insect calligraphers	Insect calligraphers
practicing penmanship	
	copying sentences
Six-legged scribblers	Six-legged scribblers
of vanishing messages,	
	fleeting graffiti
Fine artists in flight	Fine artists in flight
adding dabs of light	
	bright brush strokes
Signing the June nights	Signing the June nights
as if they were paintings	as if they were paintings
	We're
flickering	fireflies
fireflies	flickering
fireflies.	fireflies.

Sample Performance Tasks for Stories and Poetry

- Students *ask and answer questions* regarding the plot of Patricia MacLachlan's *Sarah, Plain and Tall*, *explicitly referring to the book* to form the *basis for their* answers. [RL.3.1]

- Students *explain* how Mark Teague's *illustrations* contribute to what is conveyed in Cynthia Rylant's *Poppleton in Winter* to *create the mood and emphasize aspects of characters and setting* in the story. [RL.3.7]
- Students read *fables* and *folktales from diverse cultures* that represent various origin tales, such as Rudyard Kipling's "How the Camel Got His Hump" and Natalie Babbitt's *The Search for Delicious*, and paraphrase *their central message, lesson, or moral*. [RL.2.2]
- Students *describe the overall story structure* of *The Thirteen Clocks* by James Thurber, *describing how* the interactions of the characters of the Duke and Princess Saralinda *introduce the beginning of the story* and how the suspenseful plot comes to an *end*. [RL.2.5]
- When discussing E. B. White's book *Charlotte's Web*, students *distinguish their own point of view* regarding Wilbur the Pig *from* that of Fern Arable as well as *from* that of *the narrator*. [RL.3.6]
- Students *describe how the character* of Bud in Christopher Paul Curtis' story *Bud, Not Buddy responds* to a *major event* in his life of being placed in a foster home. [RL.2.3]
- Students read Paul Fleischman's poem "Fireflies," determining the meaning of *words and phrases in* the poem, particularly focusing on identifying his use of *nonliteral language* (e.g., "light is the ink we use") and talking about how it suggests meaning. [RL.3.4]

Informational Texts

Aliki. *A Medieval Feast*. New York: HarperCollins, 1986. (1983)

It was announced from the palace that the King would soon make a long journey.

On the way to his destination, the King and his party would spend a few nights at Camdenton Manor. The lord of the manor knew what this meant. The king traveled with his Queen, his knights, squires, and other members of his court. There could be a hundred mouths to feed!

Preparations for the visit began at once. The lord and lady of the manor had their serfs to help them. The serfs lived in huts provided for them on the lord's estate, each with its own plot of land. In return, they were bound to serve the lord. They farmed his land, managed his manor house, and if there was a war, they had to go to battle with the lord and the King.

But now they prepared.

The manor had its own church, which was attended by everyone on the estate.

The manor house had to be cleaned, the rooms readied, tents set up for the horsemen, fields fenced for the horses. And above all, provisions had to be gathered for the great feast.

The Royal Suite was redecorated.

Silk was spun, new fabric was woven.

The Royal Crest was embroidered on linen and painted on the King's chair.

The lord and his party went hunting and hawking for fresh meat.

Hunting was a sport for the rich only. The wild animals that lived on the lord's estate belonged to him. Anyone caught poaching—hunting illegally—was severely punished.

Falcons and hawks were prizeds pets. They were trained to attack birds for their masters to capture.

They trapped rabbits and birds of all kinds, and fished for salmon and eels and trout.

Serfs hid in bushes and caught birds in traps. They set ferrets in burrows to chase out rabbits.

There were fruits and vegetables growing in the garden, herbs and flowers for sauces and salads, and bees made honey for sweetening.

Gibbons, Gail. *From Seed to Plant*. New York: Holiday House, 1993. (1991)
From "A 'From Seed to Plant' Project"

How to raise bean plants

1. Find a clean glass jar. Take a piece of black construction paper and roll it up.
2. Slide the paper into the jar. Fill the jar with water.
3. Wedge the bean seeds between the black paper and the glass. Put the jar in a warm place.
4. In a few days the seeds will begin to sprout. Watch the roots grow down. The shoots will grow up.
5. Put dirt into a big clay pot.
6. Carefully remove the small plants from the glass jar. Place them in the soil, covering them up to the base of their shoots.
7. Water them…and watched them grow.

Milton, Joyce. *Bats: Creatures of the Night*. Illustrated by Joyce Moffatt. New York: Grosset & Dunlap, 1993. (1993)

No one has lived on this farm for years.
The barn looks empty.
But it isn't!
Strange creatures are sleeping in the loft.
As the sun goes down, they take to the air.

Beeler, Selby. *Throw Your Tooth on the Roof: Tooth Traditions Around the World*. Illustrated by G. Brian Karas. New York: Houghton Mifflin, 2001. (1998)

Has this ever happened to you?
You find a loose tooth in your mouth.
Yikes! You can wiggle it with your finger.
You can push it back and forth with your tongue.
Then one day it falls out.
There you are with your old baby tooth in your hand and a big hole in your mouth.
It happens to everyone, everywhere, all over the world.
"Look! Look! My tooth fell out! My tooth fell out!"
But what happens next?
What in the world do you do with your tooth?

North America

United States
I put my tooth under my pillow. While I'm sound asleep, the Tooth Fairy will come into my room, take my tooth, and leave some money in its place.

Mexico
When I go to sleep, I leave my tooth in a box on the bedside table. I hope El Ratón, the magic mouse, will take my tooth and bring me some money. He leaves more money for a front tooth.

Yupik
My mother wraps my tooth in a food, like meat or bread. Then I feed it to a female dog and say, "Replace this tooth with a better one."

Yellowknife Déné
My mother or grandmother takes my tooth and puts it in a tree and then my family dances around it. This makes certain that my new tooth will grow in as straight as a tree.

Navajo
My mother saves my tooth until my mouth stops hurting. Then we take my tooth to the southeast, away from our house. We bury the tooth on the east side of a healthy young sagebrush, rabbit bush, or pinyon tree because we believe that east is the direction associated with childhood.

Leonard, Heather. *Art Around the World*. New York: Rigby, 1998. (1998)

Ruffin, Frances E. *Martin Luther King and the March on Washington*. Illustrated by Stephen Marchesi. New York: Grosset & Dunlap, 2000. (2000)

<u>August 28, 1963</u>

It is a hot summer day in Washington, D.C.
More than 250,000 people are pouring into the city.
They have come by plane, by train, by car, and by bus.

St. George, Judith. *So You Want to Be President?* Illustrated by David Small. New York: Philomel, 2000. (2000)

Every single President has taken this oath: "I do solemnly swear (or affirm) that I will faithfully execute the office of President of the United States, and will to the best of my ability, preserve, protect, and defend the Constitution of the United States."

Only thirty-five words! But it's a big order if you're President of this country. Abraham Lincoln was tops at filling that order. "I know very well that many others might in this matter or as in others, do better than I can," he said. "But…I am here. I must do the best I can, and bear the responsibility of taking the course which I feel I ought to take."

That's the bottom line. Tall, short, fat, thin, talkative, quiet, vain, humble, lawyer, teacher, or soldier—this is what most of our Presidents have tried to do, each in his own way. Some succeeded. Some failed. If you want to be President—a good President—pattern your self after the best. Our best have asked more of themselves than they thought they could give. They have had the courage, spirit, and will to do what they knew was right. Most of all, their first priority has always been the people and the country they served.

Einspruch, Andrew. *Crittercam*. National Geographic Windows on Literacy Series. Washington, D.C.: National Geographic, 2004. (2004)

Kudlinski, Kathleen V. *Boy, Were We Wrong About Dinosaurs*. Illustrated by S. D. Schindler. New York: Dutton, 2005. (2005)

Long, long ago, before people knew anything about dinosaurs, giant bones were found in China. Wise men who saw the bones tried to guess what sort of enormous animal they could have come from.

After they studied the fossil bones, the ancient Chinese decided that they came from dragons. They thought these dragons must have been magic dragons to be so large. And they believed that dragons could still be alive.

Boy, were they wrong!

No one knows exactly what dinosaurs looked like. All that is left of them are fossil bones and a few other clues. Now that we think that many of our own past guesses about dinosaurs were just as wrong as those of ancient China.

Some of our mistakes were little ones. When the first fossil bones of *Iguanodon* were found, one was shaped like a rhino's horn. Scientists guessed that the strange horn fit like a spike on *Iguanodon*'s nose

Boy, were we wrong about *Iguanodon*!

When a full set of fossil bones was found later, there were two pointed bones, they were part of *Iguanodon*'s hands, not its nose!

Other new clues show us that we may have been wrong about every kind of dinosaur.

Some of our first drawings of dinosaurs showed them with their elbows and knees pointing out to the side, like a lizard's. With legs like that, big dinosaurs could only waddle clumsily on all fours or float underwater.

Now we know that their legs were straight under them, like a horse's. Dinosaurs were not clumsy. The sizes and shapes of their leg bones see to show that some were as fast and graceful as deer.

Davies, Nicola. *Bat Loves the Night*. Illustrated by Sarah Fox-Davies. Cambridge, Mass.: Candlewick, 2001. (2001)

Floca, Brian. *Moonshot: The Flight of Apollo 11*. New York: Atheneum, 2009. (2009)

High above there is the Moon, cold and quiet, no air, no life, but glowing in the sky.

Here below there are three men who close themselves in special clothes, who—click—lock hands in heavy gloves, who—click—lock heads in large round helmets.

It is summer here in Florida, hot, and near the sea. But now these men are dressed for colder, stranger places. They walk with stiff and awkward steps in suits not made for Earth.

They have studied and practiced and trained, and said good-bye to family and friends. If all goes well, they will be gone for one week, gone where no one has been.

Their two small spaceships are *Columbia* and *Eagle*. They sit atop the rocket that will raise them into space, a monster of a machine: It stands thirty stories, it weighs six million pounds, a tower full of fuel and fire and valves and pipes and engines, too big to believe, but built to fly—the mighty, massive Saturn V.

The astronauts squeeze in to *Columbia*'s sideways seats, lying on their backs, facing toward the sky—Neil Armstrong on the left, Michael Collins in the right, Buzz Aldrin in the middle.

Click and they fasten straps.

Click and the hatch is sealed.

There they wait, while the Saturn hums beneath them.

Near the rocket, in Launch Control, and far away in Houston, in Mission Control, there are numbers, screens, and charts, ways of watching and checking every piece of the rocket and ships, the fuel, the valves, the pipes, the engines, the beats of the astronauts' hearts.

As the countdown closes, each man watching is asked the question: GO/NO GO?

And each man answers back: "GO." "GO." "GO."

Apollo 11 is GO for launch.

Thomson, Sarah L. *Where Do Polar Bears Live?* Illustrated by Jason Chin. New York: HarperCollins, 2010. (2010)

This island is covered with snow. No trees grow. Nothing has green leaves. The land is white as far as you can see.

Then something small and round and black pokes up out of the snow.

A black nose sniffs the air. Then a smooth white head appears. A mother polar bear heaves herself out of her den.

A cub scrambles after her.

When the cub was born four months ago, he was no bigger than a guinea pig. Blind and helpless, he snuggled in his mother's fur. He drank her milk and grew, safe from the long Arctic winter.

Outside the den, on some days, it was fifty degrees below zero. From October to February, the sun never rose.

Now it is spring—even though snow still covers the land. The cub is about the size of a cocker spaniel. He's ready to leave the den. For the first time, he sees bright sunlight and feels the wind ruffle his fur

The cub tumbles and slides down icy hills. His play makes him strong and teaches him to walk and run in snow.

Like his mother, he cub is built to survive in the Arctic. Hi white fur will grow to be six inches thick—longer than your hand. The skin beneath the cub's fur is black. It soaks up the heat of the sun. Under the skin is a layer of fat. Like a snug blanket, this blubber keeps in the heat of the bear's body.

Polar bears get too hot more easily than they get too cold. They stretch out on the ice to cool off.

Read-Aloud Informational Texts

Freedman, Russell. *Lincoln: A Photobiography.* New York: Houghton Mifflin, 1989. (1987)
From Chapter One: "The Mysterious Mr. Lincoln"

Abraham Lincoln wasn't the sort of man who could lose himself in a crowd. After all, he stood six feet four inches tall. And to top it off, he wore a high silk hat.

His height was mostly in his long bony legs. When he sat in a chair, he seemed no taller than anyone else. I was only when he stood up that he towered over other men.

At first glance, most people thought he was homely. Lincoln thought so too, once referring to his "poor, lean, lank face." As a young man he was sensitive about his gawky looks, but in time, he learned to laugh at himself. When a rival called him "two-faced" during a political debate, Lincoln replied: "I leave it to my audience. If I had another face, do you think I'd wear this one?"

According to those who knew him, Lincoln was a man of many faces. In repose, he often seemed sad and gloomy. But when he began to speak, his expression changed. "The dull, listless features dropped like a mask," said a Chicago newspaperman. "The eyes began to sparkle, the mouth to smile, the whole countenance was wreathed in animation, so that a stranger would have said, 'Why, this man, so angular and solemn a moment ago, is really handsome.'"

Lincoln was the most photographed man of his time, but his friends insisted that no photo ever did him justice. It's no wonder. Back then cameras required long exposures. The person being photographed had to "freeze" as the seconds ticked by. If he blinked an eye, the picture would be blurred. That's why Lincoln looks so stiff and formal in his photos. We never see him laughing or joking.

Coles, Robert. *The Story of Ruby Bridges*. Illustrated by George Ford. New York: Scholastic, 1995. (1995)

Ruby Bridges was born in a small cabin near Tylertown, Mississippi.

"We were very poor, very, very poor," Ruby said. "My daddy worked picking crops. We just barely got by. There were times when we didn't have much to eat. The people who owned the land were bringing in machines to pick the crops, so my daddy lost his job, and that's when we had to move.

"I remember us leaving. I was four, I think."

In 1957, the family moved to New Orleans. Ruby's father became a janitor. Her mother took care of the children during the day. After they were tucked in bed, Ruby's mother went to work scrubbing floors in a bank.

Every Sunday, the family went to church.

"We wanted our children to be near God's spirit," Ruby's mother said. "We wanted them to start feeling close to Him from the start."

At that time, black children and white children went to separate schools in New Orleans. The black children were not able to receive the same education as the white children. It wasn't fair. And it was against the nation's law.

In 1960, a judge ordered four black girls to go to two white elementary schools. Three of the girls were sent to McDonogh 19. Six-year-old Ruby Bridges was sent to first grade in the William Frantz Elementary School.

Ruby's parents were proud that their daughter had been chosen to take part in an important event in American history. They went to church.

"We sat there and prayed to God," Ruby's mother said, "that we'd all be strong and we'd have courage and we'd get through any trouble; and Ruby would be a good girl and she'd hold her head up high and be a credit to her own people and a credit to all the American people. We prayed long and we prayed hard."

On Ruby's first day, a large crowd of angry white people gathered outside the Frantz Elementary School. The people carried signs that said they didn't want black children in a white school. People called Ruby names; some wanted to hurt her. The city and state police did not help Ruby.

The President of the United States ordered federal marshals to walk with Ruby into the school building. The marshals carried guns.

Every day, for weeks that turned into months, Ruby experienced that kind of school day.

She walked to the Frantz School surrounded by marshals. Wearing a clean dress and a bow in her hair and carrying her lunch pail, Ruby walked slowly for the first few blocks. As Ruby approached the school, she saw a crowd of people marching up and down the street. Men and women and children shouted at her. They pushed toward her. The marshals kept them from Ruby by threatening to arrest them.

Ruby would hurry through the crowd and not say a word.

Wick, Walter. *A Drop of Water: A Book of Science and Wonder*. New York: Scholastic, 1997. (1997)

From "Soap Bubbles"

There are few objects you can make that have both the dazzling beauty and delicate precision of a soap bubble. Shown here at actual size, this bubble is a nearly perfect sphere. Its shimmering liquid skin is five hundred times thinner than a human hair.

Bubbles made of plain water break almost as quickly as they form. That's because surface tension is so strong the bubbles collapse. Adding soap to water weakens water's surface tension. This allows a film of soapy water to stretch and stretch without breaking.

When you blow a bubble, it looks somewhat like a drop of water emerging from a faucet. And just like the surface of a drop of water, the bubble's surface shrinks to form a sphere. Spheres and circles are mathematical shapes. Because they can form spontaneously, they are also shapes of nature.

Smith, David J. *If the World Were a Village: A Book about the World's People.* Illustrated by Shelagh Armstrong. Toronto: Kids Can Press, 2002. (2002)
From "Welcome to the Global Village"

Earth is a crowded place and it is getting more crowded all the time. As for January 1, 2002 the world's population was 6 billion, 200 million—that's 6,200,000,000. Twenty-three countries have more than fifty million (50,000,000) people. Ten countries each have more than one hundred million (100,000,000) people. China has nearly one billion, three hundred million people (1,3000,000,000).

Numbers like this are hard to understand, but what if we imagined the whole population of the world as a village of just 100 people? In this imaginary village, each person would represent about sixty-two million (62,000,000) people from the real world.

One hundred people would fit nicely into a small village. By learning about the villagers—who they are and how they live—perhaps we can find out more about our neighbors in the real world and the problems our planet may face in the future.

Ready to enter the global village? Go down into the valley and walk through the gates. Dawn is chasing away the night shadows. The smell of wood smoke hangs in the air. A baby awakes and cries.

Come and meet the people of the global village.

Aliki. *Ah, Music!* New York: Harper Collins, 2005. (2003)

What is music?
Music is sound.
If you hum a tune, play an instrument, or clap out a rhythm, you are making music. You are listening to it, too.

[...]

Music through the Ages

Music grew from one century to the next. In the early and middle ages, new forms of music developed. Christianity inspired church music. Music became polyphonic—played and sung in two or more melodic parts. Notations were invented. Music was no longer a one-time performance. Now it would be written and preserved for other musicians and generations.

Mark, Jan. *The Museum Book: A Guide to Strange and Wonderful Collections.* Illustrated by Richard Holland. Cambridge, Mass.: Candlewick, 2007. (2007)
From Chapter One

Suppose you went into a museum and you didn't know what it was. Imagine: it's raining, there's a large building nearby with an open door, and you don't have to pay to go in. It looks like an ancient Greek temple. Temples are places of worship, so you'd better go in quietly.

But inside it doesn't seem much like any temple or mosque or church you have ever been in. That is, it looks like all of them, but the furniture is out of place. Perhaps it's a hotel; it has fifty rooms, but there is only one bed, although it is a very splendid bed. Apparently Queen Elizabeth I slept in it. Or perhaps there are fifty beds, but they are all in one room and you can't sleep in any of them. There are red velvet ropes to keep you out.

Farther down the corridor you notice a steam locomotive. It's a train station! But there is no track except for a few yards that the engine is resting on, and already you have seen something else. Across the hall is a totem pole that goes right up to the roof, standing next to a Viking ship. Beyond it is a room full of glass cases displaying rocks, more kinds of rocks than you ever knew existed, from diamonds to meteorites. From where you are standing, you can see into the next room, where the glass cases are full of stuffed fish; and the next, which is lined with shelves of Roman pottery; and the next, which is crowded with birds; and after that, lions and giraffes and pandas and whales.

It must be a zoo.

[...]

Just then you see someone walking toward you who isn't dead—you hope. He is wearing a uniform with a badge on it that reads Guide.

"Enjoying yourself?" he says.

You say, "Where did you get all this stuff?"

"All?" he says. "These are just the things we show to the public. Down in the basement there's a hundred thousand times more. Do you know," he murmurs, "we've got twenty-seven two-headed sheep?"

"But why?" you ask. "Why do you have any two-headed sheep.

"Because people give them to us," he says. "And so that you can look at them. Where else would you see one? Where else would you be able to see the mummy case of King Tutankhamun, the first plane to fly the Atlantic, the first train engine, the last dodo, a diplodocus, the astrolabe of Ahmad of Isfahan (an example of the oldest scientific instrument in the world), chicken-skin gloves, the lantern carried by Guy Fawkes when he went to blow up the British Parliament buildings, a murderer's trigger finger—?"

"But where am I?" you say. "What is this place?"

And he says, "It's a museum."

D'Aluisio, Faith. *What the World Eats*. Photographed by Peter Menzel. New York: Random House, 2008. (2008)

Arnosky, Jim. *Wild Tracks! A Guide to Nature's Footprints.* New York: Sterling, 2008. (2008)

"Feline Tracks"

Of all the larger predators, wildcats are the most likely to use the same trails again and again. In deep snow, their habitual routes become gully trails in which the feline tracks going to and coming from their hunting grounds are preserved, down out of the wind, away from blowing snow.

A cat's sharp retractable claws do not show in its track unless the cat has lunged to catch its prey or scratched the ground to cover its droppings. Only cats thoroughly cover their droppings.

Bobcat, lion, and jaguar paws all have three-lobed heels. The lynx, the ocelot, and the jaguarondi have single lobed-heels.

The wildcats we have in North America are, from the smallest to the largest: ocelot, jaguarondi, bobcat, lynx, American lion, and jaguar.

Deedy, Carmen Agra. *14 Cows for America.* In collaboration with Wilson Kimeli Naiyomah. Illustrated by Thomas Gonzalez. Atlanta: Peachtree, 2009. (2009)

The remote village waits for a story to be told. News travels slowly to this corner of Kenya. As Kimeli nears his village, he watches a herd of bull giraffes cross the open grassland. He smiles. He has been away a long time.

A girl sitting under a guava tree sees him first and cries out to the others. The children run to him with the speed and grace of cheetahs. He greets them with a gentle touch on his head, a warrior's blessing.

The rest of the tribe soon surrounds Kimeli. These are his people. These are the Maasai.

Once they were feared warriors. Now they live peaceably as nomadic cattle herders. They treat their cows as kindly as they do their children. They sign to them. They give them names. They shelter the young ones in their homes. Without the herd, the tribe might starve. To the Maasai, the cow is life.

"*Súpa*. Hello," Kimeli hears again and again. Everyone wants to greet him. His eyes find his mother across the *enkáng*, the ring of huts with their roofs of sun-baked dung. She spreads her arms and calls to him, "*Aakúa*. Welcome, my son." Kimeli sighs. He is home.

This is sweeter and sadder because he cannot stay. He must return to the faraway country where he is learning to be a doctor. He thinks of New York then. He remembers September.

A child asks if he has brought any stories. Kimeli nods. He has brought with him one story. It has burned a hole in his heart.

But first he must speak with the elders.

Later, in a tradition as old as the Maasai, the rest of the tribe gathers under an acacia tree to hear the story. There is a terrible stillness in the air as the tale unfolds. With growing disbelief, men, women, and children listen. Buildings so tall they can touch the sky? Fires so hot they can melt iron? Smoke and dust so thick they can block out the sun?

The story ends. More than three thousand souls are lost. A great silence falls over the Maasai. Kimeli waits. He knows his people. They are fierce when provoked, but easily moved to kindness when they hear of suffering or injustice.

At last, an elder speaks. He is shaken, but above all, he is sad. "What can we do for these poor people?" Nearby, a cow lows. Heads turn toward the herd. "To the Maasai," Kimeli says softly, "the cow is life."

Turning to the elders, Kimeli offers his only cow, Enkarûs. He asks for their blessing. They give it gladly. But they want to offer something more.

The tribe sends word to the United States Embassy in Nairobi. In response, the embassy sends a diplomat. His jeep jounces along the dusty, rugged roads. He is hot and tired. He thinks he is going to meet with Maasai elders. He cannot be more wrong. As the jeep nears the edge of the village the man sits up. Clearly, this is no ordinary diplomatic visit. This is…

…a ceremony. Hundreds of Maasai greet the American in full tribal splendor. At the sight of the brilliant blood-red tunics and spectacular beaded collars, he can only marvel.

It is a day of sacred ritual. Young warriors dance, leaping into the air like fish from a stream. Women sing mournful songs. Children fill their bellies with milk. Speeches are exchanged. And now it is time.

Kimeli and his people gather on a sacred knoll, far from the village. The only sound is the gentle chiming of cowbells. The elders chant a blessing in Maa as the Maasai people of Kenya present…

…fourteen cows for America.

Because there is no nation so powerful it cannot be wounded, nor a people so small they cannot offer mighty comfort.

Sample Performance Tasks for Informational Texts

- Students read Aliki's description of *A Medieval Feast* and *demonstrate* their *understanding* of all that goes into such an *event* by *asking questions* pertaining to *who*, *what*, *where*, *when*, *why*, and *how* such a meal happens and by *answering using key details*. [RI.2.1]
- Students *describe the reasons* behind Joyce Milton's statement that bats are nocturnal in her *Bats: Creatures of the Night* and how she *supports the points* she is *making in the text*. [RI.2.8]
- Students read Selby Beeler's *Throw Your Tooth on the Roof: Tooth Traditions Around the World* and *identify what* Beeler *wants to answer* as well as explain the *main purpose of the text*. [RI.2.6]
- Students *determine the meanings of words and phrases* encountered in Sarah L. Thomson's *Where Do Polar Bears Live?*, such as *cub*, *den*, blubber, and *the Arctic*. [RI.2.4]
- Students *explain how the main idea* that Lincoln had "many faces" in Russell Freedman's *Lincoln: A Photobiography* is *supported by key details* in the text. [RI.3.2]

- Students read Robert Coles's retelling of *a series of historical events* in *The Story of Ruby Bridges*. *Using* their knowledge of how *cause and effect* gives order to *events*, they *use* specific *language* to *describe* the *sequence* of events that leads to Ruby desegregating her school. [RI.3.3]
- Students *explain how* the *specific image* of a soap bubble and *other* accompanying *illustrations* in Walter Wick's *A Drop of Water: A Book of Science and Wonder contribute to and clarify* their understanding of bubbles and water. [RI.2.7]
- Students *use text features*, such as the table of contents and headers, found in Aliki's text *Ah, Music!* to identify relevant sections and *locate information relevant to a given topic* (e.g., rhythm, instruments, harmony) *quickly and efficiently*. [RI.3.5]

Grades 4–5 Text Exemplars

Stories

Carroll, Lewis. *Alice's Adventures in Wonderland*. Illustrated by John Tenniel. New York: William Morrow, 1992. (1865)
From Chapter 1: "Down the Rabbit-Hole"

Alice was beginning to get very tired of sitting by her sister on the bank, and of having nothing to do: once or twice she had peeped into the book her sister was reading, but it had no pictures or conversations in it, 'and what is the use of a book,' thought Alice 'without pictures or conversation?'

So she was considering in her own mind (as well as she could, for the hot day made her feel very sleepy and stupid), whether the pleasure of making a daisy-chain would be worth the trouble of getting up and picking the daisies, when suddenly a White Rabbit with pink eyes ran close by her.

There was nothing so VERY remarkable in that; nor did Alice think it so VERY much out of the way to hear the Rabbit say to itself, 'Oh dear! Oh dear! I shall be late!' (when she thought it over afterwards, it occurred to her that she ought to have wondered at this, but at the time it all seemed quite natural); but when the Rabbit actually TOOK A WATCH OUT OF ITS WAISTCOAT-POCKET, and looked at it, and then hurried on, Alice started to her feet, for it flashed across her mind that she had never before seen a rabbit with either a waistcoat-pocket, or a watch to take out of it, and burning with curiosity, she ran across the field after it, and fortunately was just in time to see it pop down a large rabbit-hole under the hedge.

In another moment down went Alice after it, never once considering how in the world she was to get out again.

Burnett, Frances Hodgson. *The Secret Garden*. New York: HarperCollins, 1985. (1911)
From "There's No One Left"

When Mary Lennox was sent to Misselthwaite Manor to live with her uncle everybody said she was the most disagreeable-looking child ever seen. It was true, too. She had a little thin face and a little thin body, thin light hair and a sour expression. Her hair was yellow, and her face was yellow because she had been born in India and had always been ill in one way or another. Her father had held a position under the English Government and had always been busy and ill himself, and her mother had been a great beauty who cared only to go to parties and amuse herself with gay people. She had not wanted a little girl at all, and when Mary was born she handed her over to the care of an Ayah, who was made to understand that if she wished to please the Mem Sahib she must keep the child out of sight as much as possible. So when she was a sickly, fretful, ugly little baby she was kept out of the way, and when she became a sickly, fretful, toddling thing she was kept out of the way also. She never remembered seeing familiarly anything but the dark faces of her Ayah and the other native servants, and as they always obeyed her and gave her her own way in everything, because the Mem Sahib would be angry if she was disturbed by her crying, by the time she was six years old she was as tyrannical and selfish a little pig as ever lived. The young English governess who came to teach her to read and write disliked her so much that she gave up her place in three months, and when other governesses came to try to fill it they always went away in a shorter time than the first one. So if Mary had not chosen to really want to know how to read books she would never have learned her letters at all.

One frightfully hot morning, when she was about nine years old, she awakened feeling very cross, and she became crosser still when she saw that the servant who stood by her bedside was not her Ayah.

"Why did you come?" she said to the strange woman. "I will not let you stay. Send my Ayah to me."

The woman looked frightened, but she only stammered that the Ayah could not come and when Mary threw herself into a passion and beat and kicked her, she looked only more frightened and repeated that it was not possible for the Ayah to come to Missie Sahib.

There was something mysterious in the air that morning. Nothing was done in its regular order and several of the native servants seemed missing, while those whom Mary saw slunk or hurried about with ashy and scared faces. But no one would tell her anything and her Ayah did not come. She was actually left alone as the morning went on, and at last she wandered out into the garden and began to play by herself under a tree near the veranda. She pretended that she was making a flower-bed, and she stuck big scarlet hibiscus blossoms into little heaps of earth, all the time growing more and more angry and muttering to herself the things she would say and the names she would call Saidie when she returned.

Farley, Walter. *The Black Stallion*. New York: Random House Books for Young Readers, 2008. (1941)
From Chapter 1: "Homeward Bound"

The tramp steamer *Drake* plowed away from the coast of India and pushed its blunt prow into the Arabian Sea, homeward bound. Slowly it made its way west toward the Gulf of Aden. Its hold was loaded with coffee, rice, tea, oil seeds and jute. Black smoke poured from its one stack, darkening the hot cloudless sky.

Alexander Ramsay, Jr., known to his friends back home in New York City as Alec, leaned over the rail and watched the water slide away from the sides of the boat. His red hair blazed redder than ever in the hot sun, his tanned elbows rested heavily on the rail as he turned his freckled face back toward the fast-disappearing shore.

Saint-Exupéry, Antoine de. *The Little Prince*. Translated by Richard Howard. Orlando: Harcourt, 2000. (1943)

Babbitt, Natalie. *Tuck Everlasting.* New York: Farrar, Straus and Giroux, 1975. (1975)
From Chapter 12

The sky was a ragged blaze of red and pink and orange, and its double trembled on the surface of the pond like color spilled from a paintbox. The sun was dropping fast now, a soft red sliding egg yolk, and already to the east there was a darkening to purple. Winnie, newly brave with her thoughts of being rescued, climbed boldly into the rowboat. The hard heels of her buttoned boots made a hollow banging sound against its wet boards, loud in the warm and breathless quiet. Across the pond a bullfrog spoke a deep note of warning. Tuck climbed in, too, pushing off, and, settling the oars into their locks, dipped them into the silty bottom in one strong pull. The rowboat slipped from the bank then, silently, and glided out, tall water grasses whispering away from its sides, releasing it.

Here and there the still surface of the water dimpled, and bright rings spread noiselessly and vanished. "Feeding time," said Tuck softly. And Winnie, looking down, saw hosts of tiny insects skittering and skating on the surface. "Best time of all for fishing," he said, "when they come up to feed."

He dragged on the oars. The rowboat slowed and began to drift gently toward the farthest end of the pond. It was so quiet that Winnie almost jumped when the bullfrog spoke again. And then, from the tall pines and birches that ringed the pond, a wood thrush caroled. The silver notes were pure and clear and lovely.

"Know what that is, all around us, Winnie?" said Tuck, his voice low. "Life. Moving, growing, changing, never the same two minutes together. This water, you look out at it every morning, and it looks the same, but it ain't. All night long it's been moving, coming in through the stream back there to the west, slipping out through the stream down east here, always quiet, always new, moving on. You can't hardly see the current, can you? And sometimes the wind makes it look like it's going the other way. But it's always there, the water's always moving on, and someday, after a long while, it comes to the ocean."

Singer, Isaac Bashevis. "Zlateh the Goat." *Zlateh the Goat and Other Stories*. New York: HarperCollins, 2001. (1984)

The snow fell for three days, though after the first day it was not as thick and the wind quieted down. Sometimes Aaron felt that there could never have been a summer, that the snow had always fallen, ever since he could remember. He, Aaron, never had a father or mother or sisters. He was a snow child, born of the snow, and so was Zlateh. It was so quiet in the hay that his ears rang in the stillness. Aaron and Zlateh slept all night and a good part of the day. As for Aaron's dreams, they were all about warm weather. He dreamed of green fields, trees covered with blossoms, clear brooks, and singing birds. By the third night the snow had stopped, but Aaron did not dare to find his way home in the darkness. The sky became clear and the moon shone, casting silvery nets on the snow. Aaron dug his way out and looked at the world. It was all white, quiet, dreaming dreams of heavenly splendor. The stars were large and close. The moon swam in the sky as in a sea.

Hamilton, Virginia. *M. C. Higgins, the Great*. New York: Simon & Schuster, 1999. (1993)
From Chapter 1

Mayo Cornelius Higgins raised his arms high to the sky and spread them wide. He glanced furtively around. It was all right. There was no one to see him greeting the coming sunrise. But the motion of his arms caused a flutter of lettuce leaves he had bound to his wrists with rubber bands. Like bracelets of green feathers, the leaves commenced to wave.

M. C., as he was called, felt warm, moist air surround him. Humidity trapped in the hills clung to the mountainside as the night passed on. In seconds, his skin grew clammy. But he paid no attention to the oppressive heat with its odors of summer growth and decay. For he was staring out over a grand sweep of hill, whose rolling outlines grew clearer by the minute. As he stood on the gallery of his home, the outcropping on which he lived on the mountainside seemed to fade out from under him.

I'm standing in midair, he thought.

He saw dim light touch clouds clustered behind the eastern hills.

Bounce the sun beside me if I want.

All others of his family were still asleep in the house. To be by himself in the perfect quiet was reason enough for him to wake up way early. Alone for half an hour, he could believe he had been chosen to remain forever suspended, facing the hills. He could pretend there was nothing terrible behind him, above his head. Arms outstretched, picture-framed by pine uprights supporting the gallery roof, he was M.C. Higgins, higher than everything.

Erdrich, Louise. *The Birchbark House.* New York: Hyperion, 1999. (1999)
From Chapter 1: "The Birchbark House"

She was named Omakayas, or Little Frog, because her first step was a hop. She grew into a nimble young girl of seven winters, a thoughtful girl with shining brown eyes and a wide grin, only missing her two top front teeth. She touched her upper lip. She wasn't used to those teeth gone, and was impatient for new, grown-up teeth to complete her smile. Just like her namesake, Omakayas now stared long at a silky patch of bog before she gathered herself and jumped. One hummock. Safety. Omaykayas sprang wide again. This time she landed on the very tip-top of a pointed old stump. She balanced there, looking all around. The lagoon water moved in sparkling crescents. Thick swales of swamp grass rippled. Mud turtles napped in the sun. The world was so calm that Omakayas could hear herself blink. Only the sweet call of a solitary white-throated sparrow pierced the cool of the woods beyond.

All of a sudden Grandma yelled.

"I found it!"

Startled, Omakayas slipped and spun her arms in wheels. She teetered, but somehow kept her balance. Two big, skipping hops, another leap, and she was on dry land. She stepped over spongy leaves and moss, into the woods where the sparrows sang nesting songs in delicate relays.

"Where are you?" Nokomis yelled again. "I found the tree!"

"I'm coming," Omakayas called back to her grandmother.

It was spring, time to cut Birchbark.

Curtis, Christopher Paul. *Bud, Not Buddy*. New York: Delacorte Books for Young Readers, 1999. (1999)
(Also listed as a read-aloud narrative for grades 2–3)
From Chapter 1

Here we go again. We were all standing in line waiting for breakfast when one of the caseworkers came in and tap-tap-tapped down the line. Uh-oh, this meant bad news, either they'd found a foster home for somebody or somebody was about to get paddled. All the kids watched the woman as she moved along the line, her high-heeled shoes sounding like little fire-crackers going off on the wooden floor.

Shoot! She stopped at me and said, "Are you Buddy Caldwell?"

I said, "It's Bud, not Buddy, ma'am."

She put her hand on my shoulder and took me out of the line. Then she pulled Jerry, one of the littler boys, over. "Aren't you Jerry Clark?" He nodded.

"Boys, good news! Now that the school year has ended, you both have been accepted in new temporary-care homes starting this afternoon!"

Jerry asked the same thing I was thinking, "Together?"

She said, "Why no, Jerry, you'll by in a family with three little girls…"

Jerry looked like he'd just found out they were going to dip him in a pot of boiling milk.

"…and Bud…" She looked at some papers she was holding. "Oh, yes, the Amoses, you'll be with Mr. and Mrs. Amos and their son, who's twelve years old, that makes him just two years older than you, doesn't it, Bud?"

"Yes, ma'am."

She said, "I'm sure you'll both be very happy."

Me and Jerry looked at each other.

The woman said, "Now, now, boys, no need to look so glum, I know you don't understand what it means, but there's a depression going on all over this country. People can't find jobs and these are very, very difficult times for everybody. We've been lucky enough to find two wonderful families who've opened their doors for you. I think it's best that we show our new foster families that we're very…"

She dragged out the word very, waiting for us to finish her sentence for her.

Jerry said, "Cheerful, helpful and grateful." I moved my lips and mumbled.

Lin, Grace. *Where the Mountain Meets the Moon.* New York: Little, Brown, 2009. (2009)
From Chapter 1

Far away from here, following the Jade River, there was once a black mountain that cut into the sky like a jagged piece of rough metal. The villagers called it Fruitless Mountain because nothing grew on it and birds and animals did not rest there.

Crowded in the corner of where Fruitless Mountain and the Jade River met was a village that was a shade of faded brown. This was because the land around the village was hard and poor. To coax rice out of the stubborn land, the field had to be flooded with water. The villagers had to tramp in the mud, bending and stooping and planting day after day. Working in the mud so much made it spread everywhere and the hot sun dried it onto their clothes and hair and homes. Over time, everything in the village had become the dull color of dried mud.

One of the houses in this village was so small that its wood boards, held together by the roof, made one think of a bunch of matches tied with a piece of twine. Inside, there was barely enough room for three people to sit around the table—which was lucky because only three people lived there. One of them was a young girl called Minli.

Minli was not brown and dull like the rest of the village. She had glossy black hair with pink cheeks, shining eyes always eager for adventure, and a fast smile that flashed from her face. When people saw her lively and impulsive spirit, they thought her name, which meant quick thinking, suited her well. "Too well," her mother sighed, as Minli had a habit of quick acting as well.

Poetry

Blake, William. "The Echoing Green." *Songs of Innocence*. New York: Dover, 1971. (1789)

The sun does arise,
And make happy the skies;
The merry bells ring
To welcome the Spring;
The skylark and thrush,
The birds of the bush,
Sing louder around
To the bells' cheerful sound;
While our sports shall be seen
On the echoing green.

Old John, with white hair,
Does laugh away care,
Sitting under the oak,
Among the old folk.
They laugh at our play,

And soon they all say,
'Such, such were the joys
When we all—girls and boys—
In our youth-time were seen
On the echoing green.'

Till the little ones, weary,
No more can be merry:
The sun does descend,
And our sports have an end.
Round the laps of their mothers
Many sisters and brothers,
Like birds in their nest,
Are ready for rest,
And sport no more seen
On the darkening green.

Lazarus, Emma. "The New Colossus." *Favorite Poems Old and New*. Edited by Helen Ferris. New York: Doubleday, 1957. (1883)

Not like the brazen giant of Greek fame
With conquering limbs astride from land to land;
Here at our sea-washed, sunset gates shall stand
A mighty woman with a torch, whose flame
Is the imprisoned lightning, and her name
Mother of Exiles. From her beacon-hand
Glows world-wide welcome; her mild eyes command
The air-bridged harbor that twin cities frame.
"Keep, ancient lands, your storied pomp!" cries she
With silent lips. "Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tossed to me,
I lift my lamp beside the golden door!"

Media Text
Photos, multimedia, and a virtual tour of the Statue of Liberty, hosted on the National Parks Service's Web site: http://www.nps.gov/stli/photosmultimedia/index.htm

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Thayer, Ernest Lawrence. "Casey at the Bat." *Favorite Poems Old and New*. Edited by Helen Ferris. New York: Doubleday, 1957. (1888)

The outlook wasn't brilliant for the Mudville nine that day;
The score stood four to two with but one inning more to play.
And then when Cooney died at first, and Barrows did the same,
A sickly silence fell upon the patrons of the game.

A straggling few got up to go in deep despair. The rest
Clung to that hope which springs eternal in the human breast;
They thought if only Casey could but get a whack at that–
We'd put up even money now with Casey at the bat.

But Flynn preceded Casey, as did also Jimmy Blake,
And the former was a lulu and the latter was a cake;
So upon that stricken multitude grim melancholy sat,
For there seemed but little chance of Casey's getting to the bat.

But Flynn let drive a single, to the wonderment of all,
And Blake, the much despis-ed, tore the cover off the ball;
And when the dust had lifted, and the men saw what had occurred,
There was Johnnie safe at second and Flynn a-hugging third.

Then from 5,000 throats and more there rose a lusty yell;
It rumbled through the valley, it rattled in the dell;
It knocked upon the mountain and recoiled upon the flat,

For Casey, mighty Casey, was advancing to the bat.

There was ease in Casey's manner as he stepped into his place;
There was pride in Casey's bearing and a smile on Casey's face.
And when, responding to the cheers, he lightly doffed his hat,
No stranger in the crowd could doubt 'twas Casey at the bat.

Ten thousand eyes were on him as he rubbed his hands with dirt;
Five thousand tongues applauded when he wiped them on his shirt.
Then while the writhing pitcher ground the ball into his hip,
Defiance flashed in Casey's eye, a sneer curled Casey's lip.

And now the leather-covered sphere came hurtling through the air,
And Casey stood a-watching it in haughty grandeur there.
Close by the sturdy batsman the ball unheeded sped–
"That ain't my style," said Casey. "Strike one," the umpire said.

From the benches, black with people, there went up a muffled roar,
Like the beating of the storm-waves on a stern and distant shore.
"Kill him! Kill the umpire!" shouted some one on the stand;
And it's likely they'd have killed him had not Casey raised his hand.

With a smile of Christian charity great Casey's visage shone;
He stilled the rising tumult; he bade the game go on;
He signaled to the pitcher, and once more the sphereoid flew;
But Casey still ignored it, and the umpire said, "Strike two."

"Fraud!" cried the maddened thousands, and echo answered fraud;
But one scornful look from Casey and the audience was awed.
They saw his face grow stern and cold, they saw his muscles strain,
And they knew that Casey wouldn't let that ball go by again.

The sneer is gone from Casey's lip, his teeth are clenched in hate;
He pounds with cruel violence his bat upon the plate.
And now the pitcher holds the ball, and now he lets it go,
And now the air is shattered by the force of Casey's blow.

Oh, somewhere in this favored land the sun is shining bright;
The band is playing somewhere, and somewhere hearts are light,
And somewhere men are laughing, and somewhere children shout;
But there is no joy in Mudville–mighty Casey has struck out.

Dickinson, Emily. "A Bird Came Down the Walk." *The Compete Poems of Emily Dickinson*. Boston: Little, Brown, 1960. (1893)

A Bird came down the walk—

He did not know I saw;
He bit an angleworm in halves
And ate the fellow, raw.

And then he drank a dew
From a convenient grass,
And then hopped sidewise to the wall
To let a beetle pass.

He glanced with rapid eyes
That hurried all abroad—
They looked like frightened beads, I thought—
He stirred his velvet head —

Like one in danger; cautious,
I offered him a crumb,
And he unrolled his feathers

And rowed him softer home

Than oars divide the ocean,
Too silver for a seam,
Or butterflies, off banks of noon,

Leap, plashless, as they swim.

Sandburg, Carl. "Fog." *Chicago Poems*. New York: Henry Holt, 1916. (1916)

The fog comes
on little cat feet.

It sits looking
over harbor and city
on silent haunches
and then moves on.

Frost, Robert. "Dust of Snow." *The Poetry of Robert Frost: The Collected Poems, Complete and Unabridged*. New York: Henry Holt, 1969. (1923)

Dahl, Roald. "Little Red Riding Hood and the Wolf." *Roald Dahl's Revolting Rhymes*. New York: Knopf, 2002. (1982)

Nichols, Grace. "They Were My People." *Come On Into My Tropical Garden*. New York: HarperCollins, 1990. (1988)

Mora, Pat. "Words Free As Confetti." *Confetti: Poems for Children*. Illustrated by Enrique O. Sanchez. New York: Lee and Low, 1999. (1996)

Come, words, come in your every color.
I'll toss you in storm or breeze.
I'll say, say, say you,
Taste you sweet as plump plums,
bitter as old lemons,
I'll sniff you, words, warm
as almonds or tart as apple-red,
feel you green
and soft as new grass,
lightweight as dandelion plumes,
or thorngray as cactus,
heavy as black cement,
cold blue as icicles,
warm as *abuelita*'s yellowlap.
I'll hear you, words, loud as searoar's
Purple crash, hushed
as *gatitos* curled in sleep,
as the last goldlullaby.
I'll see you long and dark as tunnels,
bright as rainbows,
playful as chestnutwind.
I'll watch you, words, rise and dance and spin.
I'll say, say, say you
in English,
in Spanish,
I'll find you.
Hold you.
Toss you.
I'm free too.
I say *yo soy libre*,
I am free
free, free,
free as confetti.

Sample Performance Tasks for Stories and Poetry

- Students *make connections between the visual presentation* of John Tenniel's illustrations *in* Lewis Carroll's *Alice's Adventures in Wonderland* and the text of the story to *identify* how the pictures of Alice reflect *specific descriptions* of her *in the text*. [RL.4.7]
- Students *explain* the selfish behavior by Mary and make *inferences* regarding the impact of the cholera outbreak in Frances Hodgson Burnett's *The Secret Garden* by *explicitly referring to details and examples from the text*. [RL.4.1]
- Students *describe how* the *narrator's point of view* in Walter Farley's *The Black Stallion influences how events are described* and how the reader perceives the character of Alexander Ramsay, Jr. [RL.5.6]
- Students *summarize* the plot of Antoine de Saint-Exupéry's *The Little Prince* and then reflect on the *challenges* facing the *characters in the story* while employing those and other *details in the text* to discuss the value of inquisitiveness and exploration as *a theme* of the *story*. [RL.5.2]
- Students read Natalie Babbitt's *Tuck Everlasting* and *describe in depth* the idyllic *setting* of the story, *drawing on specific details in the text*, from the color of the sky to the sounds of the pond, to describe the scene. [RL.4.3]
- Students *compare and contrast* coming-of-age *stories* by Christopher Paul Curtis (*Bud, Not Buddy*) and Louise Erdrich (*The Birchbark House*) by identifying *similar themes* and examining the stories' *approach* to the topic of growing up. [RL.5.9]
- Students *refer to the structural elements (e.g., verse, rhythm, meter) of* Ernest Lawrence Thayer's "Casey at the Bat" when analyzing the *poem* and contrasting the impact and *differences* of those *elements* to a *prose* summary of the *poem*. [RL.4.5]
- Students *determine the meaning of* the *metaphor* of a cat in Carl Sandburg's poem "Fog" and contrast that *figurative language* to the meaning of the *simile* in William Blake's "The Echoing Green." [RL.5.4]

Informational Texts

Berger, Melvin. *Discovering Mars: The Amazing Story of the Red Planet*. New York: Scholastic, 1992. (1992)

Mars is very cold and very dry. Scattered across the surface are many giant volcanoes. Lava covers much of the land.

In Mars' northern half, or hemisphere, is a huge raised area. It is about 2,500 miles wide. Astronomers call this the Great Tharsis Bulge.

There are four mammoth volcanoes on the Great Tharsis Bulge. The largest one is Mount Olympus, or Olympus Mons. It is the biggest mountain on Mars. Some think it may be the largest mountain in the entire solar system.

Mount Olympus is 15 miles high. At its peak is a 50 mile wide basin. Its base is 375 miles across. That's nearly as big as the state of Texas!

Mauna Loa, in Hawaii, is the largest volcano on earth. Yet, compared to Mount Olympus, Mauna Loa looks like a little hill. The Hawaiian volcano is only 5Ð miles high. Its base, on the bottom of the Pacific Ocean, is just 124 miles wide.

Each of the three other volcanoes in the Great Tharsis Bulge are over 10 miles high. They are named Arsia Mons, Pavonis Mons, and Ascraeus Mons.

Media Text
NASA's illustrated fact sheet on Mars: http://www.nasa.gov/worldbook/mars_worldbook.html

Carlisle, Madelyn Wood. *Let's Investigate Marvelously Meaningful Maps.* Hauppauge, New York: Barrons, 1992. (1992)

Lauber, Patricia. *Hurricanes: Earth's Mightiest Storms.* New York: Scholastic, 1996. (1996)
From "The Making of a Hurricane"

Great whirling storms roar out of the oceans in many parts of the world. They are called by several names—hurricane, typhoon, and cyclone are the three most familiar ones. But no matter what they are called, they are all the same sort of storm. They are born in the same way, in tropical waters. They develop the same way, feeding on warm, moist air. And they do the same kind of damage, both ashore and at sea. Other storms may cover a bigger area or have higher winds, but none can match both the size and the fury of hurricanes. They are earth's mightiest storms.

Like all storms, they take place in the atmosphere, the envelope of air that surrounds the earth and presses on its surface. The pressure at any one place is always changing. There are days when air is sinking and the atmosphere presses harder on the surface. These are the times of high pressure. There are days when a lot of air is rising and the atmosphere does not press down as hard. These are times of low pressure. Low-pressure areas over warm oceans give birth to hurricanes.

Otfinoski, Steve. *The Kid's Guide to Money: Earning It, Saving It, Spending It, Growing It, Sharing It*. New York: Scholastic, 1996. (1996)

Wulffson, Don. *Toys!: Amazing Stories Behind Some Great Inventions.* New York: Henry Holt, 2000. (2000)

Schleichert, Elizabeth. "Good Pet, Bad Pet." *Ranger Rick* June 2002. (2002)

Kavash, E. Barrie. "Ancient Mound Builders." *Cobblestone* October 2003. (2003)

Koscielniak, Bruce. *About Time: A First Look at Time and Clocks*. Orlando: Houghton Mifflin, 2004. (2004)

Sometime around 1440, the spring-powered clock was invented. Instead of depending on the pull of weights for power, this type of clock used a flat metal spring wound tightly into a coil. The escapement allowed the spring to unwind by turning one gear tooth at a time. With the use of a spring, smaller, truly portable clocks could be made.

The first well-known watches, made in Germany around 1510 by Peter Henlein, were so named because guards or "watchmen" carried small clocks to keep track of how long to stay at a particular duty post.

Many different skills went into making a clock, and new tools and methods were constantly being invented to make ever smaller, more complicated mechanisms that worked with greater precision.

Founders melted and poured metal into a mold to make clock parts.

Spring makers hand-forged (heated and pounded into shape) and polished steel clock springs.

Screw makers cut screws used to fasten clocks together by using a small lathe devised by a German clockmaker in 1480. Earlier, only wedges or pegs were used.

Gear-tooth cutting had been done by hand until the mid-1500s, when Giannelo Torriano of Cremona, Italy, invented a machine that could cut perfect gear teeth. Brass replaced iron for clock making.

Engravers, gilders, and enamellers decorated clock cases and dials.

Glass -making shops made and cut glass.

Woodworkers made clock cases.

Banting, Erinn. *England the Land*. New York: Crabtree, 2004. (2004)
From "Living Fences"

Low fences, some of which are thousands of years old, divide much of England's countryside. These fences, called hedgerows, were fist build by the Anglo-Saxons, a group of warriors from Germany and Scandinavia who arrived in England around 410 A.D. As they gained control of sections of land, they protected their property with walls made from wooden stakes and spiny plants. Dead hedgerows, as these fences were called, were eventually replaced by fences made from live bushes and trees.

Recently, people building large farms and homes in the countryside have destroyed many live hedgerows. Other people are working to save the hedgerows, which are home to a variety of wildlife, including birds, butterflies, hedgehogs, and hares.

Hakim, Joy. *A History of US*. Oxford: Oxford University Press, 2005. (2005)
From Book 1: The First Americans, Prehistory to 1600; Chapter 7: "The Show-Offs"

In case you forgot, you're still in that time-and-space capsule, but you're not a baby anymore. You're 10 years old and able to work the controls yourself. So get going; we want to head northwest, to the very edge of the land, to the region that will be the states of Washington and Oregon. The time? We were in the 13th century; let's try the 14th century for this visit.

Life is easy for the Indians here in the Northwest near the great ocean. They are affluent (AF-flew-ent –it means "wealthy") Americans. For them the world is bountiful: the rivers hold salmon and sturgeon; the ocean is full of seals, whales, fish, and shellfish; the woods are swarming with game animals. And there are berries and nuts and wild roots to be gathered. They are not farmers. They don't need to farm.

Those Americans go to sea in giant canoes; some are 60 feet long. (How long is your bedroom? Your schoolroom?) Using stone tools and fire, Indians of the Northwest cut down gigantic fir trees and hollow out the logs to make their boats. The trees tower 200 feet and are 10 feet across at the base. There are so many of them, so close together, with a tangle of undergrowth, that it is sometimes hard for hunters to get through the forest. Tall as these trees are, there are not as big as the redwoods that grow in a vast forest to the south (in the land that will become California).

Media Text
"American Indians of the Pacific Northwest Collection," a digital archive of images and documents hosted by the University of Washington: http://content.lib.washington.edu/aipnw/

Ruurs, Margriet. *My Librarian Is a Camel: How Books Are Brought to Children Around the World*. Honesdale, Penn.: Boyds Mills Press, 2005. (2005)
From "Peru"

Children in Peru can receive their book in several different, innovative ways.

CEDILI-IBBY Peru is an institution that delivers books in bags to families in Lima. Each bag contains twenty books, which families can keep for a month. The books come in four different reading levels so that children really learn how to read. This project in Spanish is called El Libro Compartido en Familia and enables parents to share the joy of books with their children.

In small, rural communities, books are delivered in wooden suitcases and plastic bags. These suitcases and bags contain books that the community can keep and share for the next three months. The number of books in each suitcase depends on the size of the community. There are no library buildings in these small towns, and people gather outside, in the plaza, to see books they can check out. In the coastal regions, books are sometimes delivered by donkey cart. The books are stored in the reading promoter's home.

In the ancient city of Cajamarca, reading promoters from various rural areas select and receive a large collection of books for their area. The program is called Aspaderuc. The reading promoter lends these books to his or her neighbors, and after three months, a new selection of books goes out to each area. Books in this system are for children and adults.

And last but not least, Fe Y Alegria brings a collection of children's books to rural schools. The books are brought from school to school by wagon. The children, who are excited about browsing through the books when they arrive, are turning into avid readers.

Simon, Seymour. *Horses*. New York: HarperCollins, 2006. (2006)

Horses move in four natural ways, called gaits or paces. They walk, trot, canter, and gallop. The walk is the slowest gait and the gallop is the fastest.

When a horse walks, each hoof leaves the ground at a different time. It moves one hind leg first, and then the front leg on the same side; then the other hind leg and the other front leg. When a horse walks, its body swings gently with each stride.

When a horse trots, its legs move in pairs, left front leg with right hind leg, and right front leg with left hind leg. When a horse canters, the hind legs and one front leg move together, and then the hind legs and the other foreleg move together.

The gallop is like a much faster walk, where each hoof hits the ground one after another. When a horse gallops, all four of its hooves may be flying off the ground at the same time.

Horses are usually described by their coat colors and by the white markings on their faces, bodies, legs, and hooves.

Brown horses range in color from dark brown bays and chestnuts to golden browns, such as palominos, and lighter browns such as roans and duns.

Partly colored horses are called pintos or paints. Colorless, pure-white horses—albinos—are rare. Most horses that look white are actually gray.

Skewbalds have brown-and-white patches. Piebalds have black and white patches. Spotteds have dark spots on a white coat or white spots on a dark coat.

Montgomery, Sy. *Quest for the Tree Kangaroo: An Expedition to the Cloud Forest of New Guinea*. Orlando: Houghton Mifflin, 2006. (2006)
From "Marsupial Mania"

Stuart Little, the small mouse with big parents, had nothing on baby marsupials. Marsupials ("mar-SOUP-ee-ulz") are special kinds of mammals. Even the biggest ones give birth to babies that are incredibly small. A two-hundred-pound six-foot mother kangaroo, for instance, gives birth to a baby as small as a lima bean. That's what makes marsupials marsupials. Their babies are born so tiny that in order to survive they must live in a pouch on the mother's tummy. The pouch is called a marsupium. (Don't you wish you had one?)

A baby marsupial lives hidden in the mother's warm moist pouch for months. There it sucks milk from a nipple like other baby mammals. One day it's big enough to poke its head out to see the world. The European explorers who saw kangaroos for the first time in Australia reported they had discovered a two-headed animal—with one head on the neck and another in the belly.

North America has only one marsupial. You may have seen it: The Virginia opossum actually lives in most of the United States, not just Virginia. South America also has marsupials. But most marsupials live in or near Australia. They include the koala (which is not a bear), two species of wombat, the toothy black Tasmania devil, four species of black and white spotted "native cats" (though they're not cats at all), and many others.

The most famous marsupials, however, are the kangaroos. All kangaroos hop—some of them six feet high and faster than forty miles an hour. More than fifty different species of kangaroo hop around on the ground—from the big red kangaroo to the musky rat kangaroo.

Simon, Seymour. *Volcanoes*. New York: HarperCollins, 2006. (2006)

In early times, no one knew how volcanoes formed or why they spouted red-hot molten rock. In modern times, scientists began to study volcanoes. They still don't know all the answers, but they know much about how a volcano works.

Our planet is made up of many layers of rock. The top layers of solid rock are called the crust. Deep beneath the crust is the mantle, where it is so hot that some rock melts. The melted, or molten, rock is called magma.

Volcanoes are formed when magma pushes its way up through the crack in Earth's crust. This is called a volcanic eruption. When magma pours forth on the surface, it is called lava.

Nelson, Kadir. *We Are the Ship: The Story of Negro League Baseball*. New York: Jump at the Sun, 2008. (2008)
From "4th Inning: Racket Ball: Negro League Owners"

Most of the owners didn't make much money from their teams. Baseball was just a hobby for them, a way to make their illegal money look good. To save money, each team would only carry fifteen or sixteen players. The major league teams each carried about twenty-five. Average salary for each player started at roughly $125 per month back in '34, and went up to $500-$800 during the forties, though there were some who made much more than that, like Satchel Paige and Josh Gibson. The average major league player's salary back then was $7,000 per month. We also got around fifty cents to a dollar per day for food allowance. Back then you could get a decent meal for about twenty-five cents to seventy-five cents.

Some of the owners didn't treat their players very well. Didn't pay them enough or on time. That's why we would jump from team to team. Other owners would offer us more money, and we would leave our teams and go play for them. We were some of the first unrestricted free agents.

There were, however, a few owners who did know how to treat their ballplayers. Cum Posey was one of them. He always took care of his ballplayers, put them in the best hotels, and paid them well and on time. Buck Leonard said Posey never missed a payday in the seventeen years he played for the Grays.

Cutler, Nellie Gonzalez. "Kenya's Long Dry Season." *Time for Kids* September 25, 2009. (2009)

Hall, Leslie. "Seeing Eye to Eye." *National Geographic Explorer* September 2009. (2009)

A hungry falcon soars high above Earth. Its sharp eyes scan the ground. Suddenly, it spies something moving in the grass. The falcon dives toward it.

Far below, a gray field mouse scurries through the grass. Its dark, beady eyes search constantly for danger. With eyes on either side of its head, the mouse can see almost everything around it.

Will the mouse see the falcon in time to escape? Or, will the speedy falcon catch the prey it spied from far above? Whatever happens, one thing is clear: Without eyes, neither animal has a good chance.

Why? Eyes help many animals make sense of the world around them - and survive. Eyes can guide the falcon to dinner or help the mouse see a perfect place to hide.

Animal eyes come in many different shapes, sizes, colors, and even numbers. Yet they do the same job. They all catch light. With help from the brain, eyes turn light into sight.

Eyes work in the same way for people. Look at this page. You may think you see words and pictures. Believe it or not, you don't. All you see is light bouncing off the page. How is this possible? The secret is in the rules of light.

Light Rules

Light is a form of energy, like heat or sound. It can come from a natural source, like the sun, or artificial sources, like a lamp or a flashlight.

Light is the fastest known thing. It travels in waves and in nearly straight lines. In air, it can speed 299,700 kilometers (186,200 miles) per second. It can race from the sun to Earth in just over eight minutes! Light doesn't always travel so fast. For example, water or glass can slow light down, but just a bit.

Light may seem to break all driving speed laws. Yet there are certain rules it always follows. Light reflects, or bounces off objects. It also refracts, or bends. And it can be absorbed, or soaked up, by objects. These rules of light affect what, and how, we see.

Light! Eyes!

Imagine this scene: You're at your desk happily reading Explorer magazine. Light from your desk lamp scatters in all directions.

Light hits the page. Some bounces off the page, or reflects. It changes direction. It's a little like how sound bounces off a wall. Now some of this reflected light is traveling right toward your face. Don't duck! For you to see Explorer, some of this light has to enter your eyes. Objects become visible when light bounces off them.

Your eyes are light catchers. Yet it takes more than catching light to see an image. Your eyes also have to bend light. Here's how.

First, light hits your cornea. That's the clear covering on the front of your eyeball. The cornea refracts, or bends, light.

And Action!

Is your cornea super strong? No! Think about how light travels more slowly through water. The same thing happens in your cornea. As light passes through the cornea, it slows down. That makes the light change direction, or bend.

Next, light enters your pupil, the dark center part of your eye. It passes through your lens. The lens bends light, too. What's the big deal about bending light? That's how your eyes focus, or aim the light to make a clear image.

The image appears on your retina at the back of your eyeball. It's like a movie. Playing Today at a Theater in Your Eye: Explorer magazine! There's only one problem. The image is upside down. Luckily, your brain flips the image right side up. That's pretty smart!

Ronan, Colin A. "Telescopes." *The New Book of Knowledge*. New York: Scholastic, 2010. (2010)

You can see planets, stars, and other objects in space just by looking up on a clear night. But to really see them--to observe the craters on the moon, the rings around Saturn, and the countless other wonders in our sky--you must use a telescope.

A telescope is an instrument used to produce magnified (enlarged) images of distant objects. It does this by gathering and focusing the light or other forms of electromagnetic radiation emitted or reflected by those objects. The word "telescope" comes from two Greek words meaning "far" and "see."

Kinds of Telescopes

There are many different types of telescopes, both optical and non-optical. Optical telescopes are designed to focus visible light. Non-optical telescopes are designed to detect kinds of electromagnetic radiation that are invisible to the human eye. These include radio waves, infrared radiation, X rays, ultraviolet radiation, and gamma rays. The word "optical" means "making use of light."

Some telescopes are launched into space. These telescopes gain clearer views. And they can collect forms of electromagnetic radiation that are absorbed by the Earth's atmosphere and do not reach the ground.

Optical Telescopes

Different types of optical telescopes gather and focus light in different ways. Refracting telescopes, or refractors, use lenses. Reflecting telescopes, or reflectors, use mirrors. And catadioptric telescopes, or catadioptrics, use a combination of lenses and mirrors. The main lens or mirror in an optical telescope is called the objective.

Refracting Telescopes. A refracting telescope is typically a long, tube-shaped instrument. The objective is a system of lenses at the front end of the tube (the end facing the sky). When light strikes the lenses, it is bent and brought to a focus within the tube. This forms an image of a distant object. This image can be magnified by the eyepiece. This consists of a group of small lenses at the back of the tube. A camera can replace or be added to the eyepiece. Then photographs can be taken of celestial objects. For many years, these cameras used film. Today most are equipped with charge-coupled devices (CCD's). These devices use semiconductor chips to electronically capture images. CCD's are similar to the devices in home digital cameras and video camcorders. However, the CCD's used by astronomers are usually extremely sensitive to light.

Buckmaster, Henrietta. "Underground Railroad." ***The New Book of Knowledge*****. New York: Scholastic, 2010. (2010)**

Sample Performance Tasks for Informational Texts

- Students *explain how* Melvin Berger *uses reasons and evidence* in his book *Discovering Mars: The Amazing Story of the Red Planet* to *support particular points* regarding the topology of the planet. [RI.4.8]
- Students identify *the overall structure of ideas, concepts, and information* in Seymour Simon's *Horses* (based on factors such as their speed and color) and *compare and contrast* that scheme to the one employed by Patricia Lauber in her book *Hurricanes: Earth's Mightiest Storms*. [RI.5.5]
- Students *interpret* the visual *chart* that accompanies Steve Otfinoski's *The Kid's Guide to Money: Earning It, Saving It, Spending It, Growing It, Sharing It* and *explain how the information* found within it *contributes to an understanding of* how to create a budget. [RI.4.7]
- Students *explain the relationship between* time and clocks using *specific information* drawn from Bruce Koscielniak's *About Time: A First Look at Time and Clocks*. [RI.5.3]
- Students *determine the meaning of domain-specific words or phrases*, such as *crust, mantle, magma*, and *lava*, and important *general academic words and phrases* that appear in Seymour Simon's Volcanoes. [RI.4.4]
- Students *compare and contrast a firsthand account* of African American ballplayers in the Negro Leagues to *a secondhand account* of their treatment found in books such as Kadir Nelson's *We Are the Ship: The Story of Negro League Baseball*, attending to the *focus* of each account *and the information provided* by each. [RI.4.6]
- Students *quote accurately and explicitly from* Leslie Hall's "Seeing Eye to Eye" to *explain statements* they make and ideas they *infer* regarding sight and light. [RI.5.1]
- Students *determine the main idea* of Colin A. Ronan's "Telescopes" and create a *summary* by *explaining how key details support* his distinctions regarding different types of telescopes. [RI.4.2]

Grades 6–8 Text Exemplars

Stories

Alcott, Louisa May. *Little Women*. New York: Penguin, 1989. (1868)
From Chapter 2: "A Merry Christmas"

"Merry Christmas, little daughters! I'm glad you began at once, and hope you will keep on. But I want to say one word before we sit down. Not far away from here lies a poor woman with a little newborn baby. Six children are huddled into one bed to keep from freezing, for they have no fire. There is nothing to eat over there, and the oldest boy came to tell me they were suffering hunger and cold. My girls, will you give them your breakfast as a Christmas present?"

They were all unusually hungry, having waited nearly an hour, and for a minute no one spoke, only a minute, for Jo exclaimed impetuously, "I'm so glad you came before we began!"

"May I go and help carry the things to the poor little children?" asked Beth eagerly.

"I shall take the cream and the muffins," added Amy, heroically giving up the article she most liked.

Meg was already covering the buckwheats, and piling the bread into one big plate.

"I thought you'd do it," said Mrs. March, smiling as if satisfied. "You shall all go and help me, and when we come back we will have bread and milk for breakfast, and make it up at dinnertime."

They were soon ready, and the procession set out. Fortunately it was early, and they went through back streets, so few people saw them, and no one laughed at the queer party.

A poor, bare, miserable room it was, with broken windows, no fire, ragged bedclothes, a sick mother, wailing baby, and a group of pale, hungry children cuddled under one old quilt, trying to keep warm.

How the big eyes stared and the blue lips smiled as the girls went in.

"Ach, mein Gott! It is good angels come to us!" said the poor woman, crying for joy.

"Funny angels in hoods and mittens," said Jo, and set them to laughing.

In a few minutes it really did seem as if kind spirits had been at work there. Hannah, who had carried wood, made a fire, and stopped up the broken panes with old hats and her own cloak. Mrs. March gave the mother tea and gruel, and comforted her with promises of help, while she dressed the little baby as tenderly as if it had been her own. The girls meantime spread the table, set the children round the fire, and fed them like so many hungry birds, laughing, talking, and trying to understand the funny broken English.

"Das ist gut!" "Die Engel-kinder!" cried the poor things as they ate and warmed their purple hands at the comfortable blaze. The girls had never been called angel children before, and thought it very agreeable, especially Jo, who had been considered a 'Sancho' ever since she was born. That was a very happy breakfast, though they didn't get any of it. And when they went away, leaving comfort behind, I think there were not in all the city four merrier people than the hungry little girls who gave away their breakfasts and contented themselves with bread and milk on Christmas morning.

"That's loving our neighbor better than ourselves, and I like it," said Meg, as they set out their presents while their mother was upstairs collecting clothes for the poor Hummels.

Media Text
Composer Mark Adamo details for an Opera America online course the process of adapting the novel to operatic form: http://www.markadamo.com/course.pdf

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Twain, Mark. *The Adventures of Tom Sawyer*. New York: Modern Library, 2001. (1876)
From Chapter 2: "The Glorious Whitewasher"

But Tom's energy did not last. He began to think of the fun he had planned for this day, and his sorrows multiplied. Soon the free boys would come tripping along on all sorts of delicious expeditions, and they would make a world of fun of him for having to work—the very thought of it burnt him like fire. He got out his worldly wealth and examined it—bits of toys, marbles, and trash; enough to buy an exchange of WORK, maybe, but not half enough to buy so much as half an hour of pure freedom. So he returned his straitened means to his pocket, and gave up the idea of trying to buy the boys. At this dark and hopeless moment an inspiration burst upon him! Nothing less than a great, magnificent inspiration.

He took up his brush and went tranquilly to work. Ben Rogers hove in sight presently—the very boy, of all boys, whose ridicule he had been dreading. Ben's gait was the hop-skip-and-jump—proof enough that his heart was light and his anticipations high. He was eating an apple, and giving a long, melodious whoop, at intervals, followed by a deep-toned ding-dong-dong, ding-dong-dong, for he was personating a steamboat. As he drew near, he slackened speed, took the middle of the street, leaned far over to starboard and rounded to ponderously and with laborious pomp and circumstance—for he was personating the Big Missouri, and considered himself to be drawing nine feet of water. He was boat and captain and engine-bells combined, so he had to imagine himself standing on his own hurricane-deck giving the orders and executing them:

"Stop her, sir! Ting-a-ling-ling!" The headway ran almost out, and he drew up slowly toward the sidewalk.

"Ship up to back! Ting-a-ling-ling!" His arms straightened and stiffened down his sides.

"Set her back on the stabboard! Ting-a-ling-ling! Chow! ch-chow-wow! Chow!" His right hand, meantime, describing stately circles—for it was representing a forty-foot wheel.

"Let her go back on the labboard! Ting-a-lingling! Chow-ch-chow-chow!" The left hand began to describe circles.

"Stop the stabboard! Ting-a-ling-ling! Stop the labboard! Come ahead on the stabboard! Stop her! Let your outside turn over slow! Ting-a-ling-ling! Chow-ow-ow! Get out that head-line! LIVELY now! Come—out with your spring-line—what're you about there! Take a turn round that stump with the bight of it! Stand by that stage, now—let her go! Done with the engines, sir! Ting-a-ling-ling! SH'T! S'H'T! SH'T!" (trying the gauge-cocks)."

Tom went on whitewashing—paid no attention to the steamboat. Ben stared a moment and then said: "Hi-YI! YOU'RE up a stump, ain't you!"

No answer. Tom surveyed his last touch with the eye of an artist, then he gave his brush another gentle sweep and surveyed the result, as before. Ben ranged up alongside of him. Tom's mouth watered for the apple, but he stuck to his work. Ben said:

"Hello, old chap, you got to work, hey?"

Tom wheeled suddenly and said:

"Why, it's you, Ben! I warn't noticing."

"Say—I'm going in a-swimming, I am. Don't you wish you could? But of course you'd druther WORK—wouldn't you? Course you would!"

Tom contemplated the boy a bit, and said:

"What do you call work?"

"Why, ain't THAT work?"

Tom resumed his whitewashing, and answered carelessly:

"Well, maybe it is, and maybe it ain't. All I know, is, it suits Tom Sawyer."

"Oh come, now, you don't mean to let on that you LIKE it?"

The brush continued to move.

"Like it? Well, I don't see why I oughtn't to like it. Does a boy get a chance to whitewash a fence every day?"

That put the thing in a new light. Ben stopped nibbling his apple. Tom swept his brush daintily back and forth—stepped back to note the effect—added a touch here and there—criticised the effect again—Ben watching every move and getting more and more interested, more and more absorbed. Presently he said:

"Say, Tom, let ME whitewash a little."

Tom considered, was about to consent; but he altered his mind:

"No—no—I reckon it wouldn't hardly do, Ben. You see, Aunt Polly's awful particular about this fence—right here on the street, you know—but if it was the back fence I wouldn't mind and SHE wouldn't. Yes, she's awful particular about this fence; it's got to be done very careful; I reckon there ain't one boy in a thousand, maybe two thousand, that can do it the way it's got to be done."

"No—is that so? Oh come, now—lemme just try. Only just a little—I'd let YOU, if you was me, Tom."

"Ben, I'd like to, honest injun; but Aunt Polly—well, Jim wanted to do it, but she wouldn't let him; Sid wanted to do it, and she wouldn't let Sid. Now don't you see how I'm fixed? If you was to tackle this fence and anything was to happen to it—"

"Oh, shucks, I'll be just as careful. Now lemme try. Say—I'll give you the core of my apple."

"Well, here—No, Ben, now don't. I'm afeard—"

"I'll give you ALL of it!"

Tom gave up the brush with reluctance in his face, but alacrity in his heart. And while the late steamer Big Missouri worked and sweated in the sun, the retired artist sat on a barrel in the shade close by, dangled his legs, munched his apple, and planned the slaughter of more innocents. There was no lack of material; boys happened along every little while; they came to jeer, but remained to whitewash. By the time Ben was fagged out, Tom had traded the next chance to Billy Fisher for a kite, in good repair; and when he played out, Johnny Miller bought in for a dead rat and a string to swing it with—and so on, and so on, hour after hour. And when the middle of the afternoon came, from being a poor poverty-stricken boy in the morning, Tom was literally rolling in wealth. He had besides the things before mentioned, twelve marbles, part of a jews-harp, a piece of blue bottle-glass to look through, a spool cannon, a key that wouldn't unlock anything, a fragment of chalk, a glass stopper of a decanter, a tin soldier, a couple of tadpoles, six fire-crackers, a kitten with only one eye, a brass doorknob, a dog-collar—but no dog—the handle of a knife, four pieces of orange-peel, and a dilapidated old window sash.

He had had a nice, good, idle time all the while—plenty of company—and the fence had three coats of whitewash on it! If he hadn't run out of whitewash he would have bankrupted every boy in the village.

Tom said to himself that it was not such a hollow world, after all. He had discovered a great law of human action, without knowing it—namely, that in order to make a man or a boy covet a thing, it is only necessary to make the thing difficult to attain. If he had been a great and wise philosopher, like the writer of this book, he would now have comprehended that Work consists of whatever a body is OBLIGED to do, and that Play consists of whatever a body is not obliged to do. And this would help him to understand why constructing artificial flowers or performing on a tread-mill is work, while rolling ten-pins or climbing Mont Blanc is only amusement. There are wealthy gentlemen in England who drive four-horse passenger-coaches twenty or thirty miles on a daily line, in the summer, because the privilege costs them considerable money; but if they were offered wages for the service, that would turn it into work and then they would resign.

The boy mused awhile over the substantial change which had taken place in his worldly circumstances, and then wended toward headquarters to report.

L'Engle, Madeleine. *A Wrinkle in Time*. New York: Farrar, Straus and Giroux, 1962. (1962)

Cooper, Susan. *The Dark Is Rising*. New York: Margaret K. McElderry Books, 1973. (1973)
From "Midwinter Day"

He was woken by music. It beckoned him, lilting and insistent; delicate music, played by delicate instruments that he could not identify, with one rippling, bell-like phrase running through it in a gold thread of delight. There was in this music so much of the deepest enchantment of all his dreams and imaginings that he woke smiling in pure happiness at the sound. In the moment of his waking, it began to fade, beckoning as it went, and then as he opened his eyes it was gone. He had only the memory of that one rippling phrase still echoing in his head, and itself fading so fast that he sat up abruptly in bed and reached his arm out to the air, as if he could bring it back.

The room was very still, and there was no music, and yet Will knew that it had not been a dream.

He was in the twins' room still; he could hear Robin's breathing, slow and deep, from the other bed. Cold light glimmered round the edge of the curtains, but no one was stirring anywhere; it was very early. Will pulled on his rumpled clothes from the day before, and slipped out of the room. He crossed the landing to the central window, and looked down.

In the first shining moment he saw the whole strange-familial world, glistening white; the roofs of the outbuildings mounded into square towers of snow, and beyond them all the fields and hedge: buried, merged into one great flat expanse, unbroken white to the horizon's brim. Will drew in a long, happy breath, silently rejoicing. Then, very faintly, he heard the music again, the same phrase. He swung round vainly searching for it in the air, as if he might see it somewhere like a flickering light.

"Where are you?"

Yep, Laurence. *Dragonwings*. New York: HarperCollins, 1975. (1975)
From Chapter IX: "The Dragon Wakes (December, 1905—April, 1906)"

By the time the winter rains came to the city, we were not becoming rich, but we were doing well. Each day we put a little money away in our cold tin can. Father never said anything, but I knew he was thinking about the day when we might be able to afford to bring Mother over. You see, it was not simply a matter of paying her passage over on the boat. Father would probably have to go over after her and escort her across. There had to be money for bribes—tea money, Uncle called it—at both ends of the ocean. Now that we no longer belonged to the Company, we somehow had to acquire a thousand dollars worth of property, a faraway figure when you can only save nickels and dimes.

And yet the hope that we could start our own little fix-it shop and qualify as merchants steadily grew with the collection of coins in the tin can. I was happy most of the time, even when it became the time for the New Year by the Tang people's reckoning. [...]

We took the old picture of the Stove King and smeared some honey on it before we burned it in the stove. Later that evening we would hang up a new picture of the Stove King that we had bought in the Tang people's town. That was a sign the Stove King had returned to his place above our stove. After we had finished burning the old picture, we sat down to a lunch of meat pastries and dumplings.

Taylor, Mildred D. *Roll of Thunder, Hear My Cry*. New York: Phyllis Fogelman Books, 1976. (1976)
From Chapter 9

"You were born blessed, boy, with land of your own. If you hadn't been, you'd cry out for it while you try to survive… like Mr. Lanier and Mr. Avery. Maybe even do what they doing now. It's hard on a man to give up, but sometimes it seems there just ain't nothing else he can do."

"I… I'm sorry, Papa," Stacey muttered.

After a moment, Papa reached out and draped his arm over Stacey's shoulder.

"Papa," I said, standing to join them, "we giving up too?"

Papa looked down at me and brought me closer, then waved his hand toward the drive. "You see that fig tree over yonder, Cassie? Them other trees all around… that oak and walnut, they're a lot bigger and they take up more room and give so much shade they almost overshadow that little ole fig. But that fig tree's got roots that run deep, and it belongs in that yard as much as that oak and walnut. It keeps blooming, bearing fruit year after year, knowing all the time it'll never get as big as them other trees. Just keeps on growing and doing what it gotta do. It don't give up. It give up, it'll die. There's a lesson to be learned from that little tree, Cassie girl, 'cause we're like it. We keep doing what we gotta do, and we don't give up. We can't."

Hamilton, Virginia. "The People Could Fly." *The People Could Fly: American Black Folktales*. New York: Knopf Books for Young Readers, 1985. (1985)

They say the people could fly. Say that long ago in Africa, some of the people knew magic. And they would walk up on the air like climbin up on a gate. And they flew like blackbirds over the fields. Black, shiny wings flappin against the blue up there.

Then, many of the people were captured for Slavery. The ones that could fly shed their wings. They couldn't take their wings across the water on slave ships. Too crowded, don't you know.

The folks were full of misery, then. Got sick with the up and down of the sea. So they forgot about flyin when they could no longer breathe the sweet scent of Africa.

Say the people who could fly kept their power, although they shed their wings. They looked the same as the other people from Africa who had been coming over, who had dark skin. Say you couldn't tell anymore one who could fly from one who couldn't.

One such who could was an old man, call him Toby. And standin tall, yet afraid, was a young woman who once had wings. Call her Sarah. Now Sarah carried a babe tied to her back. She trembled to be so hard worked and scorned.

The slaves labored in the fields from sunup to sundown. The owner of the slaves callin himself their Master. Say he was a hard lump of clay. A hard, glinty coal. A hard rock pile, wouldn't be moved. His Overseer on horseback pointed out the slaves who were slowin down. So the one called Driver cracked his whip over the slow ones to make them move faster. That whip was a slice-open cut of pain. So they did move faster. Had to.

Paterson, Katherine. *The Tale of the Mandarin Ducks*. Illustrated by Leo and Diane Dillon. New York: Lodestar Books, 1990. (1990)

Long ago and far away in the Land of the Rising Sun, there lived together a pair of mandarin ducks. Now, the drake was a magnificent bird with plumage of colors so rich that the emperor himself would have envied it. But his mate, the duck, wore the quiet tones of the wood, blending exactly with the hole in the tree where the two had made their nest.

One day while the duck was sitting on her eggs, the drake flew down to a nearby pond to search for food. While he was there, a hunting party entered the woods. The hunters were led by the lord of the district, a proud and cruel man who believed that everything in the district belonged to him to do with as he chose. The lord was always looking for beautiful things to adorn his manor house and garden. And when he saw the drake swimming gracefully on the surface of the pond, he determined to capture him.

The lord's chief steward, a man named Shozo, tried to discourage his master. "The drake is a wild spirit, my lord," he said. "Surely he will die in captivity." But the lord pretended not to hear Shozo. Secretly he despised Shozo, because although Shozo had once been his mightiest samurai, the warrior had lost an eye in battle and was no longer handsome to look upon.

The lord ordered his servants to clear a narrow way through the undergrowth and place acorns along the path. When the drake came out of the water he saw the acorns. How pleased he was! He forgot to be cautious, thinking only of what a feast they would be to take home to his mate.

Just as he was bending to pick up an acorn in his scarlet beak, a net fell over him, and the frightened bird was carried back to the lord's manor and placed in a small bamboo cage.

Cisneros, Sandra. "Eleven." *Woman Hollering Creek and Other Stories*. New York: Random House, 1991. (1991)

What they don't understand about birthdays and what they never tell you is that when you're eleven, you're also ten, and nine, and eight, and seven, and six, and five, and four, and three, and two, and one. And when you wake up on your eleventh birthday you expect to feel eleven, but you don't. You open your eyes and everything's just like yesterday, only it's today. And you don't feel eleven at all. You feel like you're still ten. And you are — underneath the year that makes you eleven.

Like some days you might say something stupid, and that's the part of you that's still ten. Or maybe some days you might need to sit on your mama's lap because you're scared, and that's the part of you that's five.

And maybe one day when you're all grown up maybe you will need to cry like if you're three, and that's okay. That's what I tell Mama when she's sad and needs to cry. Maybe she's feeling three.

Because the way you grow old is kind of like an onion or like the rings inside a tree trunk or like my little wooden dolls that fit one inside the other, each year inside the next one. That's how being eleven years old is.

You don't feel eleven. Not right away. It takes a few days, weeks even, sometimes even months before you say Eleven when they ask you. And you don't feel smart eleven, not until you're almost twelve. That's the way it is.

Sutcliff, Rosemary. *Black Ships Before Troy: The Story of the Iliad*. New York: Delacorte Press, 1993. (1993)
From "The Golden Apple"

In the high and far-off days when men were heroes and walked with the gods, Peleus, king of the Myrmidons, took for his wife a sea nymph called Thetis, Thetis of the Silver Feet. Many guests came to their wedding feast, and among the mortal guests came all the gods of high Olympus.

But as they sat feasting, one who had not been invited was suddenly in their midst: Eris, the goddess of discord, had been left out because wherever she went she took trouble with her; yet here she was, all the same, and in her blackest mood, to avenge the insult.

All she did—it seemed a small thing—was to toss down on the table a golden apple. Then she breathed upon the guests once, and vanished.

The apple lay gleaming among the piled fruits and the brimming wine cups; and bending close to look at it, everyone could see the words "To the fairest" traced on its side.

Then the three greatest of the goddesses each claimed that it was hers. Hera claimed it as wife to Zeus, the All-father, and queen of all the gods. Athene claimed that she had the better right, for the beauty of wisdom such as hers surpassed all else. Aphrodite only smiled, and asked who had a better claim to beauty's prize than the goddess of beauty herself.

They fell to arguing among themselves; the argument became a quarrel, and the quarrel grew more and more bitter, and each called upon the assembled guests to judge between them. But the other guests refused, for they knew well enough that, whichever goddess they chose to receive the golden apple, they would make enemies of the other two.

Drama

Fletcher, Louise. *Sorry, Wrong Number.* New York: Dramatists Play Service, 1948. (1948)

[SCENE: As curtain rises, we see a divided stage, only the center part of which is lighted and furnished as MRS. STEVENSON'S bedroom. Expensive, rather fussy furnishings. A large bed, on which MRS. STEVESON, clad in bed-jacket, is lying. A night-table close by, with phone, lighted lamp, and pill bottles. A mantle, with clock, R. A closed door. R. A window, with curtains closed, rear. The set is lit by one lamp on night-table. It is enclosed by three flats. Beyond this central set, the stage, on either side, is in darkness.

MRS. STEVENSON is dialing a number on the phone, as curtain rises. She listens to phone, slams down receiver in irritation. As she does so, we hear sound of a train roaring by in the distance. She reaches for her pill bottle, pours herself a glass of water, shakes out pill, swallows it, then reaches for the phone again, dials number nervously.]

SOUND: Number being dialed on phone: Busy signal.

MRS. STEVENSON. (A querulous, self-centered neurotic.) Oh—dear! (Slams down receiver, Dials OPERATOR.)

[Scene: A spotlight, L. of side flat, picks up out of peripheral darkness, figure of 1st OPERATOR, sitting with headphones at a small table. If spotlight not available, use flashlight, clicked on by 1st OPERATOR, illuminating her face.]

OPERATOR. Your call, please?

MRS. STEVENSON. Operator? I've been dialing Murray Hill 4-0098 now for the last three-quarters of an hour, and the line is always busy. But I don't see how it could be that busy that long. Will you try it for me please?

OPERATOR. Murray Hill 4-0098? One moment, please.

[SCENE: She makes gesture of plugging in call through switchboard.]

MRS. STEVENSON. I don't see how it could be busy all this time. It's my husband's office. He's working late tonight, and I'm all alone.

Goodrich, Frances and Albert Hackett. *The Diary of Anne Frank: A Play*. New York: Random House, 1956. (1956)

Poetry

Longfellow, Henry Wadsworth. "Paul Revere's Ride." (1861)

Listen, my children, and you shall hear
Of the midnight ride of Paul Revere,
On the eighteenth of April, in Seventy-five;
Hardly a man is now alive
Who remembers that famous day and year.

He said to his friend, "If the British march
By land or sea from the town to-night,
Hang a lantern aloft in the belfry arch
Of the North Church tower as a signal light,—
One, if by land, and two, if by sea;
And I on the opposite shore will be,
Ready to ride and spread the alarm
Through every Middlesex village and farm,
For the country-folk to be up and to arm."

Then he said, "Good night!" and with muffled oar
Silently rowed to the Charlestown shore,
Just as the moon rose over the bay,
Where swinging wide at her moorings lay
The Somerset, British man-of-war;
A phantom ship, with each mast and spar
Across the moon like a prison bar,
And a huge black hulk, that was magnified
By its own reflection in the tide.
Meanwhile, his friend, through alley and street,
Wanders and watches with eager ears,
Till in the silence around him he hears
The muster of men at the barrack door,
The sound of arms, and the tramp of feet,
And the measured tread of the grenadiers,
Marching down to their boats on the shore.
Then he climbed to the tower of the church,
Up the wooden stairs, with stealthy tread,
To the belfry-chamber overhead,
And startled the pigeons from their perch
On the sombre rafters, that round him made
Masses and moving shapes of shade,—
Up the trembling ladder, steep and tall,
To the highest window in the wall,
Where he paused to listen and look down
A moment on the roofs of the town,
And the moonlight flowing over all.

Beneath, in the churchyard, lay the dead,
In their night-encampment on the hill,
Wrapped in silence so deep and still
That he could hear, like a sentinel's tread,
The watchful night-wind, as it went
Creeping along from tent to tent,
And seeming to whisper, "All is well!"
A moment only he feels the spell
Of the place and the hour, and the secret dread
Of the lonely belfry and the dead;
For suddenly all his thoughts are bent
On a shadowy something far away,

Where the river widens to meet the bay,—
A line of black that bends and floats
On the rising tide, like a bridge of boats.

Meanwhile, impatient to mount and ride,
Booted and spurred, with a heavy stride
On the opposite shore walked Paul Revere.
Now he patted his horse's side,
Now gazed at the landscape far and near,
Then, impetuous, stamped the earth,
And turned and tightened his saddle-girth;
But mostly he watched with eager search
The belfry-tower of the Old North Church,
As it rose above the graves on the hill,
Lonely and spectral and sombre and still.
And lo! as he looks, on the belfry's height
A glimmer, and then a gleam of light!
He springs to the saddle, the bridle he turns,
But lingers and gazes, till full on his sight
A second lamp in the belfry burns!

A hurry of hoofs in a village street,
A shape in the moonlight, a bulk in the dark,
And beneath, from the pebbles, in passing, a spark
Struck out by a steed flying fearless and fleet;
That was all! And yet, through the gloom and the light,
The fate of a nation was riding that night;
And the spark struck out by that steed, in his flight,
Kindled the land into flame with its heat.

He has left the village and mounted the steep,
And beneath him, tranquil and broad and deep,
Is the Mystic, meeting the ocean tides;
And under the alders, that skirt its edge,
Now soft on the sand, now loud on the ledge,
Is heard the tramp of his steed as he rides.

It was twelve by the village clock
When he crossed the bridge into Medford town.
He heard the crowing of the cock,
And the barking of the farmer's dog,
And felt the damp of the river fog,
That rises after the sun goes down.

It was one by the village clock,
When he galloped into Lexington.
He saw the gilded weathercock
Swim in the moonlight as he passed,
And the meeting-house windows, blank and bare,
Gaze at him with a spectral glare,
As if they already stood aghast
At the bloody work they would look upon.

It was two by the village clock,
When he came to the bridge in Concord town.
He heard the bleating of the flock,
And the twitter of birds among the trees,
And felt the breath of the morning breeze
Blowing over the meadows brown.
And one was safe and asleep in his bed
Who at the bridge would be first to fall,
Who that day would be lying dead,
Pierced by a British musket-ball.

You know the rest. In the books you have read,
How the British Regulars fired and fled,—
How the farmers gave them ball for ball,

From behind each fence and farm-yard wall,
Chasing the red-coats down the lane,
Then crossing the fields to emerge again

Under the trees at the turn of the road,
And only pausing to fire and load.

So through the night rode Paul Revere;
And so through the night went his cry of alarm
To every Middlesex village and farm,—
A cry of defiance and not of fear,
A voice in the darkness, a knock at the door,
And a word that shall echo forevermore!
For, borne on the night-wind of the Past,
Through all our history, to the last,
In the hour of darkness and peril and need,
The people will waken and listen to hear
The hurrying hoof-beats of that steed,
And the midnight message of Paul Revere.

Media Text
"The Midnight Ride," an extensive resource, including audio, images, and maps, provided by the Paul Revere Memorial Association:
http://www.paulreverehouse.org/ride/

Whitman, Walt. "O Captain! My Captain!" *Leaves of Grass*. Oxford: Oxford University Press, 1990. (1865)

O Captain! my Captain! our fearful trip is done;
The ship has weather'd every rack, the prize we sought is won;
The port is near, the bells I hear, the people all exulting,
While follow eyes the steady keel, the vessel grim and daring:
But O heart! heart! heart!
O the bleeding drops of red,
Where on the deck my Captain lies,
Fallen cold and dead.

O Captain! my Captain! rise up and hear the bells;
Rise up—for you the flag is flung—for you the bugle trills;
For you bouquets and ribbon'd wreaths—for you the shores a-crowding;
For you they call, the swaying mass, their eager faces turning;
Here Captain! dear father!
This arm beneath your head;
It is some dream that on the deck,
You've fallen cold and dead.

My Captain does not answer, his lips are pale and still;
My father does not feel my arm, he has no pulse nor will;
The ship is anchor'd safe and sound, its voyage closed and done;
From fearful trip, the victor ship, comes in with object won;

Exult, O shores, and ring, O bells!
But I, with mournful tread,
Walk the deck my Captain lies,
Fallen cold and dead.

Carroll, Lewis. "Jabberwocky." *Alice Through the Looking Glass*. Cambridge, Mass.: Candlewick, 2005. (1872)
From Chapter 1: "Looking-Glass House"

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe;
All mimsy were the borogoves,
And the mome raths outgrabe.

'Beware the Jabberwock, my son!
The jaws that bite, the claws that catch!

Beware the Jubjub bird, and shun
The frumious Bandersnatch!'

He took his vorpal sword in hand:
Long time the manxome foe he sought
So rested he by the Tumtum tree,
And stood awhile in thought.

And as in uffish thought he stood,
The Jabberwock, with eyes of flame,
Came whiffling through the tulgey wood,
And burbled as it came!

One, two! One, two! And through and through
The vorpal blade went snicker-snack!
He left it dead, and with its head
He went galumphing back.

'And hast thou slain the Jabberwock?
Come to my arms, my beamish boy!
O frabjous day! Callooh! Callay!'
He chortled in his joy.

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe;
All mimsy were the borogoves,
And the mome raths outgrabe.

Navajo tradition. "Twelfth Song of Thunder." ***The Mountain Chant: A Navajo Ceremony.*** **Forgotten Books, 2008. (1887)**

The voice that beautifies the land!
The voice above,
The voice of thunder
Within the dark cloud
Again and again it sounds,
The voice that beautifies the land.

The voice that beautifies the land!
The voice below,
The voice of the grasshopper
Among the plants
Again and again it sounds,
The voice that beautifies the land.

Dickinson, Emily. "The Railway Train." ***The Compete Poems of Emily Dickinson.*** **Boston: Little, Brown, 1960. (1893)**

I like to see it lap the miles,
And lick the valleys up,
And stop to feed itself at tanks;
And then, prodigious, step

Around a pile of mountains,
And, supercilious, peer
In shanties by the sides of roads;
And then a quarry pare

To fit its sides, and crawl between,
Complaining all the while
In horrid, hooting stanza;
Then chase itself down hill

And neigh like Boanerges;
Then, punctual as a star,
Stop—docile and omnipotent—
At its own stable door.

Yeats, William Butler. "The Song of Wandering Aengus." ***W. B. Yeats Selected Poetry.*** **London: Macmillan, 1962. (1899)**

I WENT out to the hazel wood,
Because a fire was in my head,
And cut and peeled a hazel wand,
And hooked a berry to a thread;
And when white moths were on the wing,
And moth-like stars were flickering out,
I dropped the berry in a stream
And caught a little silver trout.

When I had laid it on the floor
I went to blow the fire a-flame,
But something rustled on the floor,
And someone called me by my name:
It had become a glimmering girl
With apple blossom in her hair
Who called me by my name and ran
And faded through the brightening air.

Though I am old with wandering
Through hollow lands and hilly lands,
I will find out where she has gone,
And kiss her lips and take her hands;
And walk among long dappled grass,
And pluck till time and times are done,
The silver apples of the moon,
The golden apples of the sun.

Frost, Robert. "The Road Not Taken." ***The Poetry of Robert Frost: The Collected Poems*****. Edited by Edward Connery Lathem. New York: Henry Holt, 1979. (1915)**

Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other, as just as fair,
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that the passing there
Had worn them really about the same,

And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

Sandburg, Carl. "Chicago." ***Chicago Poems*****. New York: Henry Holt, 1916. (1916)**

Hog Butcher for the World,
Tool Maker, Stacker of Wheat,
Player with Railroads and the Nation's Freight Handler;
Stormy, husky, brawling,
City of the Big Shoulders:

They tell me you are wicked and I believe them, for I have seen your painted women under the gas lamps luring the farm boys.

And they tell me you are crooked and I answer: Yes, it is true I have seen
the gunman kill and go free to kill again.
And they tell me you are brutal and my reply is: On the faces of women and
children I have seen the marks of wanton hunger.
And having answered so I turn once more to those who sneer at this my city,
and I give them back the sneer and say to them:
Come and show me another city with lifted head singing so proud to be alive
and coarse and strong and cunning.
Flinging magnetic curses amid the toil of piling job on job, here is a tall bold
slugger set vivid against the little soft cities;
Fierce as a dog with tongue lapping for action, cunning as a savage pitted
against the wilderness,
Bareheaded,
Shoveling,
Wrecking,
Planning,
Building, breaking, rebuilding,
Under the smoke, dust all over his mouth, laughing with white teeth,
Under the terrible burden of destiny laughing as a young man laughs,
Laughing even as an ignorant fighter laughs who has never lost a battle,
Bragging and laughing that under his wrist is the pulse, and under his ribs
the heart of the people,
Laughing!
Laughing the stormy, husky, brawling laughter of Youth, half-naked,
sweating, proud to be Hog Butcher, Tool Maker, Stacker of Wheat,
Player with Railroads and Freight Handler to the Nation.

Hughes, Langston. "I, Too, Sing America." *The Collected Poems of Langston Hughes.* New York: Knopf, 1994. (1925)

Neruda, Pablo. "The Book of Questions." *The Book of Questions*. Translated by William O'Daly. Port Townsend, Wash.: Copper Canyon Press, 1991. (1973)

Soto, Gary. "Oranges." *Black Hair*. Pittsburgh: University of Pittsburgh Press, 1985. (1985)

Giovanni, Nikki. "A Poem for My Librarian, Mrs. Long." *Acolytes*. New York: William Morrow, 2007. (2007)

A Poem for My Librarian, Mrs. Long
(You never know what troubled little girl needs a book)

At a time when there was not tv before 3:00 P.M.
And on Sunday none until 5:00
We sat on the front porches watching
The jfg sign go on and off greeting
The neighbors, discussion the political
Situation congratulating the preacher
On his sermon
There was always the radio which brought us
Songs from wlac in nashville and what we would now call
Easy listening or smooth jazz but when I listened
Late at night with my portable (that I was so proud of)
Tucked under my pillow
I heard nat king cole and matt dennis, june christy and ella fitzgerald
And sometimes sarah vaughan sing black coffee
Which I now drink
It was just called music

There was a bookstore uptown on gay street
Which I visited and inhaled that wonderful odor
Of new books
Even today I read hardcover as a preference paperback only
As a last resort

And up the hill on vine street

(The main black corridor) sat our carnegie library
Mrs. Long always glad to see you
The stereoscope always ready to show you faraway
Places to dream about

Mrs. Long asking what are you looking for today
When I wanted Leaves of Grass or alfred north whitehead
She would go to the big library uptown and I now know
Hat in hand to ask to borrow so that I might borrow

Probably they said something humiliating since southern
Whites like to humiliate southern blacks

But she nonetheless brought the books
Back and I held them to my chest
Close to my heart
And happily skipped back to grandmother's house
Where I would sit on the front porch
In a gray glider and dream of a world
Far away

I love the world where I was
I was safe and warm and grandmother gave me neck kissed
When I was on my way to bed

But there was a world
Somewhere
Out there
And Mrs. Long opened that wardrobe
But no lions or witches scared me
I went through
Knowing there would be
Spring

Sample Performance Tasks for Stories, Drama, and Poetry

- Students *summarize the development* of the morality of Tom Sawyer in Mark Twain's novel of the same name and analyze its connection to themes of accountability and authenticity by noting how it is conveyed *through characters, setting, and plot*. [RL.8.2]
- Students *compare and contrast* Laurence Yep's *fictional portrayal of* Chinese immigrants in turn-of-the-twentieth-century San Francisco in *Dragonwings* to *historical accounts of the same period* (using materials detailing the 1906 San Francisco earthquake) in order to glean a deeper *understanding* of *how authors use or alter historical sources* to create a sense of *time* and *place* as well as make fictional *characters* lifelike and real. [RL.7.9]
- Students *cite explicit textual evidence* as well as draw *inferences* about the drake and the duck from Katherine Paterson's *The Tale of the Mandarin Ducks to support* their *analysis* of the perils of vanity. [RL.6.1]
- Students *explain how* Sandra Cisneros's choice of words *develops the point of view of the* young *speaker in* her story "Eleven." [RL.6.6]
- Students *analyze* how the playwright Louise Fletcher uses *particular elements of drama* (e.g., setting and dialogue) to create dramatic tension in her play *Sorry, Wrong Number*. [RL.7.3]
- Students *compare and contrast* the effect Henry Wadsworth Longfellow's *poem* "Paul Revere's Ride" has on them to the effect they experience from a *multimedia* dramatization of the event presented in an interactive digital map (http://www.paulreverehouse.org/ride/), *analyzing* the impact of different *techniques* employed that are *unique to each medium*. [RL.6.7]

- Students *analyze* Walt Whitman's "O Captain! My Captain!" to uncover the poem's *analogies* and *allusions*. They *analyze the impact of specific word choices* by Whitman, such as *rack* and *grim*, and *determine* how they contribute to the overall *meaning and tone* of the poem. [RL.8.4]
- Students *analyze how* the opening *stanza* of Robert Frost's "The Road Not Taken" *structures* the rhythm and meter for the poem and how the *themes* introduced by the speaker *develop* over the course *of the text*. [RL.6.5]

Informational Texts: English Language Arts

Adams, John. "Letter on Thomas Jefferson." *Adams on Adams.* Edited by Paul M. Zall. Lexington: University Press of Kentucky, 2004. (1776)
From Chapter 6: "Declaring Independence 1775–1776"

Mr. Jefferson came into Congress, in June, 1775, and brought with him a reputation for literature, science, science, and a happy talent of composition. Writings of his were handed about, remarkable for the peculiar felicity of expression. Though a silent member in Congress, he was so prompt, frank, explicit, and decisive upon committees and in conversation, not even Samuel Adams was more so, that he soon seized upon my heart; and upon this occasion I gave him my vote, and did all in my power to procure the votes of others. I think he had one more vote than any other, and that placed him at the head of the committee. I had the next highest number, and that placed me second. The committee met, discussed the subject, and then appointed Mr. Jefferson and me to make the draught, I suppose because we were the two first on the list.

The subcommittee met. Jefferson proposed to me to make the draft. I said, 'I will not.'

'You should do it.'

'Oh! no.'

'Why will you not? You ought to do it.'

'I will not.'

'Why?'

'Reasons enough.'

'What can be your reasons?'

'Reason first, you are a Virginian, and a Virginian ought to appear at the head of this business. Reason second, I am obnoxious, suspected, and unpopular. You are very much otherwise. Reason third, you can write ten times better than I can.'

'Well,' said Jefferson, 'if you are decided, I will do as well as I can.'

'Very well. When you have drawn it up, we will have a meeting.'

Media Text
Adams Family Papers: An Electronic Archive, hosted by the Massachusetts Historical Society, includes transcriptions of letters between John and Abigail Adams as well as John Adams's diary and autobiography: http://www.masshist.org/digitaladams/aea/index.html

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Douglass, Frederick. *Narrative of the Life of Frederick Douglass an American Slave, Written by Himself*. Boston: Anti-Slavery Office, 1845. (1845)

The plan which I adopted, and the one by which I was most successful, was that of making friends of all the little white boys whom I met in the street. As many of these as I could, I converted into teachers. With their kindly aid, obtained at different times and in different places, I finally succeeded in learning to read. When I was sent of errands, I always took my book with me, and by going one part of my errand quickly, I found time to get a lesson before my return. I used also to carry bread with me, enough of which was always in the house, and to which I was always welcome; for I was much better off in this regard than many of the poor white children in our neighborhood. This bread I used to bestow upon the hungry little urchins, who, in return, would give me that more valuable bread of knowledge. I am strongly tempted to give the names of two or three of those little boys, as a testimonial of the gratitude and affection I bear them; but prudence forbids;—not that it would injure me, but it might embarrass them; for it is almost an unpardonable offence to teach slaves to read in this Christian country. It is enough to say of the dear little fellows, that they lived on Philpot Street, very near Durgin and Bailey's ship-yard. I used to talk this matter of slavery over with them. I would sometimes say to them, I wished I could be as free as they would be when they got to be men. "You will be free as soon as you are twenty-one, but I am a slave for life! Have not I as good a right to be free as you have?" These words used to trouble them; they would express for me the liveliest sympathy, and console me with the hope that something would occur by which I might be free.

I was now about twelve years old, and the thought of being a slave for life began to bear heavily upon my heart. Just about this time, I got hold of a book entitled "The Columbian Orator." Every opportunity I got, I used to read this book. Among much of other interesting matter, I found in it a dialogue between a master and his slave. The slave was represented as having run away from his master three times. The dialogue represented the conversation which took place between them, when the slave was retaken the third time. In this dialogue, the whole argument in behalf of slavery was brought forward by the master, all of which was disposed of by the slave. The slave was made to say some very smart as well as impressive things in reply to his master—things which had the desired though unexpected effect; for the conversation resulted in the voluntary emancipation of the slave on the part of the master.

In the same book, I met with one of Sheridan's mighty speeches on and in behalf of Catholic emancipation. These were choice documents to me. I read them over and over again with unabated interest. They gave tongue to interesting thoughts of my own soul, which had frequently flashed through my mind, and died away for want of utterance. The moral which I gained from the dialogue was the power of truth over the conscience of even a slaveholder. What I got from Sheridan was a bold denunciation of slavery, and a powerful vindication of human rights. The reading of these documents enabled me to utter my thoughts, and to meet the arguments brought forward to sustain slavery; but while they relieved me of one difficulty, they brought on another even more painful than the one of which I was relieved. The more I read, the more I was led to abhor and detest my enslavers. I could regard them in no other light than a band of successful robbers, who had left their homes, and gone to Africa, and stolen us from our homes, and in a strange land reduced us to slavery. I loathed them as being the meanest as well as the most wicked of men. As I read and contemplated the subject, behold! that very discontentment which Master Hugh had predicted would follow my learning to read had already come, to torment and sting my soul to unutterable anguish. As I writhed under it, I would at times feel that learning to read had been a curse rather than a blessing. It had given me a view of my wretched condition, without the remedy. It opened my eyes to the horrible pit, but to no ladder upon which to get out. In moments of agony, I envied my fellow-slaves for their stupidity. I have often wished myself a beast. I preferred the condition of the meanest reptile to my own. Any thing, no matter what, to get rid of thinking! It was this everlasting thinking of my condition that tormented me. There was no getting rid of it. It was pressed upon me by every object within sight or hearing, animate or inanimate. The silver trump of freedom had roused my soul to eternal wakefulness. Freedom now appeared, to disappear no more forever. It was heard in every sound, and seen in every thing. It was ever present to torment me with a sense of my wretched condition. I saw nothing without seeing it, I heard nothing without hearing it, and felt nothing without feeling it. It looked from every star, it smiled in every calm, breathed in every wind, and moved in every storm.

Churchill, Winston. "Blood, Toil, Tears and Sweat: Address to Parliament on May 13th, 1940." ***Lend Me Your Ears: Great Speeches in History, 3rd Edition*****. Edited by William Safire. New York: W. W. Norton, 2004. (1940)**
From "Winston Churchill Braces Britons to Their Task"

I say to the House as I said to ministers who have joined this government, I have nothing to offer but blood, toil, tears, and sweat. We have before us an ordeal of the most grievous kind. We have before us many, many months of struggle and suffering.

You ask, what is our policy? I say it is to wage war by land, sea, and air. War with all our might and with all the strength God has given us, and to wage war against a monstrous tyranny never surpassed in the dark and lamentable catalogue of human crime. That is our policy.

You ask, what is our aim? I can answer in one word. It is victory. Victory at all costs - Victory in spite of all terrors - Victory, however long and hard the road may be, for without victory there is no survival.

I take up my task in buoyancy and hope. I feel sure that our cause will not be suffered to fail among men. I feel entitled at this juncture, at this time, to claim the aid of all and to say, "Come then, let us go forward together with our united strength."

Petry, Ann. *Harriet Tubman: Conductor on the Underground Railroad*. New York: HarperCollins, 1983. (1955)
From Chapter 3: "Six Years Old"

By the time Harriet Ross was six years old, she had unconsciously absorbed many kinds of knowledge, almost with the air she breathed. She could not, for example, have said how or at what moment she knew that she was a slave.

She knew that her brothers and sisters, her father and mother, and all the other people who lived in the quarter, men, women and children were slaves.

She had been taught to say, "Yes, Missus," "No, Missus," to white women, "Yes, Mas'r," "No, Mas'r" to white men. Or, "Yes, sah," "No, sah."

At the same time someone had taught her where to look for the North Star, the star that stayed constant, not rising in the east and setting in the west as the other stars appeared to do; and told her that anyone walking toward the North could use that star as a guide.

She knew about fear, too. Sometimes at night, or during the day, she heard the furious galloping of horses, not just one horse, several horses, thud of the hoofbeats along the road, jingle of harness. She saw the grown folks freeze into stillness, not moving, scarcely breathing, while they listened. She could not remember who first told her that those furious hoofbeats meant that patrollers were going in pursuit of a runaway. Only the slaves said patterollers, whispering the word.

Steinbeck, John. *Travels with Charley: In Search of America*. New York: Penguin, 1997. (1962)
From pages 27–28

I soon discovered that if a wayfaring stranger wishes to eavesdrop on a local population the places for him to slip in and hold his peace are bars and churches. But some New England towns don't have bars, and church is only on Sunday. A good alternative is the roadside restaurant where men gather for breakfast before going to work or going hunting. To find these places inhabited one must get up very early. And there is a drawback even to this. Early-rising men not only do not talk much to strangers, they barely talk to one another. Breakfast conversation is limited to a series of laconic grunts. The natural New England taciturnity reaches its glorious perfection at breakfast.

[…]

I am not normally a breakfast eater, but here I had to be or I wouldn't see anybody unless I stopped for gas. At the first lighted roadside restaurant I pulled in and took my seat at a counter. The customers were folded over their coffee cups like ferns. A normal conversation is as follows:

> WAITRESS: "Same?"
>
> CUSTOMER: "Yep."
>
> WAITRESS: "Cold enough for you?"
>
> CUSTOMER: "Yep."
>
> (Ten minutes.)
>
> WAITRESS: "Refill?"
>
> CUSTOMER: "Yep."

This is a really talkative customer.

Sample Performance Tasks for Informational Texts: English Language Arts

- Students *determine* the *point of view* of John Adams in his "Letter on Thomas Jefferson" and *analyze how* he *distinguishes* his position *from* an alternative approach articulated by Thomas Jefferson. [RI.7.6]

- Students *provide an objective summary of* Frederick Douglass's Narrative. They *analyze* how *the central idea* regarding the evils of slavery is *conveyed through supporting ideas* and *developed over the course of the text*. [RI.8.2]
- Students *trace* the line of *argument* in Winston Churchill's "Blood, Toil, Tears and Sweat" address to Parliament and *evaluate* his *specific claims* and opinions *in the text*, *distinguishing* which *claims* are *supported by* facts, *reasons, and evidence*, and which *are not*. [RI.6.8]
- Students *analyze in detail how* the early years of Harriet Tubman (as related by author Ann Petry) contributed to her later becoming a conductor on the Underground Railroad, attending to how the author *introduces, illustrates, and elaborates* upon the events in Tubman's life. [RI.6.3]
- Students *determine* the *figurative and connotative meanings* of *words* such as *wayfaring, laconic*, and *taciturnity* as well as of *phrases* such as *hold his peace* in John Steinbeck's *Travels with Charley: In Search of America*. They *analyze* how Steinbeck's *specific word choices* and diction impact the *meaning and tone* of his writing and the characterization of the individuals and places he describes. [RI.7.4]

Informational Texts: History/Social Studies

United States. Preamble and First Amendment to the United States Constitution. (1787, 1791)

Preamble

We, the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution of the United States of America.

Amendment I

Congress shall make no law respecting the establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of people peaceably to assemble, and to petition the Government for a redress of grievances.

Lord, Walter. *A Night to Remember.* New York: Henry Holt, 1955. (1955)

Isaacson, Phillip. *A Short Walk through the Pyramids and through the World of Art*. New York: Knopf, 1993. (1993)
From Chapter 1

At Giza, a few miles north of Saqqara, sit three great pyramids, each named for the king – or Pharaoh – during whose reign it was built. No other buildings are so well known, yet the first sight of them sitting in their field is breathtaking. When you walk among them, you walk in a place made for giants. They seem too large to have been made by human beings, too perfect to have been formed by nature, and when the sun is overhead, not solid enough to be attached to the sand. In the minutes before sunrise, they are the color of faded roses, and when the last rays of the desert sun touch them, they turn to amber. But whatever the light, their broad proportions, the beauty of the limestone, and the care with which it is fitted into place create three unforgettable works of art.

What do we learn about art when we look at the pyramids?

First, when all of the things that go into a work – its components – complement one another, they create and object that has a certain spirit, and we can call that spirit harmony. The pyramids are harmonious because limestone, a warm, quiet material, is a cordial companion for a simple, logical, pleasing shape. In fact, the stone and the shape are so comfortable with each other that the pyramids seem inevitable – as though they were bound to have the form, color, and texture that they do have.

Media Text
National Geographic mini-site on the pyramids, which includes diagrams, pictures, and a time line:
http://www.nationalgeographic.com/pyramids/pyramids.html

Murphy, Jim. *The Great Fire*. New York: Scholastic, 1995. (1995)
From Chapter 1: "A City Ready to Burn"

Chicago in 1871 was a city ready to burn. The city boasted having 59,500 buildings, many of them—such as the Courthouse and the Tribune Building—large and ornately decorated. The trouble was that about two-thirds of all these structures were made entirely of wood. Many of the remaining buildings (even the ones proclaimed to be "fireproof") looked solid, but were actually jerrybuilt affairs; the stone or brick exteriors hid wooden frames and floors, all topped with highly flammable tar or shingle roofs. It was also a common practice to disguise wood as another kind of building material. The fancy exterior decorations on just about every building were carved from wood, then painted to look like stone or marble. Most churches had steeples that appeared to be solid from the street, but a closer inspection would reveal a wooden framework covered with cleverly painted copper or tin.

The situation was worst in the middle-class and poorer districts. Lot sizes were small, and owners usually filled them up with cottages, barns, sheds, and outhouses—all made of fast-burning wood, naturally. Because both Patrick and Catherine O'Leary worked, they were able to put a large addition on their cottage despite a lot size of just 25 by 100 feet. Interspersed in these residential areas were a variety of businesses—paint factories, lumberyards, distilleries, gasworks, mills, furniture manufacturers, warehouses, and coal distributors.

Wealthier districts were by no means free of fire hazards. Stately stone and brick homes had wood interiors, and stood side by side with smaller wood-frame houses. Wooden stables and other storage buildings were common, and trees lined the streets and filled the yards.

Media Text
The Great Chicago Fire, an exhibit created by the Chicago Historical Society that includes essays and images:
http://www.chicagohs.org/fire/intro/gcf-index.html

Greenberg, Jan, and Sandra Jordan. *Vincent Van Gogh: Portrait of an Artist*. New York: Random House, 2001. (2001)
From Chapter 1: "A Brabant Boy 1853–75"

I have nature and art and poetry, if that is not enough what is?
—Letter to Theo, January 1874

On March 30, 1853, the handsome, soberly dressed Reverend Theodorus van Gogh entered the ancient town hall of Groot-Zundert, in the Brabant, a province of the Netherlands. He opened the birth register to number twenty-nine, where exactly one year earlier he had sadly written "Vincent Willem van Gogh, stillborn." Beside the inscription he wrote again "Vincent Willem van Gogh," the name of his new, healthy son, who was sleeping soundly next to his mother in the tiny parsonage across the square. The baby's arrival was an answered prayer for the still-grieving family.

The first Vincent lay buried in a tiny grave by the door of the church where Pastor van Gogh preached. The Vincent who lived grew to be a sturdy redheaded boy. Every Sunday on his way to church, young Vincent would pass the headstone carved with the name he shared. Did he feel as if his dead brother where the rightful Vincent, the one who would remain perfect in his parents' hearts, and that he was merely an unsatisfactory replacement? That might have been one of the reasons he spent so much of his life feeling like a lonely outsider, as if he didn't fit anywhere in the world.

Despite his dramatic beginning, Vincent had an ordinary childhood, giving no hint of the painter he would become. The small parsonage, with an upstairs just two windows wide under a slanting roof, quickly grew crowded. By the time he was six he had two sisters, Anna and Elizabeth, and one brother, Theo, whose gentle nature made him their mother's favorite.

Media Text
The Van Gogh Gallery, a commercial Web resource with links to Van Gogh's art and information about his life:
http://www.vangoghgallery.com/

Partridge, Elizabeth. *This Land Was Made for You and Me: The Life and Songs of Woody Guthrie*. New York: Viking, 2002. (2002)
From the Preface: "Ramblin 'Round"

"I hate a song that makes you think that you're not any good. I hate a song that makes you think you are just born to lose. I am out to fight those kind of songs to my very last breath of air and my last drop of blood."

Woody Guthrie could never cure himself of wandering off. One minute he'd be there, the next he'd be gone, vanishing without a word to anyone, abandoning those he loved best. He'd throw on a few extra shirts, one on top of the other, sling his guitar over his shoulder, and hit the road. He'd stick out his thumb and hitchhike, swing onto moving freight trains, and hunker down with other traveling men in flophouses, hobo jungles, and Hoovervilles across Depression America.

He moved restlessly from state to state, soaking up some songs: work songs, mountain and cowboy songs, sea chanteys, songs from the southern chain gangs. He added them to the dozens he already knew from his childhood until he was bursting with American folk songs. Playing the guitar and singing, he started making up new ones: hard-bitten, rough-edged songs that told it like it was, full of anger and hardship and hope and love. Woody said the best songs came to him when he was walking down a road. He always had fifteen or twenty songs running around in his mind, just waiting to be put together. Sometimes he knew the words, but not the melody. Usually he'd borrow a tune that was already well known—the simpler the better. As he walked along, he tried to catch a good, easy song that people could sing the first time they heard it, remember, and sing again later.

Monk, Linda R. *Words We Live By: Your Annotated Guide to the Constitution.* New York: Hyperion, 2003. (2003)
From "We the People … "

The first three word of the Constitution are the most important. They clearly state that the people—not the king, not the legislature, not the courts—are the true rulers in American government. This principle is known as popular sovereignty.

But who are "We the People"? This question troubled the nation for centuries. As Lucy Stone, one of America's first advocates for women's rights, asked in 1853, "'We the People'? Which 'We the People'? The women were not included." Neither were white males who did not own property, American Indians, or African Americans—slave or free. Justice Thurgood Marshall, the first African American on the Supreme Court, described the limitation:

For a sense of the evolving nature of the Constitution, we need look no further than the first three words of the document's preamble: 'We the People.' When the Founding Fathers used this phrase in 1787, they did not have in mind the majority of America's citizens . . . The men who gathered in Philadelphia in 1787 could not . . . have imagined, nor would they have accepted, that the document they were drafting would one day be construed by a Supreme court to which had been appointed a woman and the descendant of an African slave.

Through the Amendment process, more and more Americans were eventually included in the Constitution's definition of "We the People." After the Civil War, the Thirteenth Amendment ended slavery, the Fourteenth Amendment gave African Americans citizenship, and the Fifteenth Amendment gave black men the vote. In 1920, the Nineteenth Amendment gave women the right to vote nationwide, and in 1971, the Twenty-sixth Amendment extended suffrage to eighteen-year-olds.

Freedman, Russell. *Freedom Walkers: The Story of the Montgomery Bus Boycott*. New York: Holiday House, 2006. (2006)
From the Introduction: "Why They Walked"

Not so long ago in Montgomery, Alabama, the color of your skin determined where you could sit on a public bus. If you happened to be an African American, you had to sit in the back of the bus, even if there were empty seats up front.

Back then, racial segregation was the rule throughout the American South. Strict laws—called "Jim Crow" laws—enforced a system of white supremacy that discriminated against blacks and kept them in their place as second-class citizens.

People were separated by race from the moment they were born in segregated hospitals until the day they were buried in segregated cemeteries. Blacks and whites did not attend the same schools, worship in the same churches, eat in the same restaurants, sleep in the same hotels, drink from the same water fountains, or sit together in the same movie theaters.

In Montgomery, it was against the law for a white person and a Negro to play checkers on public property or ride together in a taxi.

Most southern blacks were denied their right to vote. The biggest obstacle was the poll tax, a special tax that was required of all voters but was too costly for many blacks and for poor whites as well. Voters also had to pass a literacy test to prove that they could read, write, and understand the U.S. Constitution. These tests were often rigged to disqualify even highly educated blacks. Those who overcame the obstacles and insisted on registering as voters faced threats, harassment. And even physical violence. As a result, African Americans in the South could not express their grievances in the voting booth, which for the most part, was closed to them. But there were other ways to protest, and one day a half century ago, the black citizens in Montgomery rose up in protest and united to demand their rights—by walking peacefully.

It all started on a bus.

Informational Texts: Science, Mathematics, and Technical Subjects

Macaulay, David. *Cathedral: The Story of Its Construction*. Boston: Houghton Mifflin, 1973. (1973)
From pages 51–56

In order to construct the vaulted ceiling a wooden scaffold was erected connecting the two walls of the choir one hundred and thirty feet above ground. On the scaffolding wooden centerings like those used for the flying buttresses were installed. They would support the arched stone ribs until the mortar was dry, at which times the ribs could support themselves. The ribs carried the webbing, which was the ceiling itself. The vaults were constructed one bay at a time, a bay being the rectangular area between four piers.

One by one, the cut stones of the ribs, called voussoirs, were hoisted onto the centering and mortared into place by the masons. Finally the keystone was lowered into place to lock the ribs together at the crown, the highest point of the arch.

The carpenters then installed pieces of wood, called lagging, that spanned the space between two centerings. On top of the lagging the masons laid one course or layer of webbing stones. The lagging supported the course of webbing until the mortar was dry. The webbing was constructed of the lightest possible stone to lessen the weight on the ribs. Two teams, each with a mason and a carpenter, worked simultaneously from both sides of the vault – installing first the lagging, then the webbing. When they met in the center the vault was complete. The vaulting over the aisle was constructed in the same way and at the same time.

When the mortar in the webbing had set, a four-inch layer of concrete was poured over the entire vault to prevent any cracking between the stones. Once the concrete had set, the lagging was removed and the centering was lowered and moved onto the scaffolding of the next bay. The procedure was repeated until eventually the entire choir was vaulted.

Mackay, Donald. *The Building of Manhattan.* New York: Harper & Row, 1987. (1987)

Media Text
Manhattan on the Web: History, a Web portal hosted by the New York Public Library:
http://legacy.www.nypl.org/branch/manhattan/index2.cfm?Trg=1&d1=865

Enzensberger, Hans Magnus. *The Number Devil: A Mathematical Adventure.* Illustrated by Rotraut Susanne Berner. Translated by Michael Henry Heim. New York: Henry Holt, 1998. (1998)
From "The First Night"

. . . "I see," said the number devil with a wry smile. "I have nothing against your Mr. Bockel, but that kind of problem has nothing whatever to do with what I'm interested in. Do you want to know something? Most genuine mathematicians are bad at sums. Besides, they have no time to waste on them. That's what pocket calculators are for. I assume you have one.

"Sure, but we're not allowed to use them in school."

"I see," said the number devil. "That's all right. There's nothing wrong with a little addition and subtraction. You never know when your battery will die on you. But mathematics, my boy, that's something else again!" . . .

. . . "The thing that makes numbers so devilish is precisely that they are simple. And you don't need a calculator to prove it. You need one thing and one thing only: one. With one—I am speaking of the numeral of course—you can do almost anything. If you are afraid of large numbers—let's say five million seven hundred and twenty-three thousand eight hundred and twelve—all you have to do is start with

1 + 1
1+1+1
1+1+1+1
1+1+1+1+1

. . . and go on until you come to five million etcetera. You can't tell me that's too complicated for you, can you?

Peterson, Ivars and Nancy Henderson. *Math Trek: Adventures in the Math Zone*. San Francisco: Jossey-Bass, 2000. (2000)
From "Trek 7, The Fractal Pond Race"

From the meanderings of a pond's edge to the branching of trees and the intricate forms of snowflakes, shapes in nature are often more complicated than geometrical shapes such as circles, spheres, angles, cones, rectangles, and cubes. Benoit Mandelbrot, a mathematics professor at Yale University and an IBM fellow, was the first person to recognize how amazingly common this type of structure is in nature. In 1975, he coined the term fractal for shapes that repeat themselves within an object. The word fractal comes from the Latin term for "broken."

In 1904, long before Mandelbrot conceived of fractals, Swedish mathematician Helge von Koch created and intriguing but puzzling curve. It zigzags in such an odd pattern that it seems impossible to start at one point and follow the curve to reach another point.

Like many figures now known to be fractals, Koch's curve is easy to generate by starting with a simple figure and turning it into an increasingly crinkly form.

What to Do

1. Draw an equilateral triangle with each side measuring 9 centimeters. (Remember, each angle of an equilateral triangle measures 60˚.)

2. Divide each 9-centimeter side into three parts, each measuring three centimeters. At the middle of each side, add an equilateral triangle one third the size of the original, facing outward. Because each side of the original triangle is 9 centimeters, the new triangles will have 3-centimeter sides. When you examine the outer edge of your diagram you should see a six-pointed star made up of 12 line segments.

3. At the middle of each segment of the star, add a triangle one ninth the side of the original triangle. The new triangles will have sides 1 centimeter in length so divide each 3-centimeter segment into thirds, and use the middle third to form a new triangle.

4. Going one step farther, you create a shape that begins to resemble a snowflake. If you were to continue the process by endlessly adding smaller and smaller triangles to every new side, you would produce the Koch snowflake curve. Between any two points, the snowflake would have an infinite number of zigzags.

Katz, John. *Geeks: How Two Lost Boys Rode the Internet out of Idaho*. New York: Broadway Books, 2001. (2001)

Jesse and Eric lived in a cave-an airless two-bedroom apartment in a dank stucco-and-brick complex on the outskirts of Caldwell. Two doors down, chickens paraded around the street.

The apartment itself was dominated by two computers that sat across from the front door like twin shrines. Everything else-the piles of dirty laundry, the opened Doritos bags, the empty cans of generic soda pop, two ratty old chairs, and a moldering beanbag chair-was dispensable, an afterthought, props.

Jesse's computer was a Pentium 11 300, Asus P2B (Intel BX chipset) motherboard; a Matrix Milleniurn II AGP; 160 MB SDRAM with a 15.5 GB total hard-drive space; a 4X CD-recorder; 24X CD-ROM; a 17-inch Micron monitor. Plus a scanner and printer. A well-thumbed paperback-Katherine Dunn's novel Geek Love-served as his mousepad.

Eric's computer: an AMD K-6 233 with a generic motherboard; an S3 video card, a 15-inch monitor; a 2.5 GB hard drive with 36 MB SDRAM. Jesse wangled the parts for both from work.

They stashed their bikes and then Jesse blasted in through the door, which was always left open since he can never hang on to keys, and went right to his PC, which was always on. He yelled a question to Eric about the new operating system. "We change them like cartons of milk," he explained. At the moment, he had NT 5, NT 4, Work Station, Windows 98, and he and Eric had begun fooling around with Linux, the complex, open-source software system rapidly spreading across the world.

Petroski, Henry. "The Evolution of the Grocery Bag." *American Scholar* 72.4 (Autumn 2003). (2003)

That much-reviled bottleneck known as the American supermarket checkout lane would be an even greater exercise in frustration were it not for several technological advances. The Universal Product Code and the decoding laser scanner, introduced in 1974, tally a shopper's groceries far more quickly and accurately than the old method of inputting each purchase manually into a cash register. But beeping a large order past the scanner would have led only to a faster pileup of cans and boxes down the line, where the bagger works, had it not been for the introduction, more than a century earlier, of an even greater technological masterpiece: the square-bottomed paper bag.

The geometry of paper bags continues to hold a magical appeal for those of us who are fascinated by how ordinary things are designed and made. Originally, grocery bags were created on demand by storekeepers, who cut, folded, and pasted sheets of paper, making versatile containers into which purchases could be loaded for carrying home. The first paper bags manufactured commercially are said to have been made in Bristol, England, in the 1840s. In 1852, a "Machine for Making Bags of Paper" was patented in America by Francis Wolle, of Bethlehem, Pennsylvania. According to Wolle's own description of the machine's operation, "pieces of paper of suitable length are given out from a roll of the required width, cut off from the roll and otherwise suitably cut to the required shape, folded, their edges pasted and lapped, and formed into complete and perfect bags." The "perfect bags" produced at the rate of eighteen hundred per hour by Wolle's machine were, of course, not perfect, nor was his machine. The history of design has yet to see the development of a perfect object, though it has seen many satisfactory ones and many substantially improved ones. The concept of comparative improvement is embedded in the paradigm for invention, the better mousetrap. No one is ever likely to lay claim to a "best" mousetrap, for that would preclude the inventor himself from coming up with a still better mousetrap without suffering the embarrassment of having previously declared the search complete. As with the mousetrap, so with the bag.

"Geology." *U*X*L Encyclopedia of Science.* Edited by Rob Nagel. Farmington Hills, Mich.: Gale Cengage Learning, 2007. (2007)

Geology is the scientific study of Earth. Geologists study the planet—its formation, its internal structure, its materials, its chemical and physical processes, and its history. Mountains, valleys, plains, sea floors, minerals, rocks, fossils, and the processes that create and destroy each of these are all the domain of the geologist. Geology is divided into two broad categories of study: physical geology and historical geology.

Physical geology is concerned with the processes occurring on or below the surface of Earth and the materials on which they operate. These processes include volcanic eruptions, landslides, earthquakes, and floods. Materials include rocks, air, seawater, soils, and sediment. Physical geology further divides into more specific branches, each of which deals with its own part of Earth's materials, landforms, and processes. Mineralogy and petrology investigate the composition and origin of minerals and rocks. Volcanologists study lava, rocks, and gases on live, dormant, and extinct volcanoes. Seismologists use instruments to monitor and predict earthquakes and volcanic eruptions.

Historical geology is concerned with the chronology of events, both physical and biological, that have taken place in Earth's history. Paleontologists study fossils (remains of ancient life) for evidence of the evolution of life on Earth. Fossils not only relate evolution, but also speak of the environment in which the organism lived. Corals in rocks at the top of the Grand Canyon in Arizona, for example, show a shallow sea flooded the area around 290 million years ago. In addition, by determining the ages and types of rocks around the world, geologists piece together continental and oceanic history over the past few billion years. Plate tectonics (the study of the movement of the sections of Earth's crust) adds to Earth's story with details of the changing configuration of the continents and oceans.

"Space Probe." *Astronomy & Space: From the Big Bang to the Big Crunch*. Edited by Phillis Engelbert. Farmington Hills, Mich.: Gale Cengage Learning, 2009. (2009)

A space probe is an unpiloted spacecraft that leaves Earth's orbit to explore the Moon, planets, asteroids, comets, or other objects in outer space as directed by onboard computers and/or instructions send from Earth. The purpose of such missions is to make scientific observations, such as taking pictures, measuring atmospheric conditions, and collecting soil samples, and to bring or report the data back to Earth.

Numerous space probes have been launched since the former Soviet Union first fired Luna 1 toward the Moon in 1959. Probes have now visited each of the eight planets in the solar system.

In fact, two probes—Voyager 1 and Voyager 2—are approaching the edge of the solar system, for their eventual trip into the interstellar medium. By January 2008 Voyager 1 was about 9.4 billion miles (15.2 billion kilometers) from the Sun and in May 2008 it entered the heliosheath (the boundary where the solar wind is thought to end), which is the area that roughly divides the solar system from interstellar space. Voyager 2 is not quite as far as its sister probe. Voyager 1 is expected to be the first human space probe to leave the solar system. Both Voyager probes are still transmitting signals back to Earth. They are expected to help gather further information as to the true boundary of the solar system.

The earliest probes traveled to the closest extraterrestrial target, the Moon. The former Soviet Union launched a series of Luna probes that provided humans with first pictures of the far side of the Moon. In 1966, Luna 9 made the first successful landing on the Moon and sent back television footage from the Moon's surface.

The National Aeronautics and Space Administration (NASA) initially made several unsuccessful attempts to send a probe to the Moon. Not until 1964 did a Ranger probe reach its mark and send back thousands of pictures. Then, a few months after Luna 9, NASA landed Surveyor on the Moon.

In the meantime, NASA was moving ahead with the first series of planetary probes, called Mariner. Mariner 2 first reached the planet Venus in 1962. Later Mariner spacecrafts flew by Mars in 1964 and 1969, providing detailed images of that planet. In 1971, Mariner 9 became the first spacecraft to orbit Mars. During its year in orbit, Mariner 9's two television cameras transmitted footage of an intense Martian dust storm, as well as images of 90 percent of the planet's surface and the two Martian natural satellites (moons).

Encounters were also made with Mars in 1976 by the U.S. probes Viking 1 and Viking 2. Each Viking spacecraft consisted of both an orbiter and a lander. Viking 1 made the first successful soft landing on Mars on July 20, 1976. Soon after, Viking 2 landed on the opposite side of the planet. The Viking orbiters made reports on the Martian weather and photographed almost the entire surface of the planet.

"Elementary Particles." *New Book of Popular Science.* New York: Scholastic, 2010. (2010)

California Invasive Plant Council. Invasive Plant Inventory. http://www.cal-ipc.org/ip/inventory/index.php. 2006–2010. (2010)

The Inventory categorizes plants as High, Moderate, or Limited, reflecting the level of each species' negative ecological impact in California. Other factors, such as economic impact or difficulty of management, are not included in this assessment. It is important to note that even Limited species are invasive and should be of concern to land managers. Although the impact of each plant varies regionally, its rating represents cumulative impacts statewide. Therefore, a plant whose statewide impacts are categorized as Limited may have more severe impacts in a particular region. Conversely, a plant categorized as having a High cumulative impact across California may have very little impact in some regions.

The Inventory Review Committee, Cal-IPC staff, and volunteers drafted assessments for each plant based on the formal criteria system described below. The committee solicited information from land managers across the state to complement the available literature. Assessments were released for public review before the committee finalized them. The 2006 list includes 39 High species, 65 Moderate species, and 89 Limited species. Additional information, including updated observations, will be added to this website periodically, with revisions tracked and dated.

Definitions

The Inventory categorizes "invasive non-native plants that threaten wildlands" according to the definitions below. Plants were evaluated only if they invade California wildlands with native habitat values. The Inventory does not include plants found solely in areas of human-caused disturbance such as roadsides and cultivated agricultural fields.

- Wildlands are public and private lands that support native ecosystems, including some working landscapes such as grazed rangeland and active timberland.
- Non-native plants are species introduced to California after European contact and as a direct or indirect result of human activity.
- Invasive non-native plants that threaten wildlands are plants that 1) are not native to, yet can spread into, wildland ecosystems, and that also 2) displace native species, hybridize with native species, alter biological communities, or alter ecosystem processes.

Sample Performance Tasks for Informational Texts: History/Social Studies & Science, Mathematics, and Technical Subjects

- Students analyze the governmental structure of the United States and *support* their *analysis* by *citing specific textual evidence* from *primary sources* such as the Preamble and First Amendment of the U.S. Constitution as well as secondary sources such as Linda R. Monk's *Words We Live By: Your Annotated Guide to the Constitution*. [RH.6–8.1]
- Students evaluate Jim Murphy's *The Great Fire* to *identify* which *aspects of* the *text* (e.g., *loaded language* and the *inclusion of particular facts*) *reveal* his purpose; presenting Chicago as a city that was "ready to burn." [RH.6–8.6]
- Students *describe how* Russell Freedman in his book *Freedom Walkers: The Story of the Montgomery Bus Boycott* integrates and *presents information* both *sequentially* and *causally* to explain how the civil rights movement began. [RH.6–8.5]
- Students *integrate* the *quantitative or technical information expressed* in the *text* of David Macaulay's *Cathedral: The Story of Its Construction* with the information conveyed by the *diagrams* and *models* Macaulay *provides*, developing a deeper understanding of Gothic architecture. [RST.6–8.7]
- Students construct a holistic picture of the history of Manhattan by *comparing and contrasting the information gained from* Donald Mackay's *The Building of Manhattan* with the *multimedia sources* available on the "Manhattan on the Web" portal hosted by the New York Public Library (http://legacy.www.nypl.org/branch/manhattan/index2.cfm?Trg=1&d1=865). [RST.6–8.9]
- Students learn about fractal geometry by reading Ivars Peterson and Nancy Henderson's *Math Trek: Adventures in the Math Zone* and then generate their own fractal geometric structure by *following the multistep procedure* for creating a Koch's curve. [RST.6–8.3]

Grades 9–10 Text Exemplars

Stories

Homer. *The Odyssey.* Translated by Robert Fagles. New York: Viking, 1996. (8th century BCE)
From Book One

Sing to me of the man, Muse, the man of twists and turns
driven time and again off course, once he had plundered
the hallowed heights of Troy.
Many cities of men he saw and learned their minds,
many pains he suffered, heartsick on the open sea,
fighting to save his life and bring his comrades home.
But he could not save them from disaster, hard as he strove—
the recklessness of their own ways destroyed them all,
the blind fools, they devoured the cattle of the Sun
and the Sungod blotted out the day of their return.
Launch out on his story, Muse, daughter of Zeus.
Start from where you will—sing for our time too.
By now,
all the survivors, all who avoided headlong death
were safe at home, escaped the wars and waves.
But one man alone...
his heart set on his wife and his return—Calypso,
the bewitching nymph, the lustrous goddess, held him back,
deep in her arching caverns, craving him for a husband.
But then, when the wheeling seasons brought the year around.
That year spun out by the gods when he should reach his home,
Ithaca—though not even there would he be free of trials,
even among his loved ones—then every god took pity,
all except Poseidon. He raged on, seething against
the great Odysseus till he reached his native land.

Ovid. *Metamorphoses*. Translated by A. S. Kline. Ann Arbor: Borders Classics, 2004 (AD 8).
From "Daphne"

'Wait nymph, daughter of Peneus, I beg you! I who am chasing you am not your enemy. Nymph, Wait! This is the way a sheep runs from the wolf, a deer from the mountain lion, and a dove with fluttering wings flies from the eagle: everything flies from its foes, but it is love that is driving me to follow you! Pity me! I am afraid you might fall headlong or thorns undeservedly scar your legs and I be a cause of grief to you! These are rough places you run through. Slow down, I ask you, check your flight, and I too will slow. At least enquire whom it is you have charmed. I am no mountain man, no shepherd, no rough guardian of the herds and flocks. Rash girl, you do not know, you cannot realise, who you run from, and so you run. Delphi's lands are mine, Claros and Tenedos, and Patara acknowledges me king. Jupiter is my father. Through me what was, what is, and what will be, are revealed. Through me strings sound in harmony, to song. My aim is certain, but an arrow truer than mine, has wounded my free heart! The whole world calls me the bringer of aid; medicine is my invention; my power is in herbs. But love cannot be healed by any herb, nor can the arts that cure others cure their lord!'

He would have said more as timid Peneïs ran, still lovely to see, leaving him with his words unfinished. The winds bared her body, the opposing breezes in her way fluttered her clothes, and the light airs threw her streaming hair behind her, her beauty enhanced by flight. But the young god could no longer waste time on further blandishments, urged on by Amor, he ran on at full speed. Like a hound of Gaul starting a hare in an empty field, that heads for its prey, she for safety: he, seeming about to clutch her, thinks now, or now, he has her fast, grazing her heels with his outstretched jaws, while she uncertain whether she is already caught, escaping his bite, spurts from the muzzle touching her. So the virgin and the god: he driven by desire, she by fear. He ran faster, Amor giving him wings, and allowed her no rest, hung on her fleeing shoulders, breathed on the hair flying round her neck. Her strength was gone, she grew pale, overcome by the effort of her rapid flight, and seeing Peneus's waters near cried out 'Help me father! If your streams have divine powers change me, destroy this beauty that pleases too well!' Her prayer was scarcely done when a heavy numbness seized her limbs, thin bark closed over her breast, her hair turned into leaves, her arms into branches, her feet so swift a moment ago stuck fast in slow-growing roots, her face was lost in the canopy. Only her shining beauty was left.

Even like this Phoebus loved her and, placing his hand against the trunk, he felt her heart still quivering under the new bark. He clasped the branches as if they were parts of human arms, and kissed the wood. But even the wood shrank from his kisses, and the god said 'Since you cannot be my bride, you must be my tree! Laurel, with you my hair will be wreathed, with you my lyre, with you my quiver. You will go with the Roman generals when joyful voices acclaim their triumph, and the Capitol witnesses their long processions. You will stand outside Augustus's doorposts, a faithful guardian, and keep watch over the crown of oak between them. And just as my head with its un-cropped hair is always young, so you also will wear the beauty of undying leaves.' Paean had done: the laurel bowed her newly made branches, and seemed to shake her leafy crown like a head giving consent.

Gogol, Nikolai. "The Nose." Translated by Ronald Wilks. *Diary of a Madman, and Other Stories*. New York: Penguin, 1972. (1836)

An extraordinarily strange thing happened in St. Petersburg on 25 March. Ivan Yakovlevich, a barber who lived on Voznesensky Avenue (his surname has got lost and all that his shop-front signboard shows is a gentleman with a lathered cheek and the inscription 'We also let blood') woke up rather early one morning and smelt hot bread. As he sat up in bed he saw his wife, who was a quite respectable lady and a great coffee-drinker, taking some freshly baked rolls out of the oven.

'I don't want any coffee today, Praskovya Osipovna,' said Ivan Yakovlevich. 'I'll make do with some hot rolls and onion instead.' (Here I must explain that Ivan Yakovlevich would really have liked to have had some coffee as well, but knew it was quite out of the question to expect both coffee and rolls, since Praskovya Osipovna did not take very kindly to these whims of his.) 'Let the old fool have his bread, I don't mind,' she thought. 'That means extra coffee for me!' And she threw a roll on to the table.

Ivan pulled his frock-coat over his nightshirt for decency's sake, sat down at the table, poured out some salt, peeled two onions, took a knife and with a determined expression on his face started cutting one of the rolls.

When he had sliced the roll in two, he peered into the middle and was amazed to see something white there. Ivan carefully picked at it with his knife, and felt it with his finger. 'Quite thick,' he said to himself. 'What on earth can it be?'

He poked two fingers in and pulled out—a nose!

He flopped back in his chair, and began rubbing his eyes and feeling around in the roll again. Yes, it was a nose all right, no mistake about that. And, what's more, it seemed a very familiar nose. His face filled with horror. But this horror was nothing compared with his wife's indignation.

'You beast, whose nose is that you've cut off?' she cried furiously. 'You scoundrel! You drunkard! I'll report it to the police myself, I will. You thief! Come to think of it, I've heard three customers say that when they come in for a shave you start pulling their noses about so much it's a wonder they stay on at all!'

But Ivan felt more dead than alive. He knew that the nose belonged to none other than Collegiate Assessor Kovalyov, whom he shaved on Wednesdays and Sundays.

'Wait a minute, Praskovya! I'll wrap it up in a piece of cloth and dump it in the corner. Let's leave it there for a bit, then I'll try and get rid of it.'

'I don't want to know! Do you think I'm going to let a sawn-off nose lie about in my room … you fathead! All you can do is strop that blasted razor of yours and let everything else go to pot. Layabout! Night-bird! And you expect me to cover up for you with the police! You filthy pig! Blockhead! Get that nose out of here, out! Do what you like with it, but I don't want that thing hanging around here a minute longer!'

Ivan Yakovlevich was absolutely stunned. He thought and thought, but just didn't know what to make of it.

'I'm damned if I know what's happened!' he said at last, scratching the back of his ear. 'I can't say for certain if I came home drunk or not last night. All I know is, it's crazy. After all, bread is baked in an oven, and you don't get noses in bakeries. Can't make head or tail of it! …'

Ivan Yakovlevich lapsed into silence. The thought that the police might search the place, find the nose and afterwards bring a charge against him, very nearly sent him out of his mind. Already he could see that scarlet collar beautifully embroidered with silver, that sword … and he began shaking all over. Finally he put on his scruffy old trousers and shoes and with Praskovya Osipovna's vigorous invective ringing in his ears, wrapped the nose up in a piece of cloth and went out into the street.

All he wanted was to stuff it away somewhere, either hiding it between two curb-stones by someone's front door or else 'accidentally' dropping it and slinking off down a side street. But as luck would have it, he kept bumping into friends, who would insist on asking: 'Where are you off to?' or 'It's a bit early for shaving customers, isn't it?' with the result that he didn't have a chance to get rid of it. Once he did manage to drop it, but a policeman pointed with his halberd and said: 'Pick that up! Can't you see you dropped something!' And Ivan Yakovlevich had to pick it up and hide it in his pocket. Despair gripped him, especially as the streets were getting more and more crowded now as the shops and stalls began to open.

He decided to make his way to St. Isaac's Bridge and see if he could throw the nose into the River Neva without anyone seeing him. But here I am rather at fault for not telling you before something about Ivan Yakovlevich, who in many ways was a man you could respect.

De Voltaire, F. A. M. *Candide, Or The Optimist*. Translated by H. Morley. London: George Routledge and Sons, Ltd., 1888. (1759)

In the country of Westphalia, in the castle of the most noble Baron of Thunder-ten-tronckh, lived a youth whom Nature had endowed with a most sweet disposition. His face was the true index of his mind. He had a solid judgment joined to the most unaffected simplicity; and hence, I presume, he had his name of Candide. The old servants of the house suspected him to have been the son of the Baron's sister, by a very good sort of a gentleman of the neighborhood, whom that young lady refused to marry, because he could produce no more than threescore and eleven quarterings in his arms; the rest of the genealogical tree belonging to the family having been lost through the injuries of time.

The Baron was one of the most powerful lords in Westphalia, for his castle had not only a gate, but even windows, and his great hall was hung with tapestry. He used to hunt with his mastiffs and spaniels instead of greyhounds; his groom served him for huntsman; and the parson of the parish officiated as his grand almoner. He was called "My Lord" by all his people, and he never told a story but everyone laughed at it.

My Lady Baroness, who weighed three hundred and fifty pounds, consequently was a person of no small consideration; and then she did the honors of the house with a dignity that commanded universal respect. Her daughter was about seventeen years of age, fresh-colored, comely, plump, and desirable. The Baron's son seemed to be a youth in every respect worthy of the father he sprung from. Pangloss, the preceptor, was the oracle of the family, and little Candide listened to his instructions with all the simplicity natural to his age and disposition.

Master Pangloss taught the metaphysico-theologo-cosmolo-nigology. He could prove to admiration that there is no effect without a cause; and, that in this best of all possible worlds, the Baron's castle was the most magnificent of all castles, and My Lady the best of all possible baronesses.

"It is demonstrable," said he, "that things cannot be otherwise than as they are; for as all things have been created for some end, they must necessarily be created for the best end. Observe, for instance, the nose is formed for spectacles, therefore we wear spectacles. The legs are visibly designed for stockings, accordingly we wear stockings. Stones were made to be hewn and to construct castles, therefore My Lord has a magnificent castle; for the greatest baron in the province ought to be the best lodged. Swine were intended to be eaten, therefore we eat pork all the year round: and they, who assert that everything is right, do not express themselves correctly; they should say that everything is best."

Candide listened attentively and believed implicitly, for he thought Miss Cunegund excessively handsome, though he never had the courage to tell her so. He concluded that next to the happiness of being Baron of Thunder-ten-tronckh, the next was that of being Miss Cunegund, the next that of seeing her every day, and the last that of hearing the doctrine of Master Pangloss, the greatest philosopher of the whole province, and consequently of the whole world.

One day when Miss Cunegund went to take a walk in a little neighboring wood which was called a park, she saw, through the bushes, the sage Doctor Pangloss giving a lecture in experimental philosophy to her mother's chambermaid, a little brown wench, very pretty, and very tractable.

As Miss Cunegund had a great disposition for the sciences, she observed with the utmost attention the experiments which were repeated before her eyes; she perfectly well understood the force of the doctor's reasoning upon causes and effects. She retired greatly flurried, quite pensive and filled with the desire of knowledge, imagining that she might be a sufficing reason for young Candide, and he for her.

In her way back she happened to meet the young man; she blushed, he blushed also; she wished him a good morning in a flattering tone, he returned the salute, without knowing what he said. The next day, as they were rising from dinner, Cunegund and Candide slipped behind the screen. The miss dropped her handkerchief, the young man picked it up. She innocently took hold of his hand, and he as innocently kissed hers with a warmth, a sensibility, a grace-all very particular; their lips met; their eyes sparkled; their knees trembled; their hands strayed. The Baron chanced to come by; he beheld the cause and effect, and, without hesitation, saluted Candide with some notable kicks on the breech and drove him out of doors. The lovely Miss Cunegund fainted away, and, as soon as she came to herself, the Baroness boxed her ears. Thus a general consternation was spread over this most magnificent and most agreeable of all possible castles.

Turgenev, Ivan. *Fathers and Sons*. Translated by Constance Garnett. New York: Dover, 1998. (1862)

"WELL, Piotr, not in sight yet?" was the question asked on May the 20th, 1859, by a gentleman of a little over forty, in a dusty coat and checked trousers, who came out without his hat on to the low steps of the posting station at S ?. He was addressing his servant, a chubby young fellow, with whitish down on his chin, and little, lack-lustre eyes.

The servant, in whom everything--the turquoise ring in his ear, the streaky hair plastered with grease, and the civility of his movements--indicated a man of the new, unproved generation, glanced with an air of indulgence along the road, and made answer:

"No, sir; not in sight."

"Not in sight?" repeated his master.

"No, sir," responded the man a second time.

His master sighed, and sat down on a little bench. We will introduce him to the reader while he sits, his feet tucked under him, gazing thoughtfully round.

His name was Nikolai Petrovitch Kirsanov. He had twelve miles from the posting station, a fine property of two hundred souls, or, as he expressed it--since he had arranged the division of his land with the peasants, and started a ?farm?--of nearly five thousand acres. His father, a general in the army, who served in 1812, a coarse, half-educated, but not ill-natured man, a typical Russian, had been in harness all his life, first in command of a brigade, and then of a division, and lived constantly in the provinces, where, by virtue of his rank, he played a fairly important part. Nikolai Petrovitch was born in the south of Russia like his elder brother, Pavel, of whom more hereafter. He was educated at home till he was fourteen, surrounded by cheap tutors, free-and-easy but toadying adjutants, and all the usual regimental and staff set. His mother, one of the Kolyazin family, as a girl called Agathe, but as a general's wife Agathokleya Kuzminishna Kirsanov, was one of those military ladies who take their full share of the duties and dignities of office. She wore gorgeous caps and rustling silk dresses; in church she was the first to advance to the cross; she talked a great deal in a loud voice, let her children kiss her hand in the morning, and gave them her blessing at night--in fact, she got everything out of life she could. Nikolai Petrovitch, as a general's son--though so far from being distinguished by courage that he even deserved to be called ?a funk?--was intended, like his brother Pavel, to enter the army; but he broke his leg on the very day when the news of his commission came, and, after being two months in bed, retained a slight limp to the end of his day. His father gave him up as a bad job, and let him go into the civil service. He took him to Petersburg directly he was eighteen, and placed him in the university. His brother happened about the same time to be made an officer in the Guards. The young men started living together in one set of rooms, under the remote supervision of a cousin on their mother's side, Ilya Kolyazin, an official of high rank. Their father returned to his division and his wife, and only rarely sent his sons large sheets of grey paper, scrawled over in a bold clerkly hand. At the bottom of these sheets stood in letters, enclosed carefully in scroll-work, the words, "Piotr Kirsanov, General-Major."

Henry, O. "The Gift of the Magi." *The Best Short Stories of O. Henry*. New York: Modern Library, 1994. (1906)

White fingers and nimble tore at the string and paper. And then an ecstatic scream of joy; and then, alas! a quick feminine change to hysterical tears and wails, necessitating the immediate employment of all the comforting powers of the lord of the flat.

For there lay The Combs—the set of combs, side and back, that Della had worshipped long in a Broadway window. Beautiful combs, pure tortoise shell, with jewelled rims—just the shade to wear in the beautiful vanished hair. They were expensive combs, she knew, and her heart had simply craved and yearned over them without the least hope of possession. And now, they were hers, but the tresses that should have adorned the coveted adornments were gone.

But she hugged them to her bosom, and at length she was able to look up with dim eyes and a smile and say: "My hair grows so fast, Jim!"

And then Della leaped up like a little singed cat and cried, "Oh, oh!"

Jim had not yet seen his beautiful present. She held it out to him eagerly upon her open palm. The dull precious metal seemed to flash with a reflection of her bright and ardent spirit.

"Isn't it a dandy, Jim? I hunted all over town to find it. You'll have to look at the time a hundred times a day now. Give me your watch. I want to see how it looks on it."

Instead of obeying, Jim tumbled down on the couch and put his hands under the back of his head and smiled.

"Dell," said he, "let's put our Christmas presents away and keep 'em a while. They're too nice to use just at present. I sold the watch to get the money to buy your combs. And now suppose you put the chops on."

The magi, as you know, were wise men—wonderfully wise men—who brought gifts to the Babe in the manger. They invented the art of giving Christmas presents. Being wise, their gifts were no doubt wise ones, possibly bearing the privilege of exchange in case of duplication. And here I have lamely related to you the uneventful chronicle of two foolish children in a flat who most unwisely sacrificed for each other the greatest treasures of their house. But in a last word to the wise of these days let it be said that of all who give gifts these two were the wisest. Of all who give and receive gifts, such as they are wisest. Everywhere they are wisest. They are the magi.

Kafka, Franz. *The Metamorphosis.* Translated by Stanley Corngold. New York: Bantam, 1972. (1915)

When Gregor Samsa woke up one morning from unsettling dreams, he found himself changed in his bed into a monstrous vermin. He was lying on his back as hard as armor plate, and when he lifted his head a little, he saw his vaulted brown belly, sectioned by arch-shaped ribs, to whose dome the cover, about to slide off completely, could barely cling. His many legs, pitifully thin compared with the size of the rest of him, were waving helplessly before his eyes.

"What's happened to me?" he thought. It was no dream. His room, a regular human room, only a little on the small side, lay quiet between the four familiar walls. Over the table, on which an unpacked line of fabric samples was all spread out--Samsa was a traveling salesman--hung the picture which he had recently cut out of a glossy magazine and lodged in a pretty gilt frame. It showed a lady done up in a fur hat and a fur boa, sitting upright and raising up against the viewer a heavy fur muff in which her whole forearm had disappeared.

Gregor's eyes then turned to the window, and the overcast weather--he could hear raindrops hitting against the metal window ledge--completely depressed him. "How about going back to sleep for a few minutes and forgetting all this nonsense," he thought, but that was completely impracticable, since he was used to sleeping on his right side and in his present state could not get into that position. No matter how hard he threw himself onto his right side, he always rocked onto his back again. He must have tried it a hundred times, closing his eyes so as not to have to see his squirming legs, and stopped only when he began to feel a slight, dull pain in his side, which he had never felt before.

Steinbeck, John. *The Grapes of Wrath*. New York: Viking, 1967. (1939)
From Chapter 15

The man took off his dark, stained hat and stood with a curious humility in front of the screen. "Could you see your way to sell us a loaf of bread, ma'am?"

Mae said, "This ain't a grocery store. We got bread to make san'widges."

"I know, ma'am." His humility was insistent. "We need bread and there ain't nothin' for quite a piece, they say."

"'F we sell bread we gonna run out." Mae's tone was faltering.

"We're hungry," the man said.

"Whyn't you buy a san'widge? We got nice san'widges, hamburgs."

"We'd sure admire to do that, ma'am. But we can't. We got to make a dime do all of us." And he said embarrassedly, "We ain't got but a little."

Mae said, "You can't get no loaf a bread for a dime. We only got fifteen-cent loafs."

From behind her Al growled, "God Almighty, Mae, give 'em bread."

"We'll run out 'fore the bread truck comes."

"Run out then, goddamn it," said Al. He looked sullenly down at the potato salad he was mixing.

Mae shrugged her plump shoulders and looked to the truck drivers to show them what she was up against.

She held the screen door open and the man came in, bringing a smell of sweat with him. The boys edged behind him and they went immediately to the candy case and stared in—not with craving or with hope or even with desire, but just with a kind of wonder that such things could be. They were alike in size and their faces were alike. One scratched his dusty ankle with the toe nails of his other foot. The other whispered some soft message and then they straightened their arms so that their clenched fists in the overall pockets showed through the thin blue cloth.

Mae opened a drawer and took out a long waxpaper-wrapped loaf. "This here is a fifteen-cent loaf."

The man put his hat back on his head. He answered with inflexible humility, "Won't you—can't you see your way to cut off ten cents' worth?"

Al said snarlingly, "Goddamn it, Mae. Give 'em the loaf."

The man turned toward Al. "No, we want ta buy ten cents' worth of it. We got it figgered awful close, mister, to get to California."

Mae said resignedly, "You can have this for ten cents."

"That'd be robbin' you, ma'am."

"Go ahead—Al says to take it." She pushed the waxpapered loaf across the counter. The man took a deep leather pouch from his rear pocket, untied the strings, and spread it open. It was heavy with silver and with greasy bills.

"May soun' funny to be so tight," he apologized. "We got a thousan' miles to go, an' we don' know if we'll make it." He dug in the pouch with a forefinger, located a dime, and pinched in for it. When he put it down on the counter he had a penny with it. He was about to drop the penny back into the pouch when his eye fell on the boys frozen before the candy counter. He moved slowly down to them. He pointed in the case at big long sticks of striped peppermint. "Is them penny candy, ma'am?"

Mae moved down and looked in. "Which ones?"

"There, them stripy ones."

The little boys raised their eyes to her face and they stopped breathing; their mouths were partly opened, their half-naked bodies were rigid.

"Oh—them. Well, no—them's two for a penny."

"Well, gimme two then, ma'am." He placed the copper cent carefully on the counter. The boys expelled their held breath softly. Mae held the big sticks out.

Bradbury, Ray. *Fahrenheit 451.* New York: Ballantine, 1987. (1953)
From Part 1: "The Hearth and the Salamander"

It was a pleasure to burn.

It was a special pleasure to see things eaten, to see things blackened and changed. With the brass nozzle in his fists, with this great python spitting its venomous kerosene upon the world, the blood pounded in his head, and his hands were the hands of some amazing conductor playing all the symphonies of blazing and burning to bring down the tatters and charcoal ruins of history. With his symbolic helmet numbered 451 on his stolid head, and his eyes all orange flame with the thought of what came next, he flicked the igniter and the house jumped up in a gorging fire that burned the evening sky red and yellow and black. He strode in a swarm of fireflies. He wanted above all, like the old joke, to shove a marshmallow on a stick in the furnace, while the flapping pigeon-winged books died on the porch and lawn of the house. While the books went up in sparkling whirls and blew away on a wind turned dark with burning.

Montag grinned the fierce grin of all men singed and driven back by flame.

He knew that when he returned to the firehouse, he might wink at himself, a minstrel man, burnt-corked, in the mirror. Later, going to sleep, he would feel the fiery smile still gripped by his face muscles, in the dark. It never went away, that smile, it never ever went away, as long as he remembered.

Olsen, Tillie. "I Stand Here Ironing." *Tell Me a Riddle*. New York: Dell, 1956. (1956)
From "I Stand Here Ironing"

I stand here ironing, and what you asked me moves tormented back and forth with the iron.

"I wish you would manage the time to come in and talk with me about your daughter. I'm sure you can help me understand her. She's a youngster who needs help and whom I'm deeply interested in helping."

"Who needs help"...Even if I came, what good would it do? You think because I am her mother I have a key, or that in some way you could use me as a key? She has lived for nineteen years. There is all that like that has happened outside of me, beyond me.

And when is there time to remember, to sift, to weigh, to estimate, to total? I will start and there will be an interruption and I will have to gather it all together again. Or I will become engulfed with all I did or did not do, with what should have been and what cannot be helped.

She was a beautiful baby. The first and only one of our five that was beautiful at birth. You do not guess how new and uneasy her tenancy in her now-loveliness. You did not know her all those years she was thought homely, or see her peering over her baby pictures, making me tell her over and over how beautiful she had been—and would be, I would tell her—and was now, to the seeing eye. But the seeing eyes were few or non-existent. Including mine.

Achebe, Chinua. *Things Fall Apart.* New York: Anchor, 1994. (1958)

Okonkwo was well known throughout the nine villages and even beyond. His fame rested on solid personal achievements. As a young man of eighteen he had brought honor to his village by throwing Amalinze the Cat. Amalinze was the great wrestler who for seven years was unbeaten, from Umuofia to Mbaino. He was called the Cat because his back would never touch the earth. It was this man that Okonkwo threw in a fight which the old men agreed was one of the fiercest since the founder of their town engaged a spirit of the wild for seven days and seven nights.

The drums beat and the flutes sang and the spectators held their breath. Amalinze was a wily craftsman, but Okonkwo was as slippery as a fish in water. Every nerve and every muscle stood out on their arms, on their backs and their thighs, and one almost heard them stretching to breaking point. In the end Okonkwo threw the Cat.

That was many years ago, twenty years or more, and during this time Okonkwo's fame had grown like a bush-fire in the harmattan. He was tall and huge, and his bushy eyebrows and wide nose gave him a very severe look. He breathed heavily, and it was said that, when he slept, his wives and children in their houses could hear him breathe. When he walked, his heels hardly touched the ground and he seemed to walk on springs, as if he was going to pounce on somebody. And he did pounce on people quite often. He had a slight stammer and whenever he was angry and could not get his words out quickly enough, he would use his fists. He had no patience with unsuccessful men. He had had no patience with his father.

Unoka, for that was his father's name, had died ten years ago. In his day he was lazy and improvident and was quite incapable of thinking about tomorrow. If any money came his way, and it seldom did, he immediately bought gourds of palm-wine, called round his neighbors and made merry. He always said that whenever he saw a dead man's mouth he saw the folly of not eating what one had in one's lifetime. Unoka was, of course, a debtor, and he owed every neighbor some money, from a few cowries to quite substantial amounts.

He was tall but very thin and had a slight stoop. He wore a haggard and mournful look except when he was drinking or playing on his flute. He was very good on his flute, and his happiest moments were the two or three moons after the harvest when the village musicians brought down their instruments, hung above the fireplace. Unoka would play with them, his face beaming with blessedness and peace. Sometimes another village would ask Unoka's band and their dancing egwugwu to come and stay with them and teach them their tunes. They would go to such hosts for as long as three or four markets, making music and feasting. Unoka loved the good fare and the good fellowship, and he loved this season of the year, when the rains had stopped and the sun rose every morning with dazzling beauty. And it was not too hot either, because the cold and dry harmattan wind was blowing down from the north. Some years the harmattan was very severe and a dense haze hung on the atmosphere. Old men and children would then sit round log fires, warming their bodies. Unoka loved it all, and he loved the first kites that returned with the dry season, and the children who sang songs of welcome to them. He would remember his own childhood, how he had often wandered around looking for a kite sailing leisurely against the blue sky. As soon as he found one he would sing with his whole being, welcoming it back from its long, long journey, and asking it if it had brought home any lengths of cloth.

Lee, Harper. *To Kill A Mockingbird*. New York: HarperCollins Publishers, 2006. (1960)
From Chapter One

When he was nearly thirteen, my brother Jem got his arm badly broken at the elbow. When it healed, and Jem's fears of never being able to play football were assuaged, he was seldom self-conscious about his injury. His left arm was somewhat shorter than his right; when he stood or walked, the back of his hand was at right angles to his body, his thumb parallel to his thigh. He couldn't have cared less, so long as he could pass and punt.

When enough years had gone by to enable us to look back on them, we sometimes discussed the events leading to his accident. I maintain that the Ewells started it all, but Jem, who was four years my senior, said it started long before that. He said it began the summer Dill came to us, when Dill first gave us the idea of making Boo Radley come out.

I said if he wanted to take a broad view of the thing, it really began with Andrew Jackson. If General Jackson hadn't run the Creeks up the creek, Simon Finch would never have paddled up the Alabama, and where would we be if he hadn't? We were far too old to settle an argument with a fist-fight, so we consulted Atticus. Our father said we were both right.

Shaara, Michael. *The Killer Angels*. New York: Ballantine, 1996. (1975)
From "Longstreet"

". . . have no doubt," Fremantle was saying, "that General Lee shall become the world's foremost authority on military matters when this war is over, which would appear now to be only a matter of days, or at most a few weeks. I suspect all Europe will be turning to him for lessons."

Lessons?

"I have been thinking, I must confess, of setting some brief thoughts to paper," Fremantle announced gravely. "Some brief remarks of my own, appended to an account of this battle, and perhaps others this army has fought. Some notes as to tactics."

Tactics?

"General Lee's various stratagems will be most instructive, most illuminating. I wonder, sir, if I might enlist your aid in this, ah, endeavor. As one most closely concerned? That is, to be brief, may I come to you when in need?"

"Sure," Longstreet said. Tactics? He chuckled. The tactics were simple: find the enemy, fight him. He shook his head, snorting. Fremantle spoke softly, in tones of awe.

"One would not think of General Lee, now that one has met him, now that one has looked him, so to speak, in the eye, as it were, one would not think him, you know, to be such a devious man."

"Devious?" Longstreet swung to stare at him, aghast.

"Oh my word," Fremantle went on devoutly, "but he's a tricky one. The Old Gray Fox, as they say. Charming phrase. American to the hilt."

"Devious?" Longstreet stopped dead in the road. "Devious." He laughed aloud. Fremantle stared an owlish stare.

"Why, Colonel, bless your soul, there ain't a devious bone in Robert Lee's body, don't you know that?"

Tan, Amy. *The Joy Luck Club*. New York: Ballantine, 1989. (1989)
From "Jing-Mei Woo: Two Kinds"

My mother believed you could be anything you wanted to be in America. You could open a restaurant. You could work for the government and get good retirement. You could buy a house with almost no money down. You could become rich. You could become instantly famous.

"Of course you can be prodigy, too," my mother told me when I was nine. "You can be best anything. What does Auntie Lindo know? Her daughter, she is only best tricky."

America was where all my mother's hopes lay. She had come here in 1949 after losing everything in China: her mother and father, her family home, her first husband, and two daughters, twin baby girls. But she never looked back with regret. There were so many ways for things to get better.

We didn't immediately pick the right kind of prodigy. At first my mother thought I could be a Chinese Shirley Temple. We'd watch Shirley's old movies on TV as though they were training films. My mother would poke my arm and say, "Ni kan"—You watch. And I would see Shirley tapping her feet, or singing a sailor song, or pursing her lips into a very round O while saying, "Oh my goodness."

"Ni kan," said my mother as Shirley's eyes flooded with tears. "You already know how. Don't need talent for crying!"

Álvarez, Julia. *In the Time of the Butterflies*. Chapel Hill: Algonquin, 1994. (1994)
From Chapter 1: "Dedé 1994 and circa 1943"

She remembers a clear moonlit night before the future began. They are sitting in the cool darkness under the anacahuita tree in the front yard, in the rockers, telling stories, drinking guanabana juice. Good for the nerves, Mamá always says.

They're all there, Mamá, Papá, Patria-Minerva-Dedé. Bang-bang-bang, their father likes to joke, aiming a pistol finger at each one, as if he were shooting them, not boasting about having sired them, Three girls, each born within a year of each other! And then, nine years later, Maria Teresa, his final desperate attempt at a boy misfiring.

Their father has his slippers on, one foot hooked behind the other. Every once in a while Dedé hears the clink of the rum bottle against the rim of his glass.

Many a night, and this night is no different, a shy voice calls out of the darkness, begging their pardon. Could they spare a calmante for a sick child out of their stock of kindness? Would they have some tobacco for a tired old man who spent the day grating yucca?

Their father gets up, swaying a little with drink and tiredness, and opens up the store. The campesino goes off with his medicine, a couple of cigars, a few mints for the godchildren. Dedé tells her father that she doesn't know how they do as well as they do, the way he gives everything away. But her father just puts his arm around her, and says, "Ay, Dedé, that's why I have you. Every soft foot needs a hard shoe."

She'll bury us all," her father adds, laughing, "in silk and pearls." Dedé hears again the clink of the rum bottle. "Yes, for sure, our Dedé here is going to be the millionaire in the family."

Zusak, Marcus. *The Book Thief*. New York: Knopf, 2005. (2005)
From "The Flag"

The last time I saw her was red. The sky was like soup, boiling and stirring. In some places it was burned. There were black crumbs, and pepper, streaked amongst the redness.

Earlier, kids had been playing hopscotch there, on the street that looked like oil-stained pages. When I arrived I could still hear the echoes. The feet tapping the road. The children-voices laughing, and the smiles like salt, but decaying fast.

Then, bombs.

This time, everything was too late.

The sirens. The cuckoo shrieks in the radio. All too late.

Within minutes, mounds of concrete and earth were stacked and piled. The streets were ruptured veins. Blood streamed till it was dried on the road, and the bodies were stuck there, like driftwood after the flood.

They were glued down, every last one of them. A packet of souls.

Was it fate?

Misfortune?

Is that what glued them down like that?

Of course not.

Let's not be stupid.

It probably had more to do with the hurled bombs, thrown down by humans hiding in the clouds.

For hours, the sky remained a devastating, home-cooked red. The small German town had been flung apart one more time. Snowflakes of ash fell so lovelily you were tempted to stretch out your tongue to catch them, taste them. Only, they would have scorched your lips. They would have cooked your mouth.

Clearly, I see it.

> I was just about to leave when I found her kneeling there.
>
> A mountain range of rubble was written, designed, erected around her. She was clutching at a book.

Apart from everything else, the book thief wanted desperately to go back to the basement, to write, or read through her story one last time. In hindsight, I see it so obviously on her face. She was dying for it—the safety, the home of it—but she could not move. Also, the basement no longer existed. It was part of the mangled landscape.

Drama

Sophocles. *Oedipus Rex*. From *The Theban Plays* (also known as *The Oedipus Trilogy*). Translated by F. Storr. Dodo Press, 2009. (429 BC)

OEDIPUS

My children, latest born to Cadmus old,
Why sit ye here as suppliants, in your hands
Branches of olive filleted with wool?
What means this reek of incense everywhere,
And everywhere laments and litanies?
Children, it were not meet that I should learn
From others, and am hither come, myself,
I Oedipus, your world-renowned king.
Ho! aged sire, whose venerable locks
Proclaim thee spokesman of this company,
Explain your mood and purport. Is it dread
Of ill that moves you or a boon ye crave?
My zeal in your behalf ye cannot doubt;
Ruthless indeed were I and obdurate
If such petitioners as you I spurned.

PRIEST

Yea, Oedipus, my sovereign lord and king,
Thou seest how both extremes of age besiege
Thy palace altars--fledglings hardly winged,
And greybeards bowed with years, priests, as am I
Of Zeus, and these the flower of our youth.
Meanwhile, the common folk, with wreathed boughs
Crowd our two market-places, or before
Both shrines of Pallas congregate, or where
Ismenus gives his oracles by fire.
For, as thou seest thyself, our ship of State,
Sore buffeted, can no more lift her head,
Foundered beneath a weltering surge of blood.
A blight is on our harvest in the ear,
A blight upon the grazing flocks and herds,
A blight on wives in travail; and withal
Armed with his blazing torch the God of Plague
Hath swooped upon our city emptying
The house of Cadmus, and the murky realm
Of Pluto is full fed with groans and tears.

Therefore, O King, here at thy hearth we sit,
I and these children; not as deeming thee
A new divinity, but the first of men;
First in the common accidents of life,
And first in visitations of the Gods.
Art thou not he who coming to the town
Of Cadmus freed us from the tax we paid
To the fell songstress? Nor hadst thou received

Prompting from us or been by others schooled;
No, by a god inspired (so all men deem,
And testify) didst thou renew our life.
And now, O Oedipus, our peerless king,
All we thy votaries beseech thee, find
Some succor, whether by a voice from heaven
Whispered, or haply known by human wit.
Tried counselors, methinks, are aptest found
To furnish for the future pregnant rede.
Upraise, O chief of men, upraise our State!
Look to thy laurels! for thy zeal of yore
Our country's savior thou art justly hailed:
O never may we thus record thy reign:--
"He raised us up only to cast us down."
Uplift us, build our city on a rock.
Thy happy star ascendant brought us luck,
O let it not decline! If thou wouldst rule
This land, as now thou reignest, better sure
To rule a peopled than a desert realm.
Nor battlements nor galleys aught avail,
If men to man and guards to guard them tail.

OEDIPUS

Ah! my poor children, known, ah, known too well,
The quest that brings you hither and your need.
Ye sicken all, well wot I, yet my pain,
How great soever yours, outtops it all.
Your sorrow touches each man severally,
Him and none other, but I grieve at once
Both for the general and myself and you.
Therefore ye rouse no sluggard from day-dreams.
Many, my children, are the tears I've wept,
And threaded many a maze of weary thought.
Thus pondering one clue of hope I caught,
And tracked it up; I have sent Menoeceus' son,
Creon, my consort's brother, to inquire
Of Pythian Phoebus at his Delphic shrine,
How I might save the State by act or word.
And now I reckon up the tale of days
Since he set forth, and marvel how he fares.
'Tis strange, this endless tarrying, passing strange.
But when he comes, then I were base indeed,
If I perform not all the god declares.

PRIEST

Thy words are well timed; even as thou speakest
That shouting tells me Creon is at hand.

Shakespeare, William. *The Tragedy of Macbeth.* New Haven: Yale University Press, 1954. (c1611)

ACT V. SCENE I.

Dunsinane. Anteroom in the castle.

Enter a Doctor of Physic and a Waiting Gentlewoman.

Doctor. I have two nights watch'd with you, but can perceive no truth in your report. When was it she last walk'd?

Gentlewoman. Since his majesty went into the field, have seen her rise from her bed, throw her nightgown upon her, unlock her closet, take forth paper, fold it, write upon't, read it, afterwards seal it, and again return to bed; yet all this while in a most fast sleep.

Doctor. A great perturbation in nature, to receive at once the benefit of sleep and do the effects of watching! In this slumbery agitation, besides her walking and other actual performances, what, at any time, have you heard her say?

Gentlewoman. That, sir, which I will not report after her.

Doctor. You may to me, and 'tis most meet you should.

Gentlewoman. Neither to you nor anyone, having no witness to confirm my speech.

Enter Lady Macbeth, with a taper.

Lo you, here she comes. This is her very guise, and upon my life, fast asleep. Observe her; stand close.

Doctor. How came she by that light?

Gentlewoman. Why, it stood by her. She has light by her continually; 'tis her command.

Doctor. You see her eyes are open.

Gentlewoman. Ay, but their sense are shut.

Doctor. What is it she does now? Look how she rubs her hands.

Gentlewoman. It is an accustom'd action with her, to seem thus washing her hands. I have known her continue in this a quarter of an hour.

Lady Macbeth. Yet here's a spot.

Doctor. Hark! She speaks. I will set down what comes from her, to satisfy my remembrance the more strongly.

Lady Macbeth. Out, damned spot! Out, I say! One; two. Why, then, 'tis time to do't. Hell is murky. Fie, my lord, fie! A soldier, and afeard? What need we fear who knows it, when none can call our power to accompt? Yet who would have thought the old man to have had so much blood in him?

Doctor. Do you mark that?

Lady Macbeth. The Thane of Fife had a wife. Where is she now? What, will these hands ne'er be clean? No more o' that, my lord, no more o' that! You mar all with this starting.

Doctor. Go to, go to! You have known what you should not.

Gentlewoman. She has spoke what she should not, I am sure of that. Heaven knows what she has known.

Lady Macbeth. Here's the smell of the blood still. All the perfumes of Arabia will not sweeten this little hand. Oh, oh, oh!

Doctor. What a sigh is there! The heart is sorely charg'd.

Gentlewoman. I would not have such a heart in my bosom for the dignity of the whole body.

Doctor. Well, well, well.

Gentlewoman. Pray God it be, sir.

Doctor. This disease is beyond my practice. Yet I have known those which have walked in their sleep who have died holily in their beds.

Lady Macbeth. Wash your hands, put on your nightgown, look not so pale. I tell you yet again, Banquo's buried; he cannot come out on's grave.

Doctor. Even so?

Lady Macbeth. To bed, to bed! There's knocking at the gate. Come, come, come, come, give me your hand. What's done cannot be undone. To bed, to bed, to bed! Exit Lady.

Doctor. Will she go now to bed?

Gentlewoman. Directly.

Doctor. Foul whisp'rings are abroad. Unnatural deeds

Do breed unnatural troubles. Infected minds

To their deaf pillows will discharge their secrets.

More needs she the divine than the physician.

God, God, forgive us all! Look after her;

Remove from her the means of all annoyance,

And still keep eyes upon her. So, good night.

My mind she has mated, and amaz'd my sight.

I think, but dare not speak.

Gentlewoman. Good night, good doctor.

Exeunt.

Media Text
Judi Dench (Lady Macbeth) performs this scene in a 1979 production with Ian McKellen:
http://www.youtube.com/watch?v=IOkyZWQ2bmQ
McKellen analyzes the "To-morrow and to-morrow and to-morrow" speech from Act V, Scene 5:
http://video.google.com/videoplay?docid=883718043846080512#docid=7225091828250988008

Ibsen, Henrik. *A Doll's House*. New York: Signet Classics, 2006. (1879)
From Act I

Helmer (in his room). Is that my lark twittering there ?

Nora (busy opening some of her parcels). Yes, it is.

Helmer. Is it the squirrel frisking around ?

Nora. Yes !

Helmer. When did the squirrel get home ?

Nora. Just this minute. (Hides the bag of macaroons in her pocket and wipes her mouth.) Come here, Torvald, and see what I've been buying.

Helmer. Don't interrupt me. (A little later he opens the door and looks in, pen in hand.) Buying, did you say ? What ! All that ? Has my little spendthrift been making the money fly again ?

Nora. Why, Torvald, surely we can afford to launch out a little now. It's the first Christmas we haven't had to pinch.

Helmer. Come, come ; we can't afford to squander money.

Nora. Oh yes, Torvald, do let us squander a little, now — just the least little bit ! You know you'll soon be earning heaps of money.

Helmer. Yes, from New Year's Day. But there's a whole quarter before my first salary is due.

Nora. Never mind ; we can borrow in the meantime.

Helmer. Nora ! (He goes up to her and takes her playfully by the ear.) Still my little featherbrain ! Supposing I borrowed a thousand crowns to-day, and you made ducks and drakes of them during Christmas week, and

then on New Year's Eve a tile blew off the roof and knocked my brains out

Nora (laying her hand on his mouth). Hush ! How can you talk so horridly ?

Helmer. But supposing it were to happen — what then ?

Nora. If anything so dreadful happened, it would be all the same to me whether I was in debt or not.

Helmer. But what about the creditors ?

Nora. They ! Who cares for them ? They're only strangers.

Helmer. Nora, Nora ! What a woman you are ! But seriously, Nora, you know my principles on these points. No debts ! No borrowing ! Home life ceases to be free and beautiful as soon as it is founded on borrowing and debt. We two have held out bravely till now, and we are not going to give in at the last.

Nora (going to the fireplace). Very well — as you please, Torvald.

Williams, Tennessee. *The Glass Menagerie.* New York: New Directions, 1966. (1944)
From Scene 5

TOM: What are you doing?

AMANDA: I'm brushing that cowlick down! [She attacks his hair with the brush.] What is this young man's position at the warehouse?

TOM [submitting grimly to the brush and interrogation]: This young man's position is that of a shipping clerk, Mother.

AMANDA: Sounds to me like a fairly responsible job, the sort of a job you would be in if you had more get-up. What is his salary? Have you any idea?

TOM: I would judge it to be approximately eighty-five dollars a month.

AMANDA: Well—not princely—but—

TOM: Twenty more than I make.

AMANDA: Yes, how well I know! But for a family man, eighty-five dollars a month is not much more than you can just get by on....

TOM: Yes, but Mr. O'Connor is not a family man.

AMANDA: He might be, mightn't he? Some time in the future?

TOM: I see. Plans and provisions.

AMANDA: You are the only young man that I know of who ignores the fact that the future becomes the present, the present the past, and the past turns into everlasting regret if you don't plan for it!

TOM: I will think that over and see what I can make of it.

AMANDA: Don't be supercilious with your mother! Tell me some more about this—what do you call him?

TOM: James D. O'Connor. The D. is for Delaney.

AMANDA: Irish on both sides! Gracious! And doesn't drink?

TOM: Shall I call him up and ask him right this minute?

AMANDA: The only way to find out about those things is to make discreet inquiries at the proper moment. When I was a girl in Blue Mountain and it was suspected that a young man drank, the girl whose attentions he had been receiving, if any girl was, would sometimes speak to the minister of his church, or rather her father would if her father was living, and sort of feel him out on the young man's character. That is the way such things are discreetly handled to keep a young woman from making a tragic mistake!

TOM: Then how did you happen to make a tragic mistake?

AMANDA: That innocent look of your father's had everyone fooled! He smiled—the world was enchanted! No girl can do worse than put herself at the mercy of a handsome appearance! I hope that Mr. O'Connor is not too good-looking.

Ionesco, Eugene. "Rhinoceros." Translated by Derek Prouse. *Rhinoceros and Other Plays*. New York: Grove Press, 1960. (1959)
From Act Two

BERENGER: [coming in] Hello Jean!

JEAN: [in bed] What time is it? Aren't you at the office?

BERENGER: You're still in bed; you're not at the office, then? Sorry if I'm disturbing you.

JEAN: [still with his back turned] Funny, I didn't recognize your voice.

BERENGER: I didn't recognize yours either.

JEAN: [still with his back turned] Sit down!

BERENGER: Aren't you feeling well?

[JEAN replies with a grunt.]

You know, Jean, it was stupid of me to get so upset yesterday over a thing like that.

JEAN: A thing like what?

BERENGER: Yesterday …

JEAN: When yesterday? Where yesterday?

BERENGER: Don't you remember? It was about that wretched rhinoceros.

JEAN: What rhinoceros?

BERENGER: The rhinoceros, or rather, the two wretched rhinoceroses we saw.

JEAN: Oh yes, I remember … How do you know they were wretched?

BERENGER: Oh I just said that.
JEAN: Oh. Well let's not talk any more about it.

BERENGER: That's very nice of you.

JEAN: Then that's that.

BERENGER: But I would like to say how sorry I am for being so insistent … and so obstinate … and getting so angry … in fact … I acted stupidly.

JEAN: That's not surprising with you.

BERENGER: I'm very sorry.

JEAN: I don't feel very well. [He coughs.]

BERENGER: That's probably why you're in bed. [With a change of tone:] You know, Jean, as it turned out, we were both right.

JEAN: What about?

BERENGER: About … well, you know, the same thing. Sorry to bring it up again, but I'll only mention it briefly. I just wanted you to know that in our different ways we were both right. It's been proved now. There are some rhinoceroses in the town with two horns and some with one.

Fugard, Athol. *"Master Harold"…and the boys.* New York: Penguin, 1982. (1982)
From *"Master Harold"…and the boys*

Sam: Of course it is. That's what I've been trying to say to you all afternoon. And it's beautiful because that is what we want life to be like. But instead, like you said, Hally, we're bumping into each other all the time. Look at the three of us this afternoon: I've bumped into Willie, the two of us have bumped into you, you've bumped into your mother, she bumping into your Dad. . . . None of us knows the steps and there's no music playing. And it doesn't stop with us. The whole world is doing it all the time. Open a newspaper and what do you read? America has bumped into Russia, England is bumping into India, rich man bumps into poor man. Those are big collisions, Hally. They make for a lot of bruises. People get hurt in all that bumping, and we're sick and tired of it now. It's been going on for too long. Are we never going to get it right? . . . Learn to dance life like champions instead of always being just a bunch of beginners at it?

Hally: (Deep and sincere admiration of the man) You've got a vision, Sam!

Sam: Not just me. What I'm saying to you is that everybody's got it. That's why there's only standing room left for the Centenary Hall in two weeks' time. For as long as the music lasts, we are going to see six couples get it right, the way we want life to be.

Hally: But is that the best we can do, Sam . . . watch six finalists dreaming about the way it should be?

Sam: I don't know. But it starts with that. Without the dream we won't know what we're going for. And anyway I reckon there are a few people who have got past just dreaming about it and are trying for something real. Remember that thing we read once in the paper about the Mahatma Gandhi? Going without food to stop those riots in India?

Poetry

Shakespeare, William. "Sonnet 73." *Shakespeare: The Poems*. Edited by David Bevington. New York: Bantam, 1988. (1609)

That time of year thou mayst in me behold
When yellow leaves, or none, or few, do hang
Upon those boughs which shake against the cold,
Bare ruined choirs, where late the sweet birds sang.
In me thou see'st the twilight of such day
As after sunset fadeth in the west;
Which by and by black night doth take away,
Death's second self, that seals up all in rest.
In me thou see'st the glowing of such fire,
That on the ashes of his youth doth lie,
As the deathbed whereon it must expire,
Consumed with that which it was nourished by.
This thou perceiv'st, which makes thy love more strong,
To love that well which thou must leave ere long.

Donne, John. "Song." *The Complete Poetry of John Donne*. Edited by John T. Shawcross. New York: Anchor Books, 1967. (1635)

Goe, and catche a falling starre,
Get with child a mandrake roote,
Tell me, where all past yeares are,
Or who cleft the Divels foot,
Teach me to heare Mermaides singing,

Or to keep off envies stinging,
And finde
What winde
Serves to advance an honest minde.

If thou beest borne to strange sights,
Things invisible to see,
Ride ten thousand daies and nights,
Till age snow white haires on thee,
Thou, when thou return'st, wilt tell mee
All strange wonders that befell thee,
And sweare
No where
Lives a woman true, and faire.

If thou findst one, let mee know,
Such a Pilgrimage were sweet;
Yet doe not, I would not goe,
Though at next doore wee might meet,
Though shee were true, when you met her,
And last, till you write your letter,
Yet shee
Will bee
False, ere I come, to two, or three.

Shelley, Percy Bysshe. "Ozymandias." *The Complete Poems of Percy Bysshe Shelley*. New York: Modern Library, 1994. (1817)

I met a traveller from an antique land
Who said—"Two vast and trunkless legs of stone
Stand in the desert ... Near them, on the sand,
Half sunk, a shattered visage lies, whose frown,
And wrinkled lip, and sneer of cold command,
Tell that its sculptor well those passions read
Which yet survive, stamped on these lifeless things,
The hand that mocked them, and the heart that fed;
And on the pedestal these words appear:
'My name is Ozymandias, King of Kings:
Look on my works, ye Mighty, and despair!'
Nothing beside remains. Round the decay
Of that colossal wreck, boundless and bare
The lone and level sands stretch far away."

Poe, Edgar Allan. "The Raven." *Complete Stories and Poems of Edgar Allan Poe*. New York: Doubleday, 1984. (1845)

Once upon a midnight dreary, while I pondered, weak and weary,
Over many a quaint and curious volume of forgotten lore —
While I nodded, nearly napping, suddenly there came a tapping,
As of some one gently rapping, rapping at my chamber door.
"'T is some visitor," I muttered, "tapping at my chamber door —
Only this and nothing more."

Ah, distinctly I remember it was in the bleak December;
And each separate dying ember wrought its ghost upon the floor.
Eagerly I wished the morrow;—vainly I had sought to borrow
From my books surcease of sorrow—sorrow for the lost Lenore —
For the rare and radiant maiden whom the angels name Lenore —
Nameless here for evermore.

And the silken, sad, uncertain rustling of each purple curtain
Thrilled me—filled me with fantastic terrors never felt before;
So that now, to still the beating of my heart, I stood repeating
"'T is some visitor entreating entrance at my chamber door —
Some late visitor entreating entrance at my chamber door; —
This it is and nothing more."

Presently my soul grew stronger; hesitating then no longer,
"Sir," said I, "or Madam, truly your forgiveness I implore;
But the fact is I was napping, and so gently you came rapping,
And so faintly you came tapping, tapping at my chamber door,
That I scarce was sure I heard you"—here I opened wide the door;—
Darkness there and nothing more.

Deep into that darkness peering, long I stood there wondering, fearing,
Doubting, dreaming dreams no mortal ever dared to dream before;
But the silence was unbroken, and the stillness gave no token,
And the only word there spoken was the whispered word, "Lenore?"
This I whispered, and an echo murmured back the word, "Lenore!"
Merely this and nothing more.

Back into the chamber turning, all my soul within me burning,
Soon again I heard a tapping somewhat louder than before.
"Surely," said I, "surely that is something at my window lattice;
Let me see, then, what thereat is, and this mystery explore —
Let my heart be still a moment and this mystery explore; —
'Tis the wind and nothing more!"

Open here I flung the shutter, when, with many a flirt and flutter,
In there stepped a stately Raven of the saintly days of yore;
Not the least obeisance made he; not a minute stopped or stayed he;
But with mien of lord or lady, perched above my chamber door —
Perched upon a bust of Pallas just above my chamber door —
Perched, and sat, and nothing more.

Then this ebony bird beguiling my sad fancy into smiling,
By the grave and stern decorum of the countenance it wore,
"Though thy crest be shorn and shaven, thou," I said, "art sure no craven,
Ghastly grim and ancient Raven wandering from the Nightly shore —
Tell me what thy lordly name is on the Night's Plutonian shore!"
Quoth the Raven "Nevermore."

Much I marvelled this ungainly fowl to hear discourse so plainly,
Though its answer little meaning—little relevancy bore;
For we cannot help agreeing that no living human being
Ever yet was blessed with seeing bird above his chamber door —
Bird or beast upon the sculptured bust above his chamber door,
With such name as "Nevermore."

But the Raven, sitting lonely on the placid bust, spoke only
That one word, as if his soul in that one word he did outpour.
Nothing farther then he uttered—not a feather then he fluttered —
Till I scarcely more than muttered "Other friends have flown before —
On the morrow he will leave me, as my Hopes have flown before."
Then the bird said "Nevermore."

Startled at the stillness broken by reply so aptly spoken,
"Doubtless," said I, "what it utters is its only stock and store
Caught from some unhappy master whom unmerciful Disaster
Followed fast and followed faster till his songs one burden bore —
Till the dirges of his Hope that melancholy burden bore
Of 'Never—nevermore.'"

But the Raven still beguiling my sad fancy into smiling,
Straight I wheeled a cushioned seat in front of bird, and bust and door;
Then, upon the velvet sinking, I betook myself to linking
Fancy unto fancy, thinking what this ominous bird of yore —
What this grim, ungainly, ghastly, gaunt, and ominous bird of yore
Meant in croaking "Nevermore."

This I sat engaged in guessing, but no syllable expressing
To the fowl whose fiery eyes now burned into my bosom's core;
This and more I sat divining, with my head at ease reclining
On the cushion's velvet lining that the lamp-light gloated o'er,

But whose velvet-violet lining with the lamp-light gloating o'er,
She shall press, ah, nevermore!

Then, methought, the air grew denser, perfumed from an unseen censer
Swung by seraphim whose foot-falls tinkled on the tufted floor.
"Wretch," I cried, "thy God hath lent thee—by these angels he hath sent thee
Respite—respite and nepenthe from thy memories of Lenore;
Quaff, oh quaff this kind nepenthe and forget this lost Lenore!''
Quoth the Raven "Nevermore."

"Prophet!" said I, "thing of evil!—prophet still, if bird or devil! —
Whether Tempter sent, or whether tempest tossed thee here ashore,
Desolate yet all undaunted, on this desert land enchanted —
On this home by Horror haunted—tell me truly, I implore —
Is there—is there balm in Gilead?—tell me—tell me, I implore!"
Quoth the Raven "Nevermore."

"Prophet!" said I, "thing of evil!—prophet still, if bird or devil!
By that Heaven that bends above us—by that God we both adore —
Tell this soul with sorrow laden if, within the distant Aidenn,
It shall clasp a sainted maiden whom the angels name Lenore —
Clasp a rare and radiant maiden whom the angels name Lenore."
Quoth the Raven "Nevermore."

"Be that word our sign of parting, bird or fiend!" I shrieked, upstarting —
"Get thee back into the tempest and the Night's Plutonian shore!
Leave no black plume as a token of that lie thy soul hath spoken!
Leave my loneliness unbroken!—quit the bust above my door!
Take thy beak from out my heart, and take thy form from off my door!"
Quoth the Raven "Nevermore."

And the Raven, never flitting, still is sitting, still is sitting
On the pallid bust of Pallas just above my chamber door;
And his eyes have all the seeming of a demon's that is dreaming,
And the lamp-light o'er him streaming throws his shadow on the floor;
And my soul from out that shadow that lies floating on the floor
Shall be lifted—nevermore!

Dickinson, Emily. "We Grow Accustomed to the Dark." ***The Complete Poems of Emily Dickinson.*** **Boston: Little, Brown, 1960. (1890)**

We grow accustomed to the Dark,
When Light is put away,
As when the Neighbor holds the Lamp
To witness her Goodbye.

A Moment—We uncertain step
For newness of the night,
Then fit our Vision to the Dark,
And meet the Road erect.

And so of larger Darknesses,
Those Evenings of the Brain,
When not a Moon disclose a sign,
Or Star, come out, within.

The Bravest grope a little
And sometimes hit a Tree
Directly in the Forehead,
But as they learn to see,

Either the Darkness alters
Or something in the sight
Adjusts itself to Midnight,
And Life steps almost straight.

Houseman, A. E. "Loveliest of Trees." *A Shropshire Lad.* New York: Penguin, 1999. (1896)

Loveliest of Trees, the cherry now
Is hung with bloom along the bough,
And stands about the woodland ride
Wearing white for Eastertide.

Now, of my threescore years and ten,
Twenty will not come again,
And take from seventy springs a score,
It only leaves me fifty more.

And since to look at things in bloom
Fifty springs are little room,
About the woodlands I will go
To see the cherry hung with snow.

Johnson, James Weldon. "Lift Every Voice and Sing." *Lift Every Voice and Sing*. New York: Penguin, 1993. (1900)

Lift every voice and sing,
Till earth and heaven ring,
Ring with the harmonies of Liberty,
Let our rejoicing rise
High as the list'ning skies,
Let it resound loud as the rolling sea.
Sing a song full of the faith that the dark past has taught us
Sing a song full of the hope that the present has brought us
Facing the rising sun of our new day begun,
Let us march on till victory is won.

Stony the road we trod
Bitter the chast'ning rod,
Felt in the days when hope unborn had died;
Yet with a steady beat
Have not our weary feet
Come to the place for which our fathers sighed?
We have come over a way that with tears has been watered
We have come, treading our path thro' the blood of the slaughtered,
Out from the gloomy past, till now we stand at last
Where the white gleam of our bright star is cast.

God of our weary years,
God of our silent tears,
Thou who hast brought us thus far on the way;
Thou who hast by Thy might,
Led us into the light, Keep us forever in the path, we pray.
Lest our feet stray from the places, our God, where we meet Thee,
Lest our hearts, drunk with the wine of the world we forget Thee;
Shadowed beneath Thy hand, may we forever stand,
True to our God, true to our native land.

Cullen, Countee. "Yet Do I Marvel." *The Norton Anthology of African American Literature*. Edited by Henry Louis Gates, Jr., and Nellie Y. McKay. New York: Norton, 1997. (1925)

Auden, Wystan Hugh. "Musée des Beaux Arts." *The Collected Poetry of W. H. Auden*. New York: Random House, 1945. (1938)

Walker, Alice. "Women." *Revolutionary Petunias and Other Poems*. New York: Harcourt Brace, 1973. (1970)

Baca, Jimmy Santiago. "I Am Offering This Poem to You." *Immigrants in Our Own Land and Selected Early Poems*. New York: New Directions, 1977. (1977)

I am offering this poem to you,
since I have nothing else to give.
Keep it like a warm coat
when winter comes to cover you,
or like a pair of thick socks
the cold cannot bite through,

I love you,

I have nothing else to give you,
so it is a pot full of yellow corn
to warm your belly in winter,
it is a scarf for your head, to wear
over your hair, to tie up around your face,

I love you,

Keep it, treasure this as you would
if you were lost, needing direction,
in the wilderness life becomes when mature;
and in the corner of your drawer,
tucked away like a cabin or hogan
in dense trees, come knocking,
and I will answer, give you directions,
and let you warm yourself by this fire,
rest by this fire, and make you feel safe

I love you,

It's all I have to give,
and all anyone needs to live,
and to go on living inside,
when the world outside
no longer cares if you live or die;
remember,

I love you

Sample Performance Tasks for Stories, Drama, and Poetry

- Students *analyze how* the *character* of Odysseus from Homer's *Odyssey*—a "man of twists and turns"—reflects *conflicting motivations* through his *interactions with other characters* in the epic poem. They articulate how his conflicting loyalties during his long and complicated journey home from the Trojan War both *advance the plot* of Homer's epic and *develop themes*. [RL.9–10.3]

- Students *analyze* how Michael Shaara in his Civil War novel *The Killer Angels* creates a sense of *tension* and even *surprise* regarding the outcome of events at the Battle of Gettysburg through *pacing, ordering of events, and* the overarching *structure* of the novel. [RL.9–10.5]

- Students *analyze in detail the theme* of relationships between mothers and daughters and how that *theme develops over the course of* Amy Tan's *The Joy Luck Club*. Students search the text for *specific details* that show how the *theme emerges* and *how it is shaped and refined* over the course of the novel. [RL.9–10.2]

- Students *analyze how* the Japanese filmmaker Akira Kurosawa in his film *Throne of Blood draws on and trans-*

forms Shakespeare's play Macbeth in order to develop a similar plot set in feudal Japan. [RL.9–10.9]

- Students *analyze how* artistic *representations* of Ramses II (the pharaoh who reigned during the time of Moses) vary, basing their analysis on *what is emphasized or absent in different* treatments of the pharaoh in works of art (e.g., images in the British Museum) and in Percy Bysshe Shelley's poem "Ozymandias." [RL.9–10.7]

Informational Texts: English Language Arts

Henry, Patrick. "Speech to the Second Virginia Convention." (1775)

MR. PRESIDENT: No man thinks more highly than I do of the patriotism, as well as abilities, of the very worthy gentlemen who have just addressed the House. But different men often see the same subject in different lights; and, therefore, I hope it will not be thought disrespectful to those gentlemen if, entertaining as I do, opinions of a character very opposite to theirs, I shall speak forth my sentiments freely, and without reserve. This is no time for ceremony. The question before the House is one of awful moment to this country. For my own part, I consider it as nothing less than a question of freedom or slavery; and in proportion to the magnitude of the subject ought to be the freedom of the debate. It is only in this way that we can hope to arrive at truth, and fulfill the great responsibility which we hold to God and our country. Should I keep back my opinions at such a time, through fear of giving offence, I should consider myself as guilty of treason towards my country, and of an act of disloyalty toward the majesty of heaven, which I revere above all earthly kings.

Mr. President, it is natural to man to indulge in the illusions of hope. We are apt to shut our eyes against a painful truth, and listen to the song of that siren till she transforms us into beasts. Is this the part of wise men, engaged in a great and arduous struggle for liberty? Are we disposed to be of the number of those who, having eyes, see not, and, having ears, hear not, the things which so nearly concern their temporal salvation? For my part, whatever anguish of spirit it may cost, I am willing to know the whole truth; to know the worst, and to provide for it.

I have but one lamp by which my feet are guided; and that is the lamp of experience. I know of no way of judging of the future but by the past. And judging by the past, I wish to know what there has been in the conduct of the British ministry for the last ten years, to justify those hopes with which gentlemen have been pleased to solace themselves, and the House? Is it that insidious smile with which our petition has been lately received? Trust it not, sir; it will prove a snare to your feet. Suffer not yourselves to be betrayed with a kiss. Ask yourselves how this gracious reception of our petition comports with these war-like preparations which cover our waters and darken our land. Are fleets and armies necessary to a work of love and reconciliation? Have we shown ourselves so unwilling to be reconciled, that force must be called in to win back our love? Let us not deceive ourselves, sir. These are the implements of war and subjugation; the last arguments to which kings resort. I ask, gentlemen, sir, what means this martial array, if its purpose be not to force us to submission? Can gentlemen assign any other possible motive for it? Has Great Britain any enemy, in this quarter of the world, to call for all this accumulation of navies and armies? No, sir, she has none. They are meant for us; they can be meant for no other. They are sent over to bind and rivet upon us those chains which the British ministry have been so long forging. And what have we to oppose to them? Shall we try argument? Sir, we have been trying that for the last ten years. Have we anything new to offer upon the subject? Nothing. We have held the subject up in every light of which it is capable; but it has been all in vain. Shall we resort to entreaty and humble supplication? What terms shall we find which have not been already exhausted? Let us not, I beseech you, sir, deceive ourselves. Sir, we have done everything that could be done, to avert the storm which is now coming on. We have petitioned; we have remonstrated; we have supplicated; we have prostrated ourselves before the throne, and have implored its interposition to arrest the tyrannical hands of the ministry and Parliament. Our petitions have been slighted; our remonstrances have produced additional violence and insult; our supplications have been disregarded; and we have been spurned, with contempt, from the foot of the throne. In vain, after these things, may we indulge the fond hope of peace and reconciliation. There is no longer any room for hope. If we wish to be free, if we mean to preserve inviolate those inestimable privileges for which we have been so long contending, if we mean not basely to abandon the noble struggle in which we have been so long engaged, and which we have pledged ourselves never to abandon until the glorious object of our contest shall be obtained, we must fight! I repeat it, sir, we must fight! An appeal to arms and to the God of Hosts is all that is left us!

They tell us, sir, that we are weak; unable to cope with so formidable an adversary. But when shall we be stronger? Will it be the next week, or the next year? Will it be when we are totally disarmed, and when a British guard shall be stationed in every house? Shall we gather strength by irresolution and inaction? Shall we acquire the means of effectual resistance, by lying supinely on our backs, and hugging the delusive phantom of hope, until our enemies shall have bound us hand and foot? Sir, we are not weak if we make a proper use of those means which the God of nature hath placed in our power. Three millions of people, armed in the holy cause of liberty, and in such a country as that which we possess, are invincible by any force which our enemy can send against us. Besides, sir, we shall not fight our battles alone. There is a just God who presides over the destinies of nations; and who will raise up friends to fight our battles for us. The battle, sir, is not to the strong alone; it is to the vigilant, the active, the brave. Besides, sir, we have no election. If we were base enough to desire it, it is now too late to retire from the contest. There is no retreat but in submission and slavery! Our chains are forged! Their clanking may be heard on the plains of Boston! The war is inevitable and let it come! I repeat it, sir, let it come.

It is in vain, sir, to extenuate the matter. Gentlemen may cry, Peace, Peace but there is no peace. The war is actually begun! The next gale that sweeps from the north will bring to our ears the clash of resounding arms! Our brethren are already in the field! Why stand we here idle? What is it that gentlemen wish? What would they have? Is life so dear, or peace so sweet, as to be purchased at the price of chains and slavery? Forbid it, Almighty God! I know not what course others may take; but as for me, give me liberty or give me death!

Washington, George. "Farewell Address." (1796)

Against the insidious wiles of foreign influence (I conjure you to believe me, fellow-citizens) the jealousy of a free people ought to be constantly awake, since history and experience prove that foreign influence is one of the most baneful foes of republican government. But that jealousy to be useful must be impartial; else it becomes the instrument of the very influence to be avoided, instead of a defense against it. Excessive partiality for one foreign nation and excessive dislike of another cause those whom they actuate to see danger only on one side, and serve to veil and even second the arts of influence on the other. Real patriots who may resist the intrigues of the favorite are liable to become suspected and odious, while its tools and dupes usurp the applause and confidence of the people, to surrender their interests.

The great rule of conduct for us in regard to foreign nations is in extending our commercial relations, to have with them as little political connection as possible. So far as we have already formed engagements, let them be fulfilled with perfect good faith. Here let us stop. Europe has a set of primary interests which to us have none; or a very remote relation. Hence she must be engaged in frequent controversies, the causes of which are essentially foreign to our concerns. Hence, therefore, it must be unwise in us to implicate ourselves by artificial ties in the ordinary vicissitudes of her politics, or the ordinary combinations and collisions of her friendships or enmities.

Our detached and distant situation invites and enables us to pursue a different course. If we remain one people under an efficient government. the period is not far off when we may defy material injury from external annoyance; when we may take such an attitude as will cause the neutrality we may at any time resolve upon to be scrupulously respected; when belligerent nations, under the impossibility of making acquisitions upon us, will not lightly hazard the giving us provocation; when we may choose peace or war, as our interest, guided by justice, shall counsel.

Why forego the advantages of so peculiar a situation? Why quit our own to stand upon foreign ground? Why, by interweaving our destiny with that of any part of Europe, entangle our peace and prosperity in the toils of European ambition, rivalship, interest, humor or caprice?

It is our true policy to steer clear of permanent alliances with any portion of the foreign world; so far, I mean, as we are now at liberty to do it; for let me not be understood as capable of patronizing infidelity to existing engagements. I hold the maxim no less applicable to public than to private affairs, that honesty is always the best policy. I repeat it, therefore, let those engagements be observed in their genuine sense. But, in my opinion, it is unnecessary and would be unwise to extend them.

Lincoln, Abraham. "Gettysburg Address." (1863)

Fourscore and seven years ago, our fathers brought forth upon this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battlefield of that war. We are met to dedicate a portion of it as the final resting-place of those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.

But in a large sense we cannot dedicate,—we cannot consecrate,—we cannot hallow this ground. The brave men, living and dead, who struggled here, have consecrated it far above our power to add or detract. The world will little note, nor long remember, what we say here, but it can never forget what they did here. It is for us, the living, rather to be dedicated here to the unfinished work that they have thus far so nobly carried on. It is, rather for us to be here dedicated to the great task remaining before us, that from these honored dead we take increased devotion to that cause for which they here gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom, and that Government of the people, by the people and for the people, shall not perish from the earth.

Lincoln, Abraham. "Second Inaugural Address." (1865)

Fellow-Countrymen:

At this second appearing to take the oath of the Presidential office there is less occasion for an extended address than there was at the first. Then a statement somewhat in detail of a course to be pursued seemed fitting and proper. Now, at the expiration of four years, during which public declarations have been constantly called forth on every point and phase of the great contest which still absorbs the attention and engrosses the energies of the nation, little that is new could be presented. The progress of our arms, upon which all else chiefly depends, is as well known to the public as to myself, and it is, I trust, reasonably satisfactory and encouraging to all. With high hope for the future, no prediction in regard to it is ventured.

On the occasion corresponding to this four years ago all thoughts were anxiously directed to an impending civil war. All dreaded it, all sought to avert it. While the inaugural address was being delivered from this place, devoted altogether to saving the Union without war, urgent agents were in the city seeking to destroy it without war—seeking to dissolve the Union and divide effects by negotiation. Both parties deprecated war, but one of them would make war rather than let the nation survive, and the other would accept war rather than let it perish, and the war came.

One-eighth of the whole population were colored slaves, not distributed generally over the Union, but localized in the southern part of it. These slaves constituted a peculiar and powerful interest. All knew that this interest was somehow the cause of the war. To strengthen, perpetuate, and extend this interest was the object for which the insurgents would rend the Union even by war, while the Government claimed no right to do more than to restrict the territorial enlargement of it. Neither party expected for the war the magnitude or the duration which it has already attained. Neither anticipated that the cause of the conflict might cease with or even before the conflict itself should cease. Each looked for an easier triumph, and a result less fundamental and astounding. Both read the same Bible and pray to the same God, and each invokes His aid against the other. It may seem strange that any men should dare to ask a just God's assistance in wringing their bread from the sweat of other men's faces, but let us judge not, that we be not judged. The prayers of both could not be answered. That of neither has been answered fully. The Almighty has His own purposes. "Woe unto the world because of offenses; for it must needs be that offenses come, but woe to that man by whom the offense cometh." If we shall suppose that American slavery is one of those offenses which, in the providence of God, must needs come, but which, having continued through His appointed time, He now wills to remove, and that He gives to both North and South this terrible war as the woe due to those by whom the offense came, shall we discern therein any departure from those divine attributes which the believers in a living God always ascribe to Him? Fondly do we hope, fervently do we pray, that this mighty scourge of war may speedily pass away. Yet, if God wills that it continue until all the wealth piled by the bondsman's two hundred and fifty years of unrequited toil shall be sunk, and until every drop of blood drawn with the lash shall be paid by another drawn with the sword, as was said three thousand years ago, so still it must be said "the judgments of the Lord are true and righteous altogether."

With malice toward none, with charity for all, with firmness in the right as God gives us to see the right, let us strive on to finish the work we are in, to bind up the nation's wounds, to care for him who shall have borne the battle and for his widow and his orphan, to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations.

Roosevelt, Franklin Delano. "State of the Union Address." (1941)

For there is nothing mysterious about the foundations of a healthy and strong democracy. The basic things expected by our people of their political and economic systems are simple. They are:

Equality of opportunity for youth and for others.

Jobs for those who can work.

Security for those who need it.

The ending of special privilege for the few.

The preservation of civil liberties for all.

The enjoyment of the fruits of scientific progress in a wider and constantly rising standard of living.

These are the simple, basic things that must never be lost sight of in the turmoil and unbelievable complexity of our modern world. The inner and abiding strength of our economic and political systems is dependent upon the degree to which they fulfill these expectations.

Many subjects connected with our social economy call for immediate improvement. As examples:

We should bring more citizens under the coverage of old-age pensions and unemployment insurance.

We should widen the opportunities for adequate medical care.

We should plan a better system by which persons deserving or needing gainful employment may obtain it.

I have called for personal sacrifice. I am assured of the willingness of almost all Americans to respond to that call.

A part of the sacrifice means the payment of more money in taxes. In my Budget Message I shall recommend that a greater portion of this great defense program be paid for from taxation than we are paying today. No person should try, or be allowed, to get rich out of this program; and the principle of tax payments in accordance with ability to pay should be constantly before our eyes to guide our legislation.

If the Congress maintains these principles, the voters, putting patriotism ahead of pocketbooks, will give you their applause.

In the future days, which we seek to make secure, we look forward to a world founded upon four essential human freedoms.

The first is freedom of speech and expression—everywhere in the world.

The second is freedom of every person to worship God in his own way—everywhere in the world.

The third is freedom from want—which, translated into world terms, means economic understandings which will secure to every nation a healthy peacetime life for its inhabitants-everywhere in the world.

The fourth is freedom from fear—which, translated into world terms, means a world-wide reduction of armaments to such a point and in such a thorough fashion that no nation will be in a position to commit an act of physical aggression against any neighbor—anywhere in the world.

Hand, Learned. "I Am an American Day Address." (1944)

We have gathered here to affirm a faith, a faith in a common purpose, a common conviction, a common devotion. Some of us have chosen America as the land of our adoption; the rest have come from those who did the same. For this reason we have some right to consider ourselves a picked group, a group of those who had the courage to break from the past and brave the dangers and the loneliness of a strange land. What was the object that nerved us, or those who went before us, to this choice? We sought liberty; freedom from oppression, freedom from want, freedom to be ourselves. This we then sought; this we now believe that we are by way of winning. What do we mean when we say that first of all we seek liberty? I often wonder whether we do not rest our hopes too much upon constitutions, upon laws and upon courts. These are false hopes; believe me, these are false hopes. Liberty lies in the hearts of men and women; when it dies there, no constitution, no law, no court can even do much to help it. While it lies there it needs no constitution, no law, no court to save it. And what is this liberty which must lie in the hearts of men and women? It is not the ruthless, the unbridled will; it is not freedom to do as one likes. That is the denial of liberty, and leads straight to its overthrow. A society in which men recognize no check upon their freedom soon becomes a society where freedom is the possession of only a savage few; as we have learned to our sorrow.

What then is the spirit of liberty? I cannot define it; I can only tell you my own faith. The spirit of liberty is the spirit which is not too sure that it is right; the spirit of liberty is the spirit which seeks to understand the mind of other men and women; the spirit of liberty is the spirit which weighs their interests alongside its own without bias; the spirit of liberty remembers that not even a sparrow falls to earth unheeded; the spirit of liberty is the spirit of Him who, near two thousand years ago, taught mankind that lesson it has never learned but never quite forgotten; that there may be a kingdom where the least shall be heard and considered side by side with the greatest. And now in that spirit, that spirit of an America which has never been, and which may never be; nay, which never will be except as the conscience and courage of Americans create it; yet in the spirit of that America which lies hidden in some form in the aspirations of us all; in the spirit of that America for which our young men are at this moment fighting and dying; in that spirit of liberty and of America I ask you to rise and with me pledge our faith in the glorious destiny of our beloved country.

Smith, Margaret Chase. "Remarks to the Senate in Support of a Declaration of Conscience." (1950)

Mr. President:

I would like to speak briefly and simply about a serious national condition. It is a national feeling of fear and frustration that could result in national suicide and the end of everything that we Americans hold dear. It is a condition that comes from the lack of effective leadership in either the Legislative Branch or the Executive Branch of our Government.

That leadership is so lacking that serious and responsible proposals are being made that national advisory commissions be appointed to provide such critically needed leadership.

I speak as briefly as possible because too much harm has already been done with irresponsible words of bitterness and selfish political opportunism. I speak as briefly as possible because the issue is too great to be obscured by eloquence. I speak simply and briefly in the hope that my words will be taken to heart.

I speak as a Republican. I speak as a woman. I speak as a United States Senator. I speak as an American.

The United States Senate has long enjoyed worldwide respect as the greatest deliberative body in the world. But recently that deliberative character has too often been debased to the level of a forum of hate and character assassination sheltered by the shield of congressional immunity.

It is ironical that we Senators can in debate in the Senate directly or indirectly, by any form of words, impute to any American who is not a Senator any conduct or motive unworthy or unbecoming an American—and without that non-Senator American having any legal redress against us—yet if we say the same thing in the Senate about our colleagues we can be stopped on the grounds of being out of order.

It is strange that we can verbally attack anyone else without restraint and with full protection and yet we hold ourselves above the same type of criticism here on the Senate Floor. Surely the United States Senate is big enough to take self-criticism and self-appraisal. Surely we should be able to take the same kind of character attacks that we "dish out" to outsiders.

I think that it is high time for the United States Senate and its members to do some soul-searching—for us to weigh our consciences—on the manner in which we are performing our duty to the people of America—on the manner in which we are using or abusing our individual powers and privileges.

I think that it is high time that we remembered that we have sworn to uphold and defend the Constitution. I think that it is high time that we remembered that the Constitution, as amended, speaks not only of the freedom of speech but also of trial by jury instead of trial by accusation.

Whether it be a criminal prosecution in court or a character prosecution in the Senate, there is little practical distinction when the life of a person has been ruined.

Those of us who shout the loudest about Americanism in making character assassinations are all too frequently those who, by our own words and acts, ignore some of the basic principles of Americanism:

> The right to criticize;
>
> The right to hold unpopular beliefs;
>
> The right to protest;
>
> The right of independent thought.

The exercise of these rights should not cost one single American citizen his reputation or his right to a livelihood nor should he be in danger of losing his reputation or livelihood merely because he happens to know someone who holds unpopular beliefs. Who of us doesn't? Otherwise none of us could call our souls our own. Otherwise thought control would have set in.

The American people are sick and tired of being afraid to speak their minds lest they be politically smeared as "Communists" or "Fascists" by their opponents. Freedom of speech is not what it used to be in America. It has been so abused by some that it is not exercised by others.

The American people are sick and tired of seeing innocent people smeared and guilty people whitewashed. But there have been enough proved cases, such as the Amerasia case, the Hiss case, the Coplon case, the Gold case, to cause the nationwide distrust and strong suspicion that there may be something to the unproved, sensational accusations.

I doubt if the Republican Party could—simply because I don't believe the American people will uphold any political party that puts political exploitation above national interest. Surely we Republicans aren't that desperate for victory.

I don't want to see the Republican Party win that way. While it might be a fleeting victory for the Republican Party, it would be a more lasting defeat for the American people. Surely it would ultimately be suicide for the Republican Party and the two-party system that has protected our American liberties from the dictatorship of a one party system.

As members of the Minority Party, we do not have the primary authority to formulate the policy of our Government. But we do have the responsibility of rendering constructive criticism, of clarifying issues, of allaying fears by acting as responsible citizens.

As a woman, I wonder how the mothers, wives, sisters, and daughters feel about the way in which members of their families have been politically mangled in the Senate debate—and I use the word "debate" advisedly.

As a United States Senator, I am not proud of the way in which the Senate has been made a publicity platform for irresponsible sensationalism. I am not proud of the reckless abandon in which unproved charges have been hurled from the side of the aisle. I am not proud of the obviously staged, undignified countercharges that have been attempted in retaliation from the other side of the aisle.

I don't like the way the Senate has been made a rendezvous for vilification, for selfish political gain at the sacrifice of individual reputations and national unity. I am not proud of the way we smear outsiders from the Floor of the Senate and hide behind the cloak of congressional immunity and still place ourselves beyond criticism on the Floor of the Senate.

As an American, I am shocked at the way Republicans and Democrats alike are playing directly into the Communist design of "confuse, divide, and conquer." As an American, I don't want a Democratic Administration "whitewash" or "cover-up" any more than a want a Republican smear or witch hunt.

As an American, I condemn a Republican "Fascist" just as much I condemn a Democratic "Communist." I condemn a Democrat "Fascist" just as much as I condemn a Republican "Communist." They are equally dangerous to you and me and to our country. As an American, I want to see our nation recapture the strength and unity it once had when we fought the enemy instead of ourselves.

It is with these thoughts that I have drafted what I call a "Declaration of Conscience." I am gratified that Senator Tobey, Senator Aiken, Senator Morse, Senator Ives, Senator Thye, and Senator Hendrickson have concurred in that declaration and have authorized me to announce their concurrence.

King, Jr., Martin Luther. "Letter from Birmingham Jail." *Why We Can't Wait.* New York: Signet Classics, 2000. (1963)

My Dear Fellow Clergymen:

While confined here in the Birmingham city jail, I came across your recent statement calling my present activities "unwise and untimely." Seldom do I pause to answer criticism of my work and ideas. If I sought to answer all the criticisms that cross my desk, my secretaries would have little time for anything other than such correspondence in the course of the day, and I would have no time for constructive work. But since I feel that you are men of genuine good will and that your criticisms are sincerely set forth, I want to try to answer your statements in what I hope will be patient and reasonable terms.

I think I should indicate why I am here In Birmingham, since you have been influenced by the view which argues against "outsiders coming in." I have the honor of serving as president of the Southern Christian Leadership Conference, an organization operating in every southern state, with headquarters in Atlanta, Georgia. We have some eighty-five affiliated organizations across the South, and one of them is the Alabama Christian Movement for Human Rights. Frequently we share staff, educational and financial resources with our affiliates. Several months ago the affiliate here in Birmingham asked us to be on call to engage in a nonviolent direct-action program if such were deemed necessary. We readily consented, and when the hour came we lived up to our promise. So I, along with several members of my staff, am here because I was invited here I am here because I have organizational ties here.

But more basically, I am in Birmingham because injustice is here. Just as the prophets of the eighth century B.C. left their villages and carried their "thus saith the Lord" far beyond the boundaries of their home towns, and just as the Apostle Paul left his village of Tarsus and carried the gospel of Jesus Christ to the far corners of the Greco-Roman world, so am I. compelled to carry the gospel of freedom beyond my own home town. Like Paul, I must constantly respond to the Macedonian call for aid.

Moreover, I am cognizant of the interrelatedness of all communities and states. I cannot sit idly by in Atlanta and not be concerned about what happens in Birmingham. Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly. Never again can we afford to live with the narrow, provincial "outside agitator" idea. Anyone who lives inside the United States can never be considered an outsider anywhere within its bounds.

King, Jr., Martin Luther. "I Have a Dream: Address Delivered at the March on Washington, D.C., for Civil Rights on August 28, 1963." (1963)

Angelou, Maya. *I Know Why the Caged Bird Sings*. New York: Random House, 1970. (1969)
From Chapter 14

She said she was going to give me some books and that I not only must read them, I must read them aloud. She suggested that I try to make a sentence sound in as many different ways as possible.

"I'll accept no excuse if you return a book to me that has been badly handled." My imagination boggled at the punishment I would deserve if in fact I did abuse a book of Mrs. Flowers'. Death would be too kind and brief.

The odors in the house surprised me. Somehow I had never connected Mrs. Flowers with food or eating or any other common experience of common people. There must have been an outhouse, too, but my mind never recorded it.

The sweet scent of vanilla had met us as she opened the door.

"I made tea cookies this morning. You see, I had planned to invite you for cookies and lemonade so we could have this little chat. The lemonade is in the icebox."

It followed that Mrs. Flowers would have ice on an ordinary day, when most families in our town bought ice late on Saturdays only a few times during the summer to be used in the wooden ice-cream freezers.

She took the bags from me and disappeared through the kitchen door. I looked around the room that I had never in my wildest fantasies imagined I would see. Browned photographs leered or threatened from the walls and the white, freshly done curtains pushed against themselves and against the wind. I wanted to gobble up the room entire and take it to Bailey, who would help me analyze and enjoy it.

Wiesel, Elie. "Hope, Despair and Memory." *Nobel Lectures in Peace 1981–1990*. Singapore: World Scientific, 1997. (1986)

It is with a profound sense of humility that I accept the honor - the highest there is - that you have chosen to bestow upon me. I know your choice transcends my person.

Do I have the right to represent the multitudes who have perished? Do I have the right to accept this great honor on their behalf? I do not. No one may speak for the dead, no one may interpret their mutilated dreams and visions. And yet, I sense their presence. I always do - and at this moment more than ever. The presence of my parents, that of my little sister. The presence of my teachers, my friends, my companions...

This honor belongs to all the survivors and their children and, through us to the Jewish people with whose destiny I have always identified.

I remember: it happened yesterday, or eternities ago. A young Jewish boy discovered the Kingdom of Night. I remember his bewilderment, I remember his anguish. It all happened so fast. The ghetto. The deportation. The sealed cattle car. The fiery altar upon which the history of our people and the future of mankind were meant to be sacrificed.

I remember he asked his father: "Can this be true? This is the twentieth century, not the Middle Ages. Who would allow such crimes to be committed? How could the world remain silent?"

And now the boy is turning to me. "Tell me," he asks, "what have you done with my future, what have you done with your life?" And I tell him that I have tried. That I have tried to keep memory alive, that I have tried to fight those who would forget. Because if we forget, we are guilty, we are accomplices.

And then I explain to him how naïve we were, that the world did know and remained silent. And that is why I swore never to be silent whenever wherever human beings endure suffering and humiliation. We must take sides. Neutrality helps the oppressor, never the victim. Silence encourages the tormentor, never the tormented. Sometimes we must interfere. When human lives are endangered, when human dignity is in jeopardy, national borders and sensitivities become irrelevant. Wherever men and women are persecuted because of their race, religion, or political views, that place must— at that moment—become the center of the universe.

Reagan, Ronald. "Address to Students at Moscow State University." *The American Reader: Words that Moved a Nation, 2nd Edition*. Edited by Diane Ravitch. New York: HarperCollins, 2000. (1988)
From "Ronald Reagan: Speech at Moscow State University"

But progress is not foreordained. The key is freedom—freedom of thought, freedom of information, freedom of communication. The renowned scientist, scholar, and founding father of this university, Mikhail Lomonosov, knew that. "It is common knowledge," he said, "that the achievements of science are considerable and rapid, particularly once the yoke of slavery is cast off and replaced by the freedom of philosophy." [...]

The explorers of the modern era are the entrepreneurs, men with vision, with the courage to take risks and faith enough to brave the unknown. These entrepreneurs and their small enterprises are responsible for almost all the economic growth in the United States. They are the prime movers of the technological revolution. In fact, one of the largest personal computer firms in the United States was started by two college students, no older than you, in the garage behind their home. Some people, even in my own country, look at the riot of experiment that is the free market and see only waste. What of all the entrepreneurs that fail? Well, many do, particularly the successful ones; often several times. And if you ask them the secret of their success, they'll tell you it's all that they learned in their struggles along the way; yes, it's what they learned from failing. Like an athlete in competition or a scholar in pursuit of the truth, experience is the greatest teacher. [...]

We Americans make no secret of our belief in freedom. In fact, it's something of a national pastime. Every 4 years the American people choose a new President, and 1988 is one of those years. At one point there were 13 major candidates running in the two major parties, not to mention all the others, including the Socialist and Libertarian candidates—all trying to get my job.

About 1,000 local television stations, 8,500 radio stations, and 1,700 daily newspapers—each one an independent, private enterprise, fiercely independent of the Government—report on the candidates, grill them in interviews, and bring them together for debates. In the end, the people vote; they decide who will be the next President.

But freedom doesn't begin or end with elections. Go to any American town, to take just an example, and you'll see dozens of churches, representing many different beliefs—in many places, synagogues and mosques—and you'll see families of every conceivable nationality worshiping together. Go into any schoolroom, and there you will see children being taught the Declaration of Independence, that they are endowed by their Creator with certain unalienable rights—among them life, liberty, and the pursuit of happiness—that no government can justly deny; the guarantees in their Constitution for freedom of speech, freedom of assembly, and freedom of religion.

Go into any courtroom, and there will preside an independent judge, beholden to no government power. There every defendant has the right to a trial by a jury of his peers, usually 12 men and women—common citizens; they are the ones, the only ones, who weigh the evidence and decide on guilt or innocence. In that court, the accused is innocent until proven guilty, and the word of a policeman or any official has no greater legal standing than the word of the accused.

Go to any university campus, and there you'll find an open, sometimes heated discussion of the problems in American society and what can be done to correct them. Turn on the television, and you'll see the legislature conducting the business of government right there before the camera, debating and voting on the legislation that will become the law of the land. March in any demonstration, and there are many of them; the people's right of assembly is guaranteed in the Constitution and protected by the police. Go into any union hall, where the members know their right to strike is protected by law.

But freedom is more even than this. Freedom is the right to question and change the established way of doing things. It is the continuing revolution of the marketplace. It is the understanding that allows us to recognize shortcomings and seek solutions. It is the right to put forth an idea, scoffed at by the experts, and watch it catch fire among the people. It is the right to dream—to follow your dream or stick to your conscience, even if you're the only one in a sea of doubters. Freedom is the recognition that no single person, no single authority or government has a monopoly on the truth, but that every individual life is infinitely precious, that every one of us put on this world has been put there for a reason and has something to offer.

Quindlen, Anna. "A Quilt of a Country." Newsweek September 27, 2001. (2001)

America is an improbable idea. A mongrel nation built of ever-changing disparate parts, it is held together by a notion, the notion that all men are created equal, though everyone knows that most men consider themselves better than someone. "Of all the nations in the world, the United States was built in nobody's image," the historian Daniel Boorstin wrote. That's because it was built of bits and pieces that seem discordant, like the crazy quilts that have been one of its great folk-art forms, velvet and calico and checks and brocades. Out of many, one. That is the ideal.

Sample Performance Tasks for Informational Texts: English Language Arts

- Students compare George Washington's Farewell Address to other foreign policy statements, such as the Monroe Doctrine, and *analyze* how both texts *address similar themes and concepts* regarding "entangling alliances." [RI.9–10.9]

- Students *analyze how* Abraham Lincoln in his "Second Inaugural Address" *unfolds* his examination of the *ideas* that led to the Civil War, paying particular attention to *the order in which the points are made, how* Lincoln *introduces and develops* his points, *and the connections that are drawn between them*. [RI.9–10.3]
- Students *evaluate* the *argument and specific claims* about the "spirit of liberty" in Learned Hand's "I Am an American Day Address," *assessing the relevance and sufficiency of the evidence and the validity of his reasoning*. [RI.9–10.8]
- Students *determine the purpose* and *point of view* in Martin Luther King, Jr.'s, "I Have a Dream" speech and *analyze* how King *uses rhetoric to advance* his position. [RI.9–10.6]

Informational Texts: History/Social Studies

Brown, Dee. *Bury My Heart at Wounded Knee: An Indian History of the American West.* New York: Holt Rinehart Winston, 1970. (1970)
From Chapter 1: "Their Manners Are Decorous and Praiseworthy"

The decade following establishment of the "permanent Indian frontier" was a bad time for the eastern tribes. The great Cherokee nation had survived more than a hundred years of the white man's wars, diseases, and whiskey, but now it was to be blotted out. Because the Cherokees numbered several thousands, their removal to the West was planned to be in gradual stages, but the discovery of Appalachian gold within their territory brought on a clamor for their immediate wholesale exodus. During the autumn of 1838, General Winfield Scott's soldiers rounded them up and concentrated them into camps. (A few hundred escaped to the Smoky Mountains and many years later where given a small reservation in North Carolina.) From the prison camps they were started westward to Indian Territory. On the long winter trek, one of every four Cherokees died from the cold, hunger, or disease. They called the march their "trail of tears." The Choctaws, Chickasaws, Creeks, and Seminoles also gave up their homelands in the South. In the North, surviving remnants of the Shawnees, Miamis, Ottawas, Hurons, Delawares, and many other once mighty tribes walked or traveled by horseback and wagon beyond the Mississippi, carrying their shabby goods, their rusty farming tools, and bags of seed corn. All of them arrived as refugees, poor relations, in the country of the proud and free Plains Indians.

Scarcely were the refugees settled behind the security of the "permanent Indian frontier" when soldiers began marching westward through Indian country. The white men of the United States—who talked so much of peace but rarely seemed to practice it—were marching to war with the white men who had conquered the Indians of Mexico. When the war with Mexico ended in 1847, the United States took possession of a vast expanse of territory reaching from Texas to California. All of it was west of the "permanent Indian frontier."

Connell, Evan S. *Son of the Morning Star: Custer and the Little Bighorn.* New York: Harper Perennial, 1985. (1984)

Sitting Bull. Sitting Bull.

In English this name sounds a little absurd, and to whites of the nineteenth century is was still more so; they alluded to him as Slightly Recumbent Gentleman Cow.

Exact Translation from the Sioux is impossible, but his name may be better understood if one realizes how plains Indians respected and honored the bull buffalo. Whites considered this animal to be exceptionally stupid. Col. Dodge states without equivocation that the buffalo is the dullest creature of which he has any knowledge. A herd of buffalo would graze complacently while every member was shot down. He himself shot two cows and thirteen calves while the survivors grazed and watched. He and others in his party had to shout and wave their hats to drive the herd away so the dead animals could be butchered.

Indians, however, regarded buffalo as the wisest and most powerful of creatures, nearest to the omnipresent Spirit. Furthermore if one says in English that somebody is sitting it means he is seated, balanced on the haunches; but the Sioux expression has an additional sense, not equivalent to but approximating the English words situate and locate and reside.

Thus from an Indian point of view, the name Sitting Bull signified a wise and powerful being who had taken up residence among them.

As a boy, he was called Slow, Hunkesni, because of his deliberate manner, and it has been alleged that his parents thought him ordinary, perhaps even a bit slow in the head. Most biographies state that he was known also as Jumping Badger; but Stanley Vestal, after talking to many Indians who knew his, said that none of them nor any member of Sitting Bull's family could remember his being called Jumping Badger. In any event, Slow he was called, and Slow would suffice until he distinguished himself.

Gombrich, E. H. *The Story of Art, 16th Edition*. London: Phaidon, 1995. (1995)
From Chapter 27: "Experimental Art: The First Half of the Twentieth Century"

In one of his letters to a young painter, Cézanne had advised him to look at nature in terms of spheres, cones and cylinders. He presumably meant that he should always keep these basic solid shapes in mind when organizing his pictures. But Picasso and his friends decided to take this advice literally. I suppose that they reasoned somewhat like this: 'We have long given up claiming that we represent things as they appear to our eyes. That was a will-o'-the-wisp which it is useless to pursue. We do not want to fix on the canvas the imaginary impression of a fleeting moment. Let us follow Cézanne's example, and build up the picture of our motifs as solidly and enduringly as we can. Why not be consistent and accept the fact that our real aim is rather to construct something, rather than to copy something? If we think of an object, let us say a violin, it does not appear before the eye of our mind the way it would appear before our bodily eyes. We can, and in fact do, think of its various aspects at the same time. Some of them stand out so clearly that we feel we can touch them and handle them; others are somehow blurred. And this strange medley of images represents more of the "real" violin than any single snapshot or meticulous painting could ever contain.' This, I suppose, was the reasoning which led to such paintings as Picasso's still life of a violin, figure 374. In some respects, it represents a return to what we have called Egyptian principles, in which an object was drawn from the angle from which its characteristic form came out most clearly.

[Figure 374]
Pablo Picasso, Violin and Grapes, 1912
Oil on canvas, 50.6 x 61 cm, 20 x 24 in;
The Museum of Modern Art, New York
Mrs. David M. Levy Bequest

Kurlansky, Mark. *Cod: A Biography of the Fish That Changed the World*. New York: Walker, 1997. (1997)
From Chapter 1: "The Race to Codlandia"

A medieval fisherman is said to have hauled up a three-foot-long cod, which was common enough at the time. And the fact that the cod could talk was not especially surprising. But what was astonishing was that it spoke an unknown language. It spoke Basque.

This Basque folktale shows not only the Basque attachment to their orphan language, indecipherable to the rest of the world, but also their tie to the Atlantic cod, Gadus morhua, a fish that has never been found in Basque or even Spanish waters.

The Basques are enigmatic. They have lived in what is now the northwest corner of Spain and a nick of the French southwest for longer than history records, and not only is the origin of their language unknown, but also the origin of the people themselves remains a mystery also. According to one theory, these rosy-cheeked, dark-haired, long-nosed people where the original Iberians, driven by invaders to this mountainous corner between the Pyrenees, the Cantabrian Sierra, and the Bay of Biscay. Or they may be indigenous to this area.

They graze sheep on impossibly steep, green slopes of mountains that are thrilling in their rare, rugged beauty. They sing their own songs and write their own literature in their own language, Euskera. Possibly Europe's oldest living language, Euskera is one of only four European languages—along with Estonian, Finnish, and Hungarian—not in the Indo-European family. They also have their own sports, most notably jai alai, and even their own hat, the Basque beret, which is bigger than any other beret.

Haskins, Jim. *Black, Blue and Gray: African Americans in the Civil War*. New York: Simon & Schuster, 1998. (1998)
From "Introduction: A 'White Man's War?'"

In 1775 the first shots were fired in the war between the thirteen American colonies and Great Britain that ended in a victory for the colonists and the founding of a new nation, the United States of America. Only eighty-five years later, in 1861, the first shots were fired in a different war—a war between the states that became known as the Civil War. It was a war fought between the Confederate States of America and the states that remained in the Union—each side representing a distinct economy, labor system, and philosophy of government. The southern states that formed the Confederacy had agricultural economies that depended on a slave workforce and believed that any rights not granted to the federal government by the United States Constitution belonged to the states. The northern states were undergoing rapid industrialization, which depended on wage labor, and while northerners disagreed among themselves about slavery, most believed it represented a direct challenge to their own rights and freedoms. Most also believed that a strong federal government, with the ability to legislate behavior in areas not specifically set forth in the Constitution, was key to the growth and strength of the American republic. It was inevitable that these two very distinct societies would clash. For the Confederates, nicknamed Rebels, the Civil War was a new war of Independence. For the Unionists, nicknamed Yankees, it was a war to preserve the Union that had been so dearly won in the American Revolution.

In the eyes of the four and an half million African Americans, enslaved and free, it was a war about slavery; and they wanted to be part of the fight. But many northern whites did not want blacks to serve in the northern military. They called it a "white man's war" and said that slavery was not the main point of the conflict. At first, northern generals actually sent escaped slaves back to their southern masters. Eventually, the Union did accept blacks into its army and navy.

A total of 178,895 black men served in 120 infantry regiments, twelve heavy artillery regiments, ten light artillery batteries, and seven cavalry regiments. Black soldiers constituted twelve percent of the North's fighting forces, and they suffered a disproportionate number of casualties.

Dash, Joan. *The Longitude Prize.* New York: Farrar, Straus and Giroux, 2000. (2000)
From Chapter 1: "A Most Terrible Sea"

> At six in the morning I was awaked by a great shock, and a confused noise of the men on deck. I ran up, thinking some ship had run foul of us, for by my own reckoning, and that of every other person in the ship, we were at least thirty-five leagues distant from land; but, before I could reach the quarter-deck, the ship gave a great stroke upon the ground, and the sea broke over her. Just after this I could perceive the land, rocky, rugged and uneven, about two cables' length from us…the masts soon went overboard, carrying some men with them…notwithstanding a most terrible sea, one of the [lifeboats] was launched, and eight of the best men jumped into her; but she had scarcely got to the ship's stern when she was hurled to the bottom, and every soul in her perished. The rest of the boats were soon washed to pieces on the deck. We then made a raft…and waited with resignation for Providence to assist us.
>
> —From an account of the wreck of HMS Litchfield off the coast of North Africa, 1758

The Litchfield came to grief because no one aboard knew where they were. As the narrator tells us, by his own reckoning and that of everyone else they were supposed to be thirty-five leagues, about a hundred miles, from land. The word "reckoning" was short for "dead reckoning"—the system used by ships at sea to keep track of their position, meaning their longitude and latitude. It was an intricate system, a craft, and like every other craft involved the mastery of certain tools, in this case such instruments as compass, hourglass, and quadrant. It was an art as well.

Latitude, the north-south position, had always been the navigator's faithful guide. Even in ancient times, a Greek or Roman sailor could tell how far north of the equator he was by observing the North Star's height above the horizon, or the sun's at noon. This could be done without instruments, trusting in experience and the naked eye, although it is believed that an ancestor of the quadrant called the astrolabe—"star-measurer"—was known to the ancients, and used by them to measure the angular height of the sun or a star above the horizon.

Phoenicians, Greeks, and Romans tended to sail along the coasts and were rarely out of sight of land. As later navigators left the safety of the Mediterranean to plunge into the vast Atlantic—far from shore, and from the shorebirds that led them to it—they still had the sun and the North Star. And these enabled them to follow imagined parallel lines of latitude that circle the globe. Following a line of latitude—"sailing the parallel"—kept a ship on a steady east-west course. Christopher Columbus, who sailed the parallel in 1492, held his ships on such a safe course, west and west again, straight on toward Asia. When they came across an island off the coast of what would later be called America, Columbus compelled his crew to sign an affidavit stating that this island was no island but mainland Asia.

Thompson, Wendy. *The Illustrated Book of Great Composers.* London: Anness, 2004. (2004)
From "Composition through the Ages"

Music as a Language Music as a language is the most mysterious of all art forms. People who can easily come to terms with a work of literature or a painting are still often baffled by the process by which a piece of music – appearing in material form as notation – must then be translated back into sound through the medium of a third party – the performer. Unlike a painting, a musical composition cannot be owned (except by its creator); and although a score may be published, like a book, it may remain incomprehensible to the general public until it is performed. Although a piece may be played thousands of times each repetition is entirely individual, and interpretations by different players may vary widely.

Origins of musical notation The earliest musical compositions were circumscribed by the range of the human voice. People from all cultures have always sung, or used primitive instruments to make sounds. Notation, or the writing down of music, developed to enable performers to remember what they had improvised, to preserve what they had created, and to facilitate interaction between more than one performer. Musical notation, like language, has ancient origins, dating back to the Middle East in the third millennium BC. The ancient Greeks appear to have been the first to try to represent variations of musical pitch through the medium of the alphabet, and successive civilizations all over the world attempted to formulate similar systems of recognizable musical notation.

Neumatic notation   The earliest surviving Western European notational system was called "neumatic notation"—a system of symbols which attempted to portray the rise and fall of a melodic line. These date back to the 9th century AD, and were associated with the performance of sacred music particularly plainsong—in monastic institutions. Several early manuscript sources contain sacred texts with accompanying notation, although there was no standard system. The first appearance of staff notation, in which pitch was indicated by noteheads on or between lines with a symbol called a clef at the beginning to fix the pitch of one note, was in the 9th century French treatise Musica enchiriadis. At the same time music for instruments (particularly organ and lute) was beginning to be written down in diagrammatic form known as tablature, which indicated the positions of the player's fingers.

Mann, Charles C. *Before Columbus: The Americas of 1491.* New York: Atheneum, 2009. (2009)
From Chapter 2

If you asked modern scientists to name the world's greatest achievements in genetic engineering, you might be surprised by one of their low-tech answers: maize.

Scientists know that maize, called "corn" in the United States, was created more than 6,000 years ago. Although exactly how this well-know plant was invented is still a mystery, they do know where it was invented—in the narrow "waist" of southern Mexico. This jumble of mountains, beaches, wet tropical forests, and dry plains is the most ecologically diverse part of Mesoamerica. Today it is the home of more than a dozen different Indian groups, but the human history of these hills and valleys stretches far into the past.

From Hunting to Gathering to Farming

About 11,500 years ago a group of Paleoindians was living in caves in what is now the Mexican state of Puebla. These people were hunters, but they did not bring down mastodons and mammoths. Those huge species were already extinct. Now and then they even feasted on giant turtles (which were probably a lot easier to catch than the fast-moving deer and rabbits.)

Over the next 2,000 years, though, game animals grew scarce. Maybe the people of the area had been too successful at hunting. Maybe, as the climate grew slowly hotter and drier, the grasslands where the animals lived shrank, and so the animal populations shrank, as well. Perhaps the situation was a combination of these two reasons. Whatever the explanation, hunters of Puebla and the neighboring state of Oaxaca turned to plants for more of their food.

Informational Texts: Science, Mathematics, and Technical Subjects

Euclid. *Elements*. Translated by Richard Fitzpatrick. Austin: Richard Fitzpatrick, 2005. (300 BCE)
From *Elements*, Book 1

Definitions

1. A point is that of which there is no part.
2. And a line is a length without breadth.
3. And the extremities of a line are points.
4. A straight-line is whatever lies evenly with points upon itself.
5. And a surface is that which has length and breadth alone.
6. And the extremities of a surface are lines.
7. A plane surface is whatever lies evenly with straight-lines upon itself.

8. And a plane angle is the inclination of the lines, when two lines in a plane meet one another, and are not laid down straight-on with respect to one another.

9. And when the lines containing the angle are straight then the angle is called rectilinear.

10. And when a straight-line stood upon (another) straight-line makes adjacent angles (which are) equal to one another, each of the equal angles is a right-angle, and the former straight-line is called perpendicular to that upon which it stands.

11. An obtuse angle is greater than a right-angle.

12. And an acute angle is less than a right-angle.

13. A boundary is that which is the extremity of something.

14. A figure is that which is contained by some boundary or boundaries.

15. A circle is a plane figure contained by a single line [which is called a circumference], (such that) all of the straight-lines radiating towards [the circumference] from a single point lying inside the figure are equal to one another.

16. And the point is called the center of the circle.

17. And a diameter of the circle is any straight-line, being drawn through the center, which is brought to an end in each direction by the circumference of the circle. And any such (straight-line) cuts the circle in half.

18. And a semi-circle is the figure contained by the diameter and the circumference it cuts off. And the center of the semi-circle is the same (point) as the (center of) the circle.

19. Rectilinear figures are those figures contained by straight-lines: trilateral figures being contained by three straight-lines, quadrilateral by four, and multilateral by more than four.

20. And of the trilateral figures: an equilateral triangle is that having three equal sides, an isosceles (triangle) that having only two equal sides, and a scalene (triangle) that having three unequal sides.

21. And further of the trilateral figures: a right-angled triangle is that having a right-angle, an obtuse-angled (triangle) that having an obtuse angle, and an acute-angled (triangle) that having three acute angles.

22. And of the quadrilateral figures: a square is that which is right-angled and equilateral, a rectangle that which is right-angled but not equilateral, a rhombus that which is equilateral but not right-angled, and a rhomboid that having opposite sides and angles equal to one another which is neither right-angled nor equilateral. And let quadrilateral figures besides these be called trapezia.

23. Parallel lines are straight-lines which, being in the same plane, and being produced to infinity in each direction, meet with one another in neither (of these directions).

Postulates

1. Let it have been postulated to draw a straight-line from any point to any point.

2. And to produce a finite straight-line continuously in a straight-line.

3. And to draw a circle with any center and radius.

4. And that all right-angles are equal to one another.

5. And that if a straight-line falling across two (other) straight-lines makes internal angles on the same side (of itself) less than two right-angles, being produced to infinity, the two (other) straight-lines meet on that side (of the original straight-line) that the (internal angles) are less than two right-angles (and do not meet on the other side).

Common Notions

1. Things equal to the same thing are also equal to one another.

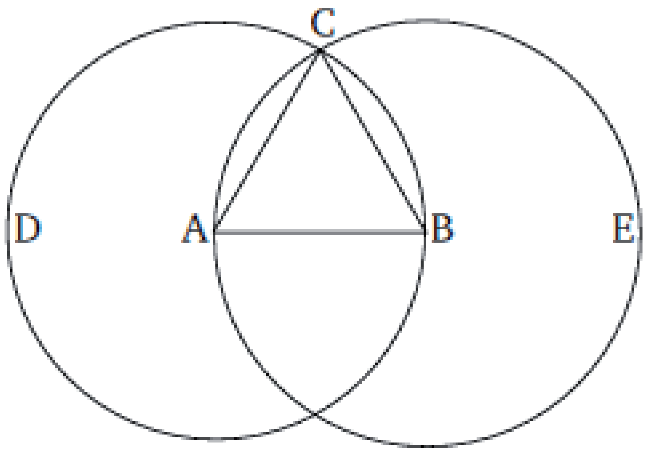
2. And if equal things are added to equal things then the wholes are equal.

3. And if equal things are subtracted from equal things then the remainders are equal.

4. And things coinciding with one another are equal to one another.

5. And the whole [is] greater than the part.

Proposition 1



To construct an equilateral triangle on a given finite straight-line.

Let AB be the given finite straight-line.

So it is required to construct an equilateral triangle on the straight-line AB.

Let the circle BCD with center A and radius AB have been drawn [Post. 3], and again let the circle ACE with center B and radius BA have been drawn [Post. 3]. And let the straight-lines CA and CB have been joined from the point C, where the circles cut one another, to the points A and B (respectively) [Post. 1].

And since the point A is the center of the circle CDB, AC is equal to AB [Def. 1.15]. Again, since the point B is the center of the circle CAE, BC is equal to BA [Def. 1.15]. But CA was also shown to be equal to AB. Thus, CA and CB are each equal to AB. But things equal to the same thing are also equal to one another [C.N.1]. Thus, CA is also equal to CB. Thus, the three (straight-lines) CA, AB, and BC are equal to one another.

Thus, the triangle ABC is equilateral, and has been constructed on the given finite straight-line AB. (Which is) the very thing it was required to do.

Media Text
Translator Robert Fitzpatrick's complete version of Euclid's Elements of Geometry, in bookmarked PDF form, with side-by-side Greek and English text:
http://farside.ph.utexas.edu/euclid/Elements.pdf

Cannon, Annie J. "Classifying the Stars." ***The Universe of Stars*****. Edited by Harlow Shapeley and Cecilia H. Payne. Cambridge, Mass.: Harvard Observatory, 1926. (1926)**

Sunlight and starlight are composed of waves of various lengths, which the eye, even aided by a telescope, is unable to separate. We must use more than a telescope. In order to sort out the component colors, the light must be dispersed by a prism, or split up by some other means. For instance, sunbeams passing through rain drops, are transformed into the myriad-tinted rainbow. The familiar rainbow spanning the sky is Nature's most glorious demonstration that light is composed of many colors.

The very beginning of our knowledge of the nature of a star dates back to 1672, when Isaac Newton gave to the world the results of his experiments on passing sunlight through a prism. To describe the beautiful band of rainbow tints, produced when sunlight was dispersed by his three-cornered piece of glass, he took from the Latin the word spectrum, meaning an appearance. The rainbow is the spectrum of the Sun.

[...]

In 1814, more than a century after Newton, the spectrum of the Sun was obtained in such purity that an amazing detail was seen and studied by the German optician, Fraunhofer. He saw that the multiple spectral tings, ranging from delicate violet to deep red, were crossed by hundreds of fine dark lines. In other words, there were narrow gaps in the spectrum where certain shades were wholly blotted out.

We must remember that the word spectrum is applied not only to sunlight, but also to the light of any glowing substance when its rays are sorted out by a prism or a grating.

Bronowski, Jacob, and Millicent Selsam*. Biography of an Atom.* New York: Harper, 1965. (1965)

The birth began in a young star. A young star is a mass of hydrogen nuclei. Because the star is hot (about thirteen million degrees at the center), the nuclei cannot hold on to their electrons. The electrons wander around. The nuclei of hydrogen—that is, the protons—are moving about very fast too. From time to time one proton runs headlong into another. When this happens, one of the protons loses its electric charge and changes into a neutron. The pair then cling together as a single nucleus of heavy hydrogen. This nucleus will in time capture another proton. Now there is a nucleus with two protons and one neutron, called light helium. When two of these nuclei smash into each other, two protons are expelled in the process. This creates a nucleus of helium with two protons and two neutrons.

This is the fundamental process of fusion by which the primitive hydrogen of the universe is built up into a new basic material, helium. In this process, energy is given off in the form of heat and light that make the stars shine. It is the first stage in the birth of the heavier atoms.

Walker, Jearl. "Amusement Park Physics." *Roundabout: Readings from the Amateur Scientist in Scientific American*. New York: Scientific American, 1985. (1985)
From "Amusement Park Physics: Thinking About Physics While Scared to Death (on a Falling Roller Coaster)"

The rides in an amusement park not only are fun but also demonstrate principles of physics. Among them are rotational dynamics and energy conversion. I have been exploring the rides at Geauga Lake Amusement Park near Cleveland and have found that nearly every ride offers a memorable lesson.

To me the scariest rides at the park are the roller coasters. The Big Dipper is similar to many of the roller coasters that have thrilled passengers for most of this century. The cars are pulled by chain t the top of the highest hill along the track, Released from the chain as the front of the car begins its descent, the unpowered cars have almost no speed and only a small acceleration. As more cars get onto the downward slope the acceleration increases. It peaks when all the cars are headed downward. The peak value is the product of the acceleration generated by gravity and the sine of the slope of the track. A steeper descent generates a greater acceleration, but packing the coaster with heavier passengers does not.

When the coaster reaches the bottom of the valley and starts up the next hill, there is an instant when the cars are symmetrically distributed in the valley. The acceleration is zero. As more cars ascend the coaster begins to slow, reaching its lowest speed just as it is symmetrically positioned at the top of the hill.

A roller coaster functions by means of transfers of energy. When the chain hauls the cars to the top of the first hill, it does work on the cars, endowing them with gravitational potential energy, the energy of a body in a gravitational field with respect to the distance of the body from some reference level such as the ground. As the cars descend into the first valley, much of the stored energy is transferred into kinetic energy, the energy of motion.

Preston, Richard. *The Hot Zone: A Terrifying True Story*. New York: Anchor, 1995. (1995)
From "Something in the Forest"

1980 New Year's Day

Charles Monet was a loner. He was a Frenchman who live by himself in a little wooden bungalow on the private lands of the Nzoia Sugar Factory, a plantation in western Kenya that spread along the Nzoiz Rover within sight of Mount Elgon, a huge, solitary, extinct volcano that rises to a height of fourteen thousand feet near the edge of the Rift Valley. Monet's history is a little obscure. As with so many expatriates who end up in Africa, it is not clear what brought him there. Perhaps he had been in some kind of trouble in France. Or perhaps he had been drawn to Kenya by the beauty of the country. He was an amateur naturalist, fond of birds and animals but not of humanity in general. He was fifty-six years old, of medium height and medium build with smooth, straight brown hair; a good-looking man. It seems that his only close friends were women who lived in towns around the mountain, yet even they could not recall much about him for the doctors who investigated his death. His job was to take care of the sugar factory's water-pumping machinery, which drew water from the Nzoia River and delivered it to many miles of sugar-cane fields. They say that he spent most of his day inside the pump house by the river as if it pleased him to watch and listen to the machines doing their work.

Devlin, Keith. *Life by the Numbers.* New York: John Wiley & Sons, 1999. (1999)
From Chapter 3: "Patterns of Nature"

Though animals come in many shapes and sizes, there are definite limits on the possible size of an animal of a particular shape. King Kong simply could not exist, for instance. As Labarbara has calculated, if you were to take a gorilla and blow it up to the size of King Kong, its weight would increase by more than 14,000 times but the size of its bones would increase by only a few hundred times. Kong's bones would simply not be able to support his body. He would collapse under his own weight!

And the same is true for all those giant locusts, giant ants, and the like. Imagining giants—giant people, giant animals, or giant insects—might prove the basis for an entertaining story, but the rules of science say that giants could not happen. You can't have a giant anything. If you want to change size, you have to change to overall design.

The reason is quite simple. Suppose you double the height (or length) of any creature, say, a gorilla. The weight will increase 8 times (i.e., 2 cubed), but the cross section of the bones will increase only fourfold (2 squared). Or, if you increase the height of the gorilla 10 times, the weight will increase, 1,000 times (10 cubed), but the cross-sectional area of the bones will increase only 100 times (10 squared). In general, when you increase the height by a certain factor, the weight will increase by the cube of that factor but the cross section of the bone will increase only by the square of that factor.

Hoose, Phillip. *The Race to Save Lord God Bird*. New York: Farrar, Straus and Giroux, 2004. (2004)

Hakim, Joy. *The Story of Science: Newton at the Center.* Washington, D.C.: Smithsonian Books, 2005. (2005)

Probability, a branch of mathematics, began with gambling. Pierre de Fermat (of the famous Last Theorem), Blaise Pascal, and the Bernoullis wanted to know the mathematical odds of winning at the card table. Probability didn't tell them for certain that they would or wouldn't draw an ace; it just told them how likely it was. A deck of 52 cards has 4 aces, so the odds of the first drawn card being an ace are 4 in 52 (or 1in 13).

If 20 cards have been played and not an ace among them, those odds improve to 4 in 32 (1in 8). Always keep in mind that probability is about the likelihood of outcomes, not the certainty. If there are only 4 cards left in the deck, and no aces have been played, you can predict with certainty that the next card will be an ace—but you're not using probability; you're using fact. Probability is central to the physics that deals with the complex world inside atoms. We can't determine the action of an individual particle, but with a large number of atoms, predictions based on probability become very accurate.

Nicastro, Nicholas. *Circumference: Eratosthenes and the Ancient Quest to Measure the Globe*. New York: St. Martin's Press, 2008. (2008)
From "The Astrolabe"

The astrolabe (in Greek, "star reckoner") is a manual computing and observation device with myriad uses in astronomy, time keeping, surveying, navigation, and astrology. The principles behind the most common variety, the planispheric astrolabe, were first laid down in antiquity by the Greeks, who pioneered the notion of projecting three-dimensional images on flat surfaces. The device reached a high degree of refinement in the medieval Islamic world, where it was invaluable for determining prayer times and the direction of Mecca from anywhere in the Muslim world. The astrolabe was introduced to Europe by the eleventh century, where is saw wide use until the Renaissance.

The fundamental innovation underlying the astrolabe was the projection of an image of the sky (usually the northern hemisphere, centered on Polaris) on a plane corresponding to the earth's equator. This image, which was typically etched on a brass plate, was inserted into a round frame (the mater) whose circumference was marked in degrees or hours. Over the plate was fitted a lattice-work disk, the rete, with pointers to indicate the positions of major stars. A metal hand, similar to those on a clock, was hinged with the rete at the center of the instrument, as was a sighting vane (the alidade) for determining the angular height of the stars or other features, such as mountaintops. The entire device was usually not more than six to eight inches in diameter and half an inch thick.

One common use of the astrolabe was to determine the time of day, even after dark.

Other uses included determination of sunrise, and sunset times for any date past or future, predicting eclipses, finding important stars or constellations, and measuring the height of earthbound objects and the circumference of the earth. For this and other reasons, the astrolabe has been called "the world's first personal computer."

U.S. Environmental Protection Agency/U.S. Department of Energy. Recommended Levels of Insulation. http://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_insulation_table 2010. (2010)

Recommended Levels of Insulation

Insulation level are specified by R-Value. R-Value is a measure of insulation's ability to resist heat traveling through it. The higher the R-Value the better the thermal per

Zone	Add Insulation to Attic		Floor
	Uninsulated Attic	Existing 3–4 Inches of Insulation	
1	R30 to R49	R25 to R30	R13
2	R30 to R60	R25 to R38	R13 to R19
3	R30 to R60	R25 to R38	R19 to R25
4	R38 to R60	R38	R25 to R30
5 to 8	R49 to R60	R38 to R49	R25 to R30

Wall Insulation: Whenever exterior siding is removed on an

Uninsulated wood-frame wall:

- **Drill holes in the sheathing and blow insulation into the empty wall cavity before installing the new siding, and**
- **Zones 3–4: Add R5 insulative wall sheathing beneath the new siding**
- **Zones 5–8: Add R5 to R6 insulative wall sheathing beneath the new siding.**

Insulated wood-frame wall:

- **For Zones 4 to 8: Add R5 insulative sheathing before installing the new siding.**

Sample Performance Tasks for Informational Texts: History/Social Studies & Science, Mathematics, and Technical Subjects

- Students *compare the* similarities and differences in *point of view* in works by Dee Brown and Evan Connell regarding the Battle of Little Bighorn, analyzing *how* the authors *treat the same* event and *which details they include and emphasize in their respective accounts*. [RH.9–10.6]
- Students analyze the role of African American soldiers in the Civil War by *comparing and contrasting primary source* materials against *secondary* syntheses such as Jim Haskins's *Black, Blue and Gray: African Americans in the Civil War*. [RH.9–10.9]
- Students *determine the meaning of words* such as *quadrant, astrolabe, equator*, and *horizon line* in Joan Dash's *The Longitude Prize* as well as *phrases* such as *dead reckoning* and *sailing the parallel* that reflect *social aspects of history*. [RH.9–10.4]
- Students *cite specific textual evidence* from Annie J. Cannon's "Classifying the Stars" *to support* their *analysis of* the scientific importance of the discovery that light is composed of many colors. Students *include* in their *analysis precise details* from the text (such as Cannon's repeated use of the image of the rainbow) to buttress their explanation. [RST.9–10.1].
- Students *determine how* Jearl Walker clarifies the *phenomenon* of acceleration in his essay "Amusement Park Physics," *accurately summarizing* his *conclusions* regarding the physics of roller coasters *and tracing* how *sup-*

porting details regarding the *processes* of rotational dynamics and energy conversion are incorporated in his explanation. [RST.9–10.2]

- Students read in Phillip Hoose's Race to Save Lord God Bird about the attempts scientists and bird-lovers made to save the ivory-billed woodpecker from extinction and *assess the extent to which the reasoning and evidence* Hoose presents *supports* his *scientific* analysis of why protecting this particular species was so challenging. [RST.9–10.8]

Grades 11–CCR Text Exemplars

Stories

Chaucer, Geoffrey. *The Canterbury Tales.* Translated into modern English by Neville Coghill. Harmondsworth: Penguin, 1951. (Late 14th Century)
From The General Prologue

When in April the sweet showers fall
That pierce March's drought to the root and all
And bathed every vein in liquor that has power
To generate therein and sire the flower;
When Zephyr also has with his sweet breath,
Filled again, in every holt and heath,
The tender shoots and leaves, and the young sun
His half-course in the sign of the Ram has run,
And many little birds make melody
That sleep through all the night with open eye
(So Nature pricks them on to ramp and rage)
Then folk do long to go on pilgrimage,
And palmers to go seeking out strange strands,
To distant shrines well known in distant lands.
And specially from every shire's end
Of England they to Canterbury went,
The holy blessed martyr there to seek
Who helped them when they lay so ill and weak
It happened that, in that season, on a day
In Southwark, at the Tabard, as I lay
Ready to go on pilgrimage and start
To Canterbury, full devout at heart,
There came at nightfall to that hostelry
Some nine and twenty in a company
Of sundry persons who had chanced to fall
In fellowship, and pilgrims were they all
That toward Canterbury town would ride.
The rooms and stables spacious were and wide,
And well we there were eased, and of the best.
And briefly, when the sun had gone to rest,
So had I spoken with them, every one,
That I was of their fellowship anon,
And made agreement that we'd early rise
To take the road, as I will to you apprise.
But none the less, whilst I have time and space,
Before yet further in this tale I pace,
It seems to me in accord with reason
To describe to you the state of every one
Of each of them, as it appeared to me,
And who they were, and what was their degree,
And even what clothes they were dressed in;
And with a knight thus will I first begin.

de Cervantes, Miguel. *Don Quixote: The Ormsby Translation, Revised Backgrounds and Sources Criticism*. New York: W. W. Norton, 1981. (1605)

In a village of La Mancha, the name of which I have no desire to call to mind, there lived not long since one of those gentlemen that keep a lance in the lance-rack, an old buckler, a lean hack, and a greyhound for coursing. An olla of rather more beef than mutton, a salad on most nights, scraps on Saturdays, lentils on Fridays, and a pigeon or so extra on Sundays, made away with three-quarters of his income. The rest of it went in a doublet of fine cloth and velvet breeches and shoes to match for holidays, while on week-days he made a brave figure in his best homespun. He had in his house a housekeeper past forty, a niece under twenty, and a lad for the field and market-place, who used to saddle the hack as well as handle the bill-hook. The age of this gentleman of ours was bordering on fifty; he was of a hardy habit, spare, gaunt-featured, a very early riser and a great sportsman. They will have it his surname was Quixada or Quesada (for here there is some difference of opinion among the authors who write on the subject), although from reasonable conjectures it seems plain that he was called Quexana. This, however, is of but little importance to our tale; it will be enough not to stray a hair's breadth from the truth in the telling of it.

You must know, then, that the above-named gentleman whenever he was at leisure (which was mostly all the year round) gave himself up to reading books of chivalry with such ardour and avidity that he almost entirely neglected the pursuit of his field-sports, and even the management of his property; and to such a pitch did his eagerness and infatuation go that he sold many an acre of tillageland to buy books of chivalry to read, and brought home as many of them as he could get. But of all there were none he liked so well as those of the famous Feliciano de Silva's composition, for their lucidity of style and complicated conceits were as pearls in his sight, particularly when in his reading he came upon courtships and cartels, where he often found passages like "the reason of the unreason with which my reason is afflicted so weakens my reason that with reason I murmur at your beauty;" or again, "the high heavens, that of your divinity divinely fortify you with the stars, render you deserving of the desert your greatness deserves." Over conceits of this sort the poor gentleman lost his wits, and used to lie awake striving to understand them and worm the meaning out of them; what Aristotle himself could not have made out or extracted had he come to life again for that special purpose. He was not at all easy about the wounds which Don Belianis gave and took, because it seemed to him that, great as were the surgeons who had cured him, he must have had his face and body covered all over with seams and scars. He commended, however, the author's way of ending his book with the promise of that interminable adventure, and many a time was he tempted to take up his pen and finish it properly as is there proposed, which no doubt he would have done, and made a successful piece of work of it too, had not greater and more absorbing thoughts prevented him.

Many an argument did he have with the curate of his village (a learned man, and a graduate of Siguenza) as to which had been the better knight, Palmerin of England or Amadis of Gaul. Master Nicholas, the village barber, however, used to say that neither of them came up to the Knight of Phoebus, and that if there was any that could compare with him it was Don Galaor, the brother of Amadis of Gaul, because he had a spirit that was equal to every occasion, and was no finikin knight, nor lachrymose like his brother, while in the matter of valour he was not a whit behind him. In short, he became so absorbed in his books that he spent his nights from sunset to sunrise, and his days from dawn to dark, poring over them; and what with little sleep and much reading his brains got so dry that he lost his wits. His fancy grew full of what he used to read about in his books, enchantments, quarrels, battles, challenges, wounds, wooings, loves, agonies, and all sorts of impossible nonsense; and it so possessed his mind that the whole fabric of invention and fancy he read of was true, that to him no history in the world had more reality in it. He used to say the Cid Ruy Diaz was a very good knight, but that he was not to be compared with the Knight of the Burning Sword who with one back-stroke cut in half two fierce and monstrous giants. He thought more of Bernardo del Carpio because at Roncesvalles he slew Roland in spite of enchantments, availing himself of the artifice of Hercules when he strangled Antaeus the son of Terra in his arms. He approved highly of the giant Morgante, because, although of the giant breed which is always arrogant and ill-conditioned, he alone was affable and well-bred. But above all he admired Reinaldos of Montalban, especially when he saw him sallying forth from his castle and robbing everyone he met, and when beyond the seas he stole that image of Mahomet which, as his history says, was entirely of gold. To have a bout of kicking at that traitor of a Ganelon he would have given his housekeeper, and his niece into the bargain.

In short, his wits being quite gone, he hit upon the strangest notion that ever madman in this world hit upon, and that was that he fancied it was right and requisite, as well for the support of his own honour as for the service of his country, that he should make a knight-errant of himself, roaming the world over in full armour and on horseback in quest of adventures, and putting in practice himself all that he had read of as being the usual practices of knights-errant; righting every kind of wrong, and exposing himself to peril and danger from which, in the issue, he was to reap eternal renown and fame. Already the poor man saw himself crowned by the might of his arm Emperor of Trebizond at least; and so, led away by the intense enjoyment he found in these pleasant fancies, he set himself forthwith to put his scheme into execution.

The first thing he did was to clean up some armour that had belonged to his great-grandfather, and had been for ages lying forgotten in a corner eaten with rust and covered with mildew. He scoured and polished it as best he could, but he perceived one great defect in it, that it had no closed helmet, nothing but a simple morion. This deficiency, however, his ingenuity supplied, for he contrived a kind of half-helmet of pasteboard which, fitted on to the morion, looked like a whole one. It is true that, in order to see if it was strong and fit to stand a cut, he drew his sword and gave it a couple of slashes, the first of which undid in an instant what had taken him a week to do. The ease with which he had knocked it to pieces disconcerted him somewhat, and to guard against that danger he set to work again, fixing bars of iron on the inside until he was satisfied with its strength; and then, not caring to try any more experiments with it, he passed it and adopted it as a helmet of the most perfect construction.

He next proceeded to inspect his hack, which, with more quartos than a real and more blemishes than the steed of Gonela, that "tantum pellis et ossa fuit," surpassed in his eyes the Bucephalus of Alexander or the Babieca of the Cid. Four days were spent in thinking what name to give him, because (as he said to himself) it was not right that a horse belonging to a knight so famous, and one with such merits of his own, should be without some distinctive name, and he strove to adapt it so as to indicate what he had been before belonging to a knight-errant, and what he then was; for it was only reasonable that, his master taking a new character, he should take a new name, and that it should be a distinguished and full-sounding one, befitting the new order and calling he was about to follow. And so, after having composed, struck out, rejected, added to, unmade, and remade a multitude of names out of his memory and fancy, he decided upon calling him Rocinante, a name, to his thinking, lofty, sonorous, and significant of his condition as a hack before he became what he now was, the first and foremost of all the hacks in the world.

Having got a name for his horse so much to his taste, he was anxious to get one for himself, and he was eight days more pondering over this point, till at last he made up his mind to call himself "Don Quixote," whence, as has been already said, the authors of this veracious history have inferred that his name must have been beyond a doubt Quixada, and not Quesada as others would have it. Recollecting, however, that the valiant Amadis was not content to call himself curtly Amadis and nothing more, but added the name of his kingdom and country to make it famous, and called himself Amadis of Gaul, he, like a good knight, resolved to add on the name of his, and to style himself Don Quixote of La Mancha, whereby, he considered, he described accurately his origin and country, and did honour to it in taking his surname from it.

So then, his armour being furbished, his morion turned into a helmet, his hack christened, and he himself confirmed, he came to the conclusion that nothing more was needed now but to look out for a lady to be in love with; for a knight-errant without love was like a tree without leaves or fruit, or a body without a soul. As he said to himself, "If, for my sins, or by my good fortune, I come across some giant hereabouts, a common occurrence with knights-errant, and overthrow him in one onslaught, or cleave him asunder to the waist, or, in short, vanquish and subdue him, will it not be well to have some one I may send him to as a present, that he may come in and fall on his knees before my sweet lady, and in a humble, submissive voice say, 'I am the giant Caraculiambro, lord of the island of Malindrania, vanquished in single combat by the never sufficiently extolled knight Don Quixote of La Mancha, who has commanded me to present myself before your Grace, that your Highness dispose of me at your pleasure'?" Oh, how our good gentleman enjoyed the delivery of this speech, especially when he had thought of some one to call his Lady! There was, so the story goes, in a village near his own a very good-looking farm-girl with whom he had been at one time in love, though, so far as is known, she never knew it nor gave a thought to the matter. Her name was Aldonza Lorenzo, and upon her he thought fit to confer the title of Lady of his Thoughts; and after some search for a name which should not be out of harmony with her own, and should suggest and indicate that of a princess and great lady, he decided upon calling her Dulcinea del Toboso—she being of El Toboso—a name, to his mind, musical, uncommon, and significant, like all those he had already bestowed upon himself and the things belonging to him.

Austen, Jane. *Pride and Prejudice.* New York: Oxford University Press, 1990. (1813)
From Chapter 1

It is a truth universally acknowledged that a single man in possession of a good fortune, must be in want of a wife.

However little known the feelings or views of such a man may be on his first entering a neighbourhood, this truth is so well fixed in the minds of the surrounding families that he is considered as the rightful property of someone or other of their daughters.

"My dear Mr. Bennet," said his lady to him one day, "have you heard that Netherfield Park is let at last?"

Mr. Bennet replied that he had not.

"But it is," returned she; "for Mrs. Long has just been here, and she told me all about it."

Mr. Bennet made no answer.

"Do not you want to know who has taken it?" cried his wife impatiently.

"You want to tell me, and I have no objection to hearing it."

This was invitation enough.

"Why, my dear, you must know, Mrs. Long says that Netherfield is taken by a young man of large fortune from the north of England; that he came down on Monday in a chaise and four to see the place, and was so much delighted with it, that he agreed with Mr. Morris immediately; that he is to take possession before Michaelmas, and some of his servants are to be in the house by the end of next week."

"What is his name?"

"Bingley."

"Is he married or single?"

"Oh! single, my dear, to be sure! A single man of large fortune; four or five thousand a year. What a fine thing for our girls!"

"How so? how can it affect them?"

"My dear Mr. Bennet," replied his wife, "how can you be so tiresome! You must know that I am thinking of his marrying one of them."

"Is that his design in settling here?"

"Design! nonsense, how can you talk so! But it is very likely that he may fall in love with one of them, and therefore you must visit him as soon as he comes."

"I see no occasion for that. You and the girls may go, or you may send them by themselves, which perhaps will be still better, for as you are as handsome as any of them, Mr. Bingley might like you the best of the party."

"My dear, you flatter me. I certainly have had my share of beauty, but I do not pretend to be anything extraordinary now. When a woman has five grown-up daughters she ought to give over thinking of her own beauty."

"In such cases a woman has not often much beauty to think of."

"But, my dear, you must indeed go and see Mr. Bingley when he comes into the neighbourhood."

"It is more than I engage for, I assure you."

"But consider your daughters. Only think what an establishment it would be for one of them. Sir William and Lady Lucas are determined to go, merely on that account, for in general, you know, they visit no new-comers. Indeed you must go, for it will be impossible for us to visit him if you do not."

"You are over-scrupulous surely. I dare say Mr. Bingley will be very glad to see you; and I will send a few lines by you to assure him of my hearty consent to his marrying whichever he chooses of the girls: though I must throw in a good word for my little Lizzy."

"I desire you will do no such thing. Lizzy is not a bit better than the others; and I am sure she is not half so handsome as Jane, nor half so good-humoured as Lydia. But you are always giving her the preference."

"They have none of them much to recommend them," replied he; "they are all silly and ignorant, like other girls; but Lizzy has something more of quickness than her sisters."

"Mr. Bennet, how can you abuse your own children in such a way! You take delight in vexing me. You have no compassion on my poor nerves."

"You mistake me, my dear. I have a high respect for your nerves. They are my old friends. I have heard you mention them with consideration these twenty years at least."

"Ah! you do not know what I suffer."

"But I hope you will get over it, and live to see many young men of four thousand a year come into the neighbourhood."

"It will be no use to us if twenty such should come, since you will not visit them."

"Depend upon it, my dear, that when there are twenty, I will visit them all."

Mr. Bennet was so odd a mixture of quick parts, sarcastic humour, reserve, and caprice, that the experience of three-and-twenty years had been insufficient to make his wife understand his character. Her mind was less difficult to develop. She was a woman of mean understanding, little information, and uncertain temper. When she was discontented she fancied herself nervous. The business of her life was to get her daughters married; its solace was visiting and news.

Poe, Edgar Allan. "The Cask of Amontillado." *Complete Stories and Poems of Edgar Allan Poe*. New York: Doubleday, 1984. (1846)

The thousand injuries of Fortunato I had borne as I best could, but when he ventured upon insult I vowed revenge. You, who so well know the nature of my soul, will not suppose, however, that gave utterance to a threat. At length I would be avenged; this was a point definitely, settled --but the very definitiveness with which it was resolved precluded the idea of risk. I must not only punish but punish with impunity. A wrong is unredressed when retribution overtakes its redresser. It is equally unredressed when the avenger fails to make himself felt as such to him who has done the wrong.

It must be understood that neither by word nor deed had I given Fortunato cause to doubt my good will. I continued, as was my in to smile in his face, and he did not perceive that my smile now was at the thought of his immolation.

He had a weak point --this Fortunato --although in other regards he was a man to be respected and even feared. He prided himself on his connoisseurship in wine. Few Italians have the true virtuoso spirit. For the most part their enthusiasm is adopted to suit the time and opportunity, to practise imposture upon the British and Austrian millionaires. In painting and gemmary, Fortunato, like his countrymen, was a quack, but in the matter of old wines he was sincere. In this respect I did not differ from him materially; --I was skilful in the Italian vintages myself, and bought largely whenever I could.

It was about dusk, one evening during the supreme madness of the carnival season, that I encountered my friend. He accosted me with excessive warmth, for he had been drinking much. The man wore motley. He had on a tight-fitting parti-striped dress, and his head was surmounted by the conical cap and bells. I was so pleased to see him that I thought I should never have done wringing his hand.

I said to him --"My dear Fortunato, you are luckily met. How remarkably well you are looking to-day. But I have received a pipe of what passes for Amontillado, and I have my doubts."

"How?" said he. "Amontillado, A pipe? Impossible! And in the middle of the carnival!"

"I have my doubts," I replied; "and I was silly enough to pay the full Amontillado price without consulting you in the matter. You were not to be found, and I was fearful of losing a bargain."

"Amontillado!"

"I have my doubts."

"Amontillado!"

"And I must satisfy them."

"Amontillado!"

"As you are engaged, I am on my way to Luchresi. If any one has a critical turn it is he. He will tell me --"

"Luchresi cannot tell Amontillado from Sherry."

"And yet some fools will have it that his taste is a match for your own.

"Come, let us go."

Brontë, Charlotte. *Jane Eyre*. Oxford: Oxford University Press, 2000. (1848)
From Chapter 1

There was no possibility of taking a walk that day. We had been wandering, indeed, in the leafless shrubbery an hour in the morning; but since dinner (Mrs. Reed, when there was no company, dined early) the cold winter wind had brought with it clouds so sombre, and a rain so penetrating, that further out-door exercise was now out of the question.

I was glad of it: I never liked long walks, especially on chilly afternoons: dreadful to me was the coming home in the raw twilight, with nipped fingers and toes, and a heart saddened by the chidings of Bessie, the nurse, and humbled by the consciousness of my physical inferiority to Eliza, John, and Georgiana Reed.

The said Eliza, John, and Georgiana were now clustered round their mama in the drawing-room: she lay reclined on a sofa by the fireside, and with her darlings about her (for the time neither quarrelling nor crying) looked perfectly happy. Me, she had dispensed from joining the group; saying, "She regretted to be under the necessity of keeping me at a distance; but that until she heard from Bessie, and could discover by her own observation, that I was endeavouring in good earnest to acquire a more sociable and childlike disposition, a more attractive and sprightly manner—something lighter, franker, more natural, as it were—she really must exclude me from privileges intended only for contented, happy, little children."

"What does Bessie say I have done?" I asked.

"Jane, I don't like cavillers or questioners; besides, there is something truly forbidding in a child taking up her elders in that manner. Be seated somewhere; and until you can speak pleasantly, remain silent."

A breakfast-room adjoined the drawing-room, I slipped in there. It contained a bookcase: I soon possessed myself of a volume, taking care that it should be one stored with pictures. I mounted into the window-seat: gathering up my feet, I sat cross-legged, like a Turk; and, having drawn the red moreen curtain nearly close, I was shrined in double retirement.

Folds of scarlet drapery shut in my view to the right hand; to the left were the clear panes of glass, protecting, but not separating me from the drear November day. At intervals, while turning over the leaves of my book, I studied the aspect of that winter afternoon. Afar, it offered a pale blank of mist and cloud; near a scene of wet lawn and storm-beat shrub, with ceaseless rain sweeping away wildly before a long and lamentable blast.

Hawthorne, Nathaniel. *The Scarlet Letter: A Romance*. New York: Penguin, 2003. (1850)
From Chapter 16

The road, after the two wayfarers had crossed from the Peninsula to the mainland, was no other than a foot-path. It straggled onward into the mystery of the primeval forest. This hemmed it in so narrowly, and stood so black and dense on either side, and disclosed such imperfect glimpses of the sky above, that, to Hester's mind, it imaged not amiss the moral wilderness in which she had so long been wandering. The day was chill and sombre. Overhead was a gray expanse of cloud, slightly stirred, however, by a breeze; so that a gleam of flickering sunshine might now and then be seen at its solitary play along the path. This flitting cheerfulness was always at the further extremity of some long vista through the forest. The sportive sunlight--feebly sportive, at best, in the predominant pensiveness of the day and scene--withdrew itself as they came nigh, and left the spots where it had danced the drearier, because they had hoped to find them bright.

"Mother," said little Pearl, "the sunshine does not love you. It runs away and hides itself, because it is afraid of something on your bosom. Now, see! There it is, playing a good way off. Stand you here, and let me run and catch it. I am but a child. It will not flee from me--for I wear nothing on my bosom yet!"

"Nor ever will, my child, I hope," said Hester.

"And why not, mother?" asked Pearl, stopping short, just at the beginning of her race. "Will not it come of its own accord when I am a woman grown?"

"Run away, child," answered her mother, "and catch the sunshine. It will soon be gone "

Pearl set forth at a great pace, and as Hester smiled to perceive, did actually catch the sunshine, and stood laughing in the midst of it, all brightened by its splendor, and scintillating with the vivacity excited by rapid motion. The light lingered about the lonely child, as if glad of such a playmate, until her mother had drawn almost nigh enough to step into the magic circle too.

"It will go now," said Pearl, shaking her head.

"See!" answered Hester, smiling; "now I can stretch out my hand and grasp some of it."

As she attempted to do so, the sunshine vanished; or, to judge from the bright expression that was dancing on Pearl's features, her mother could have fancied that the child had absorbed it into herself, and would give it forth again, with a gleam about her path, as they should plunge into some gloomier shade. There was no other attribute that so much impressed her with a sense of new and untransmitted vigor in Pearl's nature, as this never failing vivacity of spirits: she had not the disease of sadness, which almost all children, in these latter days, inherit, with the scrofula, from the troubles of their ancestors. Perhaps this, too, was a disease, and but the reflex of the wild energy with which Hester had fought against her sorrows before Pearl's birth. It was certainly a doubtful charm, imparting a hard, metallic lustre to the child's character. She wanted--what some people want throughout life--a grief that should deeply touch her, and thus humanize and make her capable of sympathy. But there was time enough yet for little Pearl.

"Come, my child!" said Hester, looking about her from the spot where Pearl had stood still in the sunshine--"we will sit down a little way within the wood, and rest ourselves."

Dostoevsky, Fyodor. *Crime and Punishment.* Translated by Constance Black Garnett. New York: Dover, 2001. (1866)

On an exceptionally hot evening early in July a young man came out of the garret in which he lodged in S. Place and walked slowly, as though in hesitation, towards K. bridge.

He had successfully avoided meeting his landlady on the staircase. His garret was under the roof of a high, five-storied house and was more like a cupboard than a room. The landlady who provided him with garret, dinners, and attendance, lived on the floor below, and every time he went out he was obliged to pass her kitchen, the door of which invariably stood open. And each time he passed, the young man had a sick, frightened feeling, which made him scowl and feel ashamed. He was hopelessly in debt to his landlady, and was afraid of meeting her.

This was not because he was cowardly and abject, quite the contrary; but for some time past he had been in an overstrained irritable condition, verging on hypochondria. He had become so completely absorbed in himself, and isolated from his fellows that he dreaded meeting, not only his landlady, but anyone at all. He was crushed by poverty, but the anxieties of his position had of late ceased to weigh upon him. He had given up attending to matters of practical importance; he had lost all desire to do so. Nothing that any landlady could do had a real terror for him. But to be stopped on the stairs, to be forced to listen to her trivial, irrelevant gossip, to pestering demands for payment, threats and complaints, and to rack his brains for excuses, to prevaricate, to lie—no, rather than that, he would creep down the stairs like a cat and slip out unseen.

This evening, however, on coming out into the street, he became acutely aware of his fears.

"I want to attempt a thing like that and am frightened by these trifles," he thought, with an odd smile. "Hm… yes, all is in a man's hands and he lets it all slip from cowardice, that's an axiom. It would be interesting to know what it is men are most afraid of. Taking a new step, uttering a new word is what they fear most…. But I am talking too much. It's because I chatter that I do nothing. Or perhaps it is that I chatter because I do nothing. I've learned to chatter this last month, lying for days together in my den thinking… of Jack the Giant-killer. Why am I going there now? Am I capable of that? Is that serious? It is not serious at all. It's simply a fantasy to amuse myself; a plaything! Yes, maybe it is a plaything."

The heat in the street was terrible: and the airlessness, the bustle and the plaster, scaffolding, bricks, and dust all about him, and that special Petersburg stench, so familiar to all who are unable to get out of town in summer—all worked painfully upon the young man's already overwrought nerves. The insufferable stench from the pot-houses, which are particularly numerous in that part of the town, and the drunken men whom he met continually, although it was a working day, completed the revolting misery of the picture. An expression of the profoundest disgust gleamed for a moment in the young man's refined face. He was, by the way, exceptionally handsome, above the average in height, slim, well-built, with beautiful dark eyes and dark brown hair. Soon he sank into deep thought, or more accurately speaking into a complete blankness of mind; he walked along not observing what was about him and not caring to observe it. From time to time, he would mutter something, from the habit of talking to himself, to which he had just confessed. At these moments he would become conscious that his ideas were sometimes in a tangle and that he was very weak; for two days he had scarcely tasted food.

He was so badly dressed that even a man accustomed to shabbiness would have been ashamed to be seen in the street in such rags. In that quarter of the town, however, scarcely any shortcoming in dress would have created surprise. Owing to the proximity of the Hay Market, the number of establishments of bad character, the preponderance of the trading and working class population crowded in these streets and alleys in the heart of Petersburg, types so various were to be seen in the streets that no figure, however queer, would have caused surprise. But there was such accumulated bitterness and contempt in the young man's heart, that, in spite of all the fastidiousness of youth, he minded his rags least of all in the street. It was a different matter when he met with acquaintances or with former fellow students, whom, indeed, he disliked meeting at any time. And yet when a drunken man who, for some unknown reason, was being taken somewhere in a huge waggon dragged by a heavy dray horse, suddenly shouted at him as he drove past: "Hey there, German hatter" bawling at the top of his voice and pointing at him—the young man stopped suddenly and clutched tremulously at his hat. It was a tall round hat from Zimmerman's, but completely worn out, rusty with age, all torn and bespattered, brimless and bent on one side in a most unseemly fashion. Not shame, however, but quite another feeling akin to terror had overtaken him.

Jewett, Sarah Orne. "A White Heron." *A White Heron and Other Stories*. Boston: Houghton Mifflin, 1886. (1886)

Half a mile from home, at the farther edge of the woods, where the land was highest, a great pine-tree stood, the last of its generation. Whether it was left for a boundary mark, or for what reason, no one could say; the woodchoppers who had felled its mates were dead and gone long ago, and a whole forest of sturdy trees, pines and oaks and maples, had grown again. But the stately head of this old pine towered above them all and made a landmark for sea and shore miles and miles away. Sylvia knew it well. She had always believed that whoever climbed to the top of it could see the ocean; and the little girl had often laid her hand on the great rough trunk and looked up wistfully at those dark boughs that the wind always stirred, no matter how hot and still the air might be below. Now she thought of the tree with a new excitement, for why, if one climbed it at break of day, could not one see all the world, and easily discover from whence the white heron flew, and mark the place, and find the hidden nest?

What a spirit of adventure, what wild ambition! What fancied triumph and delight and glory for the later morning when she could make known the secret! It was almost too real and too great for the childish heart to bear.

All night the door of the little house stood open and the whippoorwills came and sang upon the very step. The young sportsman and his old hostess were sound asleep, but Sylvia's great design kept her broad awake and watching. She forgot to think of sleep. The short summer night seemed as long as the winter darkness, and at last when the whippoorwills ceased, and she was afraid the morning would after all come too soon, she stole out of the house and followed the pasture path through the woods, hastening toward the open ground beyond, listening with a sense of comfort and companionship to the drowsy twitter of a half-awakened bird, whose perch she had jarred in passing. Alas, if the great wave of human interest which flooded for the first time this dull little life should sweep away the satisfactions of an existence heart to heart with nature and the dumb life of the forest!

There was the huge tree asleep yet in the paling moonlight, and small and silly Sylvia began with utmost bravery to mount to the top of it, with tingling, eager blood coursing the channels of her whole frame, with her bare feet and fingers, that pinched and held like bird's claws to the monstrous ladder reaching up, up, almost to the sky itself. First she must mount the white oak tree that grew alongside, where she was almost lost among the dark branches and the green leaves heavy and wet with dew; a bird fluttered off its nest, and a red squirrel ran to and fro and scolded pettishly at the harmless housebreaker. Sylvia felt her way easily. She had often climbed there, and knew that higher still one of the oak's upper branches chafed against the pine trunk, just where its lower boughs were set close together. There, when she made the dangerous pass from one tree to the other, the great enterprise would really begin.

She crept out along the swaying oak limb at last, and took the daring step across into the old pine-tree. The way was harder than she thought; she must reach far and hold fast, the sharp dry twigs caught and held her and scratched her like angry talons, the pitch made her thin little fingers clumsy and stiff as she went round and round the tree's great stem, higher and higher upward. The sparrows and robins in the woods below were beginning to wake and twitter to the dawn, yet it seemed much lighter there aloft in the pine-tree, and the child knew she must hurry if her project were to be of any use.

The tree seemed to lengthen itself out as she went up, and to reach farther and farther upward. It was like a great main-mast to the voyaging earth; it must truly have been amazed that morning through all its ponderous frame as it felt this determined spark of human spirit wending its way from higher branch to branch. Who knows how steadily the least twigs held themselves to advantage this light, weak creature on her way! The old pine must have loved his new dependent. More than all the hawks, and bats, and moths, and even the sweet voiced thrushes, was the brave, beating heart of the solitary gray-eyed child. And the tree stood still and frowned away the winds that June morning while the dawn grew bright in the east.

Sylvia's face was like a pale star, if one had seen it from the ground, when the last thorny bough was past, and she stood trembling and tired but wholly triumphant, high in the tree-top. Yes, there was the sea with the dawning sun making a golden dazzle over it, and toward that glorious east flew two hawks with slow-moving pinions. How low they looked in the air from that height when one had only seen them before far up, and dark against the blue sky. Their gray feathers were as soft as moths; they seemed only a little way from the tree, and Sylvia felt as if she too could go flying away among the clouds. Westward, the woodlands and farms reached miles and miles into the distance; here and there were church steeples, and white villages, truly it was a vast and awesome world.

Melville, Herman. *Billy Budd, Sailor*. New York: Penguin, 1986. (1886)
From Chapter 26

At sea in the old time, the execution by halter of a military sailor was generally from the fore-yard. In the present instance, for special reasons the main-yard was assigned. Under an arm of that lee-yard the prisoner was presently brought up, the Chaplain attending him. It was noted at the time and remarked upon afterwards, that in this final scene the good man evinced little or nothing of the perfunctory. Brief speech indeed he had with the condemned one, but the genuine Gospel was less on his tongue than in his aspect and manner towards him. The final preparations personal to the latter being speedily brought to an end by two boatswain's mates, the consummation impended. Billy stood facing aft. At the penultimate moment, his words, his only ones, words wholly unobstructed in the utterance were these -- "God bless Captain Vere!" Syllables so unanticipated coming from one with the ignominious hemp about his neck -- a conventional felon's benediction directed aft towards the quarters of honor; syllables too delivered in the clear melody of a singing-bird on the point of launching from the twig, had a phenomenal effect, not unenhanced by the rare personal beauty of the young sailor spiritualized now thro' late experiences so poignantly profound.

Without volition as it were, as if indeed the ship's populace were but the vehicles of some vocal current electric, with one voice from alow and aloft came a resonant sympathetic echo -- "God bless Captain Vere!" And yet at that instant Billy alone must have been in their hearts, even as he was in their eyes.

At the pronounced words and the spontaneous echo that voluminously rebounded them, Captain Vere, either thro' stoic self-control or a sort of momentary paralysis induced by emotional shock, stood erectly rigid as a musket in the ship-armorer's rack.

The hull deliberately recovering from the periodic roll to leeward was just regaining an even keel, when the last signal, a preconcerted dumb one, was given. At the same moment it chanced that the vapory fleece hanging low in the East, was shot thro' with a soft glory as of the fleece of the Lamb of God seen in mystical vision, and simultaneously therewith, watched by the wedged mass of upturned faces, Billy ascended; and, ascending, took the full rose of the dawn.

In the pinioned figure, arrived at the yard-end, to the wonder of all no motion was apparent, none save that created by the ship's motion, in moderate weather so majestic in a great ship ponderously cannoned.

Chekhov, Anton. "Home." Translated by Constance Garnett. *Early Short Stories 1883–1888*. New York: Modern Library, 1999. 352–361. (1887)

'Somebody came from the Grigorievs' to fetch a book, but I said you were not at home. The postman has brought the newspapers and two letters. And, by the way, sir, I wish you would give your attention to Seriozha. I saw him smoking today and also the day before yesterday. When I told him how wrong it was he put his fingers in his ears, as he always does, and began to sing loudly so as to drown my voice.'

Eugene Bilovsky, an attorney of the circuit court, who had just come home from a session and was taking off his gloves in his study, looked at the governess who was making this statement and laughed.

'So Seriozha has been smoking!' he said with a shrug of his shoulders. 'Fancy the little beggar with a cigarette in his mouth! How old is he?'

'Seven years old. It seems of small consequence to you, but at his age smoking is a bad, a harmful habit; and bad habits should be nipped in the bud.'

'You are absolutely right. Where does he get the tobacco?'

'From your table.'

'He does? In that case, send him to me.'

When the governess had gone, Bilovsky sat down in an easy-chair before his writing-table and began to think. For some reason he pictured to himself his Seriozha enveloped in clouds of tobacco smoke, with a huge, yard-long cigarette in his mouth, and this caricature made him smile. At the same time the earnest, anxious face of the governess awakened in him memories of days long past and half-forgotten, when smoking at school and in the nursery aroused in masters and parents a strange, almost incomprehensible horror. It really was horror. Children were unmercifully flogged, and expelled from school, and their lives were blighted, although not one of the teachers nor fathers knew exactly what constituted the harm and offence of smoking. Even very intelligent people did not hesitate to combat the vice they did not understand. Bilovsky called to mind the principal of his school, a highly educated, good-natured old man, who was so shocked when he caught a scholar with a cigarette that he would turn pale and immediately summon a special session of the school board and sentence the offender to expulsion. No doubt that is one of the laws of society—the less an evil is understood the more bitterly and harshly it is attacked.

The attorney thought of the two or three boys who had been expelled and of their subsequent lives, and could not but reflect that punishment is, in many cases, more productive of evil than crime itself. The living organism possesses the faculty of quickly adapting itself to every condition; if it were not so man would be conscious every moment of the unreasonable foundations on which his reasonable actions rest and how little of justice and assurance are to be found even in those activities which are fraught with so much responsibility and which are so appalling in their consequences, such as education, literature, the law—

And thoughts such as these came floating into Bilovsky's head; light, evanescent thoughts such as only enter weary, resting brains. One knows not whence they are nor why they come; they stay but a short while and seem to spread across the surface of the brain without ever sinking very far into its depths. For those whose minds for hours and days together are forced to be occupied with business and to travel always along the same lines, these homelike, untrammelled musings bring a sort of comfort and a pleasant restfulness of their own.

It was nine o'clock. On the floor overhead someone was pacing up and down, and still higher up, on the third storey, four hands were playing scales on the piano. The person who was pacing the floor seemed, from his nervous strides, to be the victim of tormenting thoughts or of the toothache; his footsteps and the monotonous scales added to the quiet of the evening something somnolent that predisposed the mind to idle reveries.

In the nursery, two rooms away, Seriozha and his governess were talking.

'Pa–pa has come!" sang the boy. "Papa has co–ome! Pa! Pa! Pa!'

'Votre père vous appelle, allez vite!' cried the governess, twittering like a frightened bird.

'What shall I say to him?' thought Bilovsky.

But before he had time to think of anything to say his son Seriozha had already entered the study. This was a little person whose sex could only be divined from his clothes—he was so delicate, and fair, and frail. His body was as languid as a hot-house plant and everything about him looked wonderfully dainty and soft—his movements, his curly hair, his glance, his velvet tunic.

'Good evening, papa,' he said in a gentle voice, climbing on to his father's knee and swiftly kissing his neck. 'Did you send for me?'

'Wait a bit, wait a bit, master,' answered the lawyer, putting him aside. 'Before you and I kiss each other we must have a talk, a serious talk. I am angry with you, and I don't love you any more; do you understand that, young man? I don't love you, and you are no son of mine.'

Seriozha looked steadfastly at his father and then turned his regard to the table and shrugged his shoulders.

'What have I done?' he asked, perplexed, and blinked. 'I didn't go into your study once today, and I haven't touched a thing.'

'Miss Natalie has just been complaining to me that you have been smoking; is that so? Have you been smoking?'

'Yes, I smoked once. That is so.'

'There! So now you have told a lie into the bargain!' said the lawyer, disguising his smile by a frown. 'Miss Natalie saw you smoking twice. That means that you have been caught doing three naughty things: smoking, taking tobacco that doesn't belong to you off my table, and telling a lie. Three accusations!'

Fitzgerald, F. Scott. *The Great Gatsby*. New York: Scribner, 2000. (1925)
From Chapter 3

There was music from my neighbor's house through the summer nights. In his blue gardens men and girls came and went like moths among the whisperings and the champagne and the stars. At high tide in the afternoon I watched his guests diving from the tower of his raft, or taking the sun on the hot sand of his beach while his two motorboats slit the waters of the Sound, drawing aquaplanes over cataracts of foam. On week ends his Rolls-Royce became an omnibus, bearing parties to and from the city between nine in the morning and long past midnight, while his station wagon scampered like a brisk yellow bug to meet all trains. And on Mondays eight servants, including an extra gardener, toiled all day with mops and scrubbing brushes and hammers and garden shears, repairing the ravages of the night before.

Every Friday five crates of oranges and lemons arrived from a fruiterer in New York—every Monday these same oranges and lemons left his back door in a pyramid of pulpless halves. There was a machine in the kitchen which could extract the juice of two hundred oranges in half an hour if a little button was pressed two hundred times by a butler's thumb.

At least once a fortnight a corps of caterers came down with several hundred feet of canvas and enough colored lights to make a Christmas tree of Gatsby's enormous garden. On buffet tables, garnished with glistening hors d'oeuvres, spiced baked hams crowded against salads of harlequin designs and pastry pigs and turkeys bewitched to a dark gold. In the main hall a bar with a real brass rail was set up, and stocked with gins and liquors and with cordials so long forgotten that most of his female guests were too young to know one from another.

Faulkner, William. *As I Lay Dying.* New York: Vintage, 1990. (1930)
From "Darl"

Jewel and I come up from the field, following the path in single file. Although I am fifteen feet ahead of him, anyone watching us from the cottonhouse can see Jewel's frayed and broken straw hat a full head above my own.

The path runs straight as a plumb-line, worn smooth by feet and baked brick-hard by July, between the green rows of laidby cotton, to the cottonhouse at four soft right angles and goes on across the field again, worn so by feet in fading precision.

The cottonhouse is of rough logs, from between which the chinking has long fallen. Square, with a broken roof set at a single pitch, it leans in empty and shimmering dilapidation in the sunlight, a single broad window in two opposite walls giving onto the approaches of the path. When we reach it I turn and follow the path which circles the house. Jewel, fifteen feet behind me, looking straight ahead, steps in a single stride through the window. Still staring straight ahead, his pale eyes like wood set into his wooden face, he crosses the floor in four strides with the rigid gravity of a cigar store Indian dressed in patched overalls and endued with life from the hips down, and steps in a single stride through the opposite window and into the path again just as I come around the corner. In single file and five feet apart and Jewel now in front, we go on up the path toward the foot of the bluff.

Tull's wagon stands beside the spring, hitched to the rail, the reins wrapped about the seat stanchion. In the wagon bed are two chairs. Jewel stops at the spring and takes the gourd from the willow branch and drinks. I pass him and mount the path, beginning to hear Cash's saw.

When I reach the top he has quit sawing. Standing in a litter of chips, he is fitting two of the boards together. Between the shadow spaces they are yellow as gold, like soft gold, bearing on their flanks in smooth undulations the marks of the adze blade: a good carpenter, Cash is. He holds the two planks on the trestle, fitted along the edges in a quarter of the finished box. He kneels and squints along the edge of them, then he lowers them and takes up the adze. A good carpenter. Addie Bundren could not want a better one, a better box to lie in. It will give her confidence and comfort. I go on to the house, followed by the

Chuck. Chuck. Chuck.

of the adze.

Hemingway, Ernest. *A Farewell to Arms.* New York: Scribner, 1995. (1929)

Sometimes in the dark we heard the troops marching under the window and guns going past pulled by motor-tractors. There was much traffic at night and many mules on the roads with boxes of ammunition on each side of their pack-saddles and gray motor trucks that carried men, and other trucks with loads covered with canvas that moved slower in the traffic. There were big guns too that passed in the day drawn by tractors, the long barrels of the guns covered with green branches and green leafy branches and vines laid over the tractors. To the north we could look across a valley and see a forest of chestnut trees and behind it another mountain on this side of the river. There was fighting for that mountain too, but it was not successful, and in the fall when the rains came the leaves all fell from the chestnut trees and the branches were bare and the trunks black with rain. The vineyards were thin and bare-branched too and all the country wet and brown and dead with the autumn. There were mists over the river and clouds on the mountain and the trucks splashed mud on the road and the troops were muddy and wet in their capes; their rifles were wet and under their capes the two leather cartridge-boxes on the front of the belts, gray leather boxes heavy with the packs of clips of thin, long 6.5 mm. cartridges, bulged forward under the capes so that the men, passing on the road, marched as though they were six months gone with child.

Hurston, Zora Neale. *Their Eyes Were Watching God*. New York: Harper Perennial, 1990. (1937)
From Chapter 1

Ships at a distance have every man's wish on board. For some they come in with the tide. For others they sail forever on the horizon, never out of sight, never landing until the Watcher turns his eyes away in resignation, his dreams mocked to death by Time. That is the life of men.

Now, women forget all those things they don't want to remember, and remember everything they don't want to forget. The dream is the truth. Then they act and do things accordingly.

So the beginning of this was a woman and she had come back from burying the dead. Not the dead of sick and ailing with friends at the pillow and the feet. She had come back from the sodden and the bloated; the sudden dead, their eyes flung wide open in judgment.

The people all saw her come because it was sundown. The sun was gone, but he had left his footprints in the sky. It was the time for sitting on porches beside the road. It was the time to hear things and talk. These sitters had been tongueless, earless, eyeless conveniences all day long. Mules and other brutes had occupied their skins. But now, the sun and the bossman were gone, so the skins felt powerful and human. They became lords of sounds and lesser things. They passed nations through their mouths. They sat in judgment.

Seeing the woman as she was made them remember the envy they had stored up from other times. So they chewed up the back parts of their minds and swallowed with relish. They made burning statements with questions, and killing tools out of laughs. It was mass cruelty. A mood come alive, Words walking without masters; walking altogether like harmony in a song.

Borges, Jorge Luis. "The Garden of Forking Paths." From *Labyrinths: Selected Stories and Other Writings*. New York: New Directions, 1964. (1941)

"Before unearthing this letter, I had questioned myself about the ways in which a book can be infinite. I could think of nothing other than a cyclic volume, a circular one. A book whose last page was identical with the first, a book which had the possibility of continuing indefinitely. I remembered too that night which is at the middle of the Thousand and One Nights when Scheherazade (through a magical oversight of the copyist) begins to relate word for word the story of the Thousand and One Nights, establishing the risk of coming once again to the night when she must repeat it, and thus on to infinity. I imagined as well a Platonic, hereditary work, transmitted from father to son, in which each new individual adds a chapter or corrects with pious care the pages of his elders. These conjectures diverted me; but none seemed to correspond, not even remotely, to the contradictory chapters of Ts'ui Pen. In the midst of this perplexity, I received from Oxford the manuscript you have examined. I lingered, naturally, on the sentence: I leave to the various futures (not to all) my garden o f forking paths. Almost instantly, I understood: `the garden of forking paths' was the chaotic novel; the phrase `the various futures (not to all)' suggested to me the forking in time, not in space. A broad rereading of the work confirmed the theory. In all fictional works, each time a man is confronted with several alternatives, he chooses one and eliminates the others; in the fiction of Ts'ui Pen, he chooses simultaneously-all of them. He creates, in this way, diverse futures, diverse times which themselves also proliferate and fork. Here, then, is the explanation of the novel's contradictions. Fang, let us say, has a secret; a stranger calls at his door; Fang resolves to kill him. Naturally, there are several possible outcomes: Fang can kill the intruder, the intruder can kill Fang, they both can escape, they both can die, and so forth. In the work of Ts'ui Pen, all possible outcomes occur; each one is the point of departure for other forkings. Sometimes, the paths of this labyrinth converge: for example, you arrive at this house, but in one of the possible pasts you are my enemy, in another, my friend. If you will resign yourself to my incurable pronunciation, we shall read a few pages."

Bellow, Saul. *The Adventures of Augie March*. New York: Viking, 1953. (1949)
From Chapter 10

"I haven't been wasting my time," he said. "I've been working on something. I think I'm getting married soon," he said, and didn't allow himself to smile with the announcement or temper it in some pleasant way.

"When? To whom?"

"To a woman with money."

"A woman? An older woman?" That was how I interpreted it.

"Well, what's the matter with you? Yes, I'd marry an older woman. Why not?"

"I bet you wouldn't." He was still able to amaze me, as though we had remained kids.

"We don't have to argue about it because she's not old. She's about twenty-two, I'm told."

"By whom? And you haven't even seen her?"

"No, I haven't. You remember the buyer, my old boss? He's fixing me up. I have her picture. She's not bad. Heavy—but I'm getting heavy too. She's sort of pretty. Anyhow, even if she weren't pretty, and if the buyer isn't lying about the dough—her family is supposed to have a mountain of dough—I'd marry her."

"You've already made up your mind?"

"I'll say I have!"

"And suppose she doesn't want to marry you?"

"I'll see that she does. Don't you think I can?"

"Maybe you can, but I don't like it. It's cold-blooded."

"Cold-blooded!" he said with sudden emotion. "What's cold-blooded about it? I'd be cold-blooded if I stayed as I am. I see around this marriage and beyond it. I'll never again go for all the nonsense about marriage. Everybody you lay eyes on, except perhaps a few like you and me, is born of marriage. Do you see anything so exceptional or wonderful about it that it makes it such a big deal? Why be fooling around to make this perfect great marriage? What's it going to save you from? Has it saved anybody—the jerks, the fools, the morons, the schleppers, the jag-offs, the monkeys, rats, rabbits, or the decent unhappy people or what you call nice people? They're all married or are born of marriages, so how can you pretend to me that it makes a difference that Bob loves Mary who loves Jerry? That's for the movies. Don't you see people pondering how to marry for love and getting the blood gypped out of them? Because while they're looking for the best there is—and I figure that's what's wrong with you—everything else gets lost. It's sad. It's a pity, but it's that way."

I was all the same strongly against him; that he saw. Even if I couldn't just then consider myself on the active list of lovers and wasn't carrying a live torch any more for Esther Fenchel. I recognized his face as the face of a man in the wrong.

Morrison, Toni. *The Bluest Eye*. New York: Random House, 2007. 121–122. (1970)

One winter Pauline discovered she was pregnant. When she told Cholly, he surprised her by being pleased. He began to drink less and come home more often. They eased back into a relationship more like the early days of their marriage, when he asked if she were tired or wanted him to bring her something from the store. In this state of ease, Pauline stopped doing day work and returned to her own housekeeping. But the loneliness in those two rooms had not gone away. When the winter sun hit the peeling green paint of the kitchen chairs, when the smoked hocks were boiling in the pot, when all she could hear was the truck delivering furniture downstairs, she thought about back home, about how she had been all alone most of the time then too, but that this lonesomeness was different. Then she stopped staring at the green chairs, at the delivery truck; she went to the movies instead. There in the dark her memory was refreshed, and she succumbed to her earlier dreams. Along with the idea of romantic love, she was introduced to another—physical beauty. Probably the most destructive ideas in the history of human thought. Both originated in envy, thrived in insecurity, and ended in disillusion. In equating physical beauty with virtue, she stripped her mind, bound it, and collected self-contempt by the heap. She forgot lust and simple caring for. She regarded love as possessive mating, and romance as the goal of the spirit. It would be for her a well-spring from which she would draw the most destructive emotions, deceiving the lover and seeking to imprison the beloved, curtailing freedom in every way.

Garcia, Cristina. *Dreaming in Cuban*. New York: Random House, 1993. (1992)
From "The Languages Lost: Six Days in April"

Abuela gives me a box of letters she wrote to her onetime lover in Spain, but never sent. She shows me his photograph, too. It's very well preserved. He'd be good-looking by today's standards, well built with a full beard and kind eyes, almost professorial. He wore a crisp linen suit and a boater tilted slightly to the left. Abuela tells me she took the picture herself one Sunday on the Malecón,

She also gives me a book of poems she's had since 1930, we she heard García Lorca read at the Principal de la Comedia Theater. Abuela knows each poem by heart, and recites them quite dramatically.

I've started dreaming in Spanish, which has never happened before. I wake up feeling different, like something inside me is changing, something chemical and irreversible. There's a magic here working its way through my veins. There's something about the vegetation, too, that I respond to instinctively—the stunning bougainvillea, the flamboyants and jacarandas, the orchids growing from the trunks of the mysterious ceiba trees. And I love Havana, its noise and decay and painted ladyness. I could happily sit on one of those wrought-iron balconies for days, or keep my grandmother company on her porch, with its ringside view of the sea. I'm afraid to lose all this. To lose Abuela Celia again. But I know that sooner or later I'd have to return to New York. I know now it's where I belong—not instead of here, but more than here. How can I tell my grandmother this?

Media Text
Portal to selected interviews with author Cristina García:
http://www.cristinagarcianovelist.com/index.php?page=selectedinterviews

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Lahiri, Jhumpa. *The Namesake.* New York: Houghton Mifflin, 2004. (2003)
From Chapter 5

One day he attends a panel discussion about Indian novels written in English. He feels obligated to attend; one of the presenters on the panel, Amit, is a distant cousin who lives in Bombay, whom Gogol has never met. His mother has asked him to greet Amit on her behalf. Gogol is bored by the panelists, who keep referring to something called "marginality," as if it were some sort of medical condition. For most of the hour, he sketches portraits of the panelists, who sit hunched over their papers along a rectangular table. "Teleologically speaking, ABCDs are unable to answer the question 'Where are you from?'" the sociologist on the panel declares. Gogol has never heard the term ABCD. He eventually gathers that it stands for "American-born confused deshi." In other words, him. He learns that the C could also stand for "conflicted." He knows that deshi, a generic word for "countryman," means "Indian," knows that his parents and all their friends always refer to India simply as desh. But Gogol never thinks of India as desh. He thinks of it as Americans do, as India.

Gogol slouches in his seat and ponders certain awkward truths. For instance, although he can understand his mother tongue, and speak it fluently, he cannot read or write it with even modest proficiency. On trips to India his American-accented English is a source of endless amusement to his relatives, and when he and Sonia speak to each other, aunts and uncles and cousins always shake their heads in disbelief and say, "I didn't understand a word!" Living with a pet name and a good name, in a place where such distinctions do not exist—surely that was emblematic of the greatest confusion of all. He searches the audience for someone he knows, but it isn't his crowd—lots of lit majors with leather satchels and gold-rimmed glasses and fountain pens, lots of people Ruth would have waved to. There are also lots of ABCDs. He has no idea there are this many on campus. He has no ABCD friends at college. He avoids them, for they remind him too much of the way his parents choose to live, befriending people not so much because they like them, but because of a past they happen to share. "Gogol, why aren't you a member of the Indian association here?" Amit asks later when they go for a drink at the Anchor. "I just don't have the time," Gogol says, not telling his well-meaning cousin that he can think of no greater hypocrisy than joining an organization that willingly celebrates occasions his parents forced him, throughout his childhood and adolescence, to attend. "I'm Nikhil now," Gogol says, suddenly depressed by how many more times he will have to say this, asking people to remember, reminding them to forget, feeling as if an errata slip were perpetually pinned to his chest.

Drama

Shakespeare, William. *The Tragedy of Hamlet.* New Haven: Yale University Press, 2003. (1599)
From Act III, Scene 3

KING CLAUDIUS

O, my offence is rank it smells to heaven;
It hath the primal eldest curse upon't,
A brother's murder. Pray can I not,
Though inclination be as sharp as will:
My stronger guilt defeats my strong intent;
And, like a man to double business bound,
I stand in pause where I shall first begin,
And both neglect. What if this cursed hand
Were thicker than itself with brother's blood,
Is there not rain enough in the sweet heavens
To wash it white as snow? Whereto serves mercy
But to confront the visage of offence?
And what's in prayer but this two-fold force,
To be forestalled ere we come to fall,
Or pardon'd being down? Then I'll look up;
My fault is past. But, O, what form of prayer
Can serve my turn? 'Forgive me my foul murder'?
That cannot be; since I am still possess'd
Of those effects for which I did the murder,
My crown, mine own ambition and my queen.
May one be pardon'd and retain the offence?
In the corrupted currents of this world
Offence's gilded hand may shove by justice,
And oft 'tis seen the wicked prize itself
Buys out the law: but 'tis not so above;
There is no shuffling, there the action lies
In his true nature; and we ourselves compell'd,
Even to the teeth and forehead of our faults,
To give in evidence. What then? what rests?
Try what repentance can: what can it not?
Yet what can it when one can not repent?
O wretched state! O bosom black as death!
O limed soul, that, struggling to be free,
Art more engaged! Help, angels! Make assay!
Bow, stubborn knees; and, heart with strings of steel,
Be soft as sinews of the newborn babe!
All may be well.

Molière, Jean-Baptiste Poquelin. Tartuffe. *The Project Gutenberg eBook of Tartuffe*. Translated by Jeffrey D. Hoeper. Release Date: April 3, 2009 [eBook #28488] (1664)
From Act III, Scene VI

Orgon. What do I hear? Good God! Is it credible?

Tartuffe. Yes, brother, I'm wicked and culpable,
A sorry sinner, full of iniquity,
As great a wretch as there ever could be.
My entire life has been soiled with evil;
It's nothing but a mass of sinful upheaval.
And I see that God has, for my punishment,
Chosen to mortify me with this event.
Let them connect any crime with my name;
I waive all defense and take all the blame.
Believe what they tell you, stoke up your wrath,
And drive me like a felon from your path.
The shame that I bear cannot be too great,
For I know I deserve a much worse fate.

Orgon [to his son]. Traitor! Do you dare, by your duplicity,
To taint both his virtue and purity?

Damis. What? Can the false meekness of this hypocrite
Cause you to belie . . .

Orgon. Shut up, you misfit.

Tartuffe. Oh, let him go on. You are wrong to scold,
And you'd be wise to believe the story he's told.
In light of his claims, why should you favor me?
What do you know of my culpability?
Why put your faith in my exterior?
Why should you think that I'm superior?
No, no, appearances are fooling you,
I am the kind of man you should eschew.
The whole world thinks that I have earned God's blessing,
But the plain truth is . . . that I'm worth nothing.

Wilde, Oscar. *The Importance of Being Earnest*. Cambridge: Cambridge University Press, 1999. (1895)
From Act II, Part 2

Cecily [rather shy and confidingly]: Dearest Gwendolen, there is no reason why I should make a secret of it to you. Our little county newspaper is sure to chronicle the fact next week. Mr. Ernest Worthing and I are engaged to be married.

Gwendolen [quite politely, rising]: My darling Cecily, I think there must be some slight error. Mr. Ernest Worthing is engaged to me. The announcement will appear in the Morning Post on Saturday at the latest.

Cecily [very politely, rising]: I am afraid you must be under some misconception. Ernest proposed to me exactly ten minutes ago. [Shows diary.]

Gwendolen [examines diary through her lorgnettte carefully]: It is certainly very curious, for he asked me to be his wife yesterday afternoon at 5.30. If you would care to verify the incident, pray do so. [Produces diary of her own.] I never travel without my diary. One should always have something sensational to read in the train. I am so sorry, dear Cecily, if it is any disappointment to you, but I am afraid I have the prior claim.

Cecily: It would distress me more than I can tell you, dear Gwendolen, if it caused you any mental or physical anguish, but I feel bound to point out that since Ernest proposed to you he clearly has changed his mind.

Gwendolen [meditatively]: If the poor fellow has been entrapped into any foolish promise I shall consider it my duty to rescue him at once, and with a firm hand.

Cecily [thoughtfully and sadly]: Whatever unfortunate entanglement my dear boy may have got into, I will never reproach him with it after we are married.

Gwendolen: Do you allude to me, Miss Cardew, as an entanglement? You are presumptuous. On an occasion of this kind it becomes more than a moral duty to speak one's mind. It becomes a pleasure.

Cecily: Do you suggest, Miss Fairfax, that I entrapped Ernest into an engagement? How dare you? This is no time for wearing the shallow mask of manners. When I see a spade I call it a spade.

Gwendolen [satirically]: I am glad to say that I have never seen a spade. It is obvious that our social spheres have been widely different.

[Enter Merriman, followed by the footman. He carries a salver, table cloth, and plate stand. Cecily is about to retort. The presence of the servants exercises a restraining influence, under which both girls chafe.]

Merriman: Shall I lay tea here as usual, Miss?

Cecily [sternly, in a calm voice]: Yes, as usual. [Merriman begins to clear table and lay cloth. A long pause. Cecily and Gwendolen glare at each other.]

Gwendolen: Are there many interesting walks in the vicinity, Miss Cardew?

Cecily: Oh! yes! a great many. From the top of one of the hills quite close one can see five counties.

Gwendolen: Five counties! I don't think I should like that; I hate crowds.

Cecily [sweetly]: I suppose that is why you live in town? [Gwendolen bites her lip, and beats her foot nervously with her parasol.]

Gwendolen: [Looking round.] Quite a well-kept garden this is, Miss Cardew.

Cecily: So glad you like it, Miss Fairfax.

Gwendolen: I had no idea there were any flowers in the country.

Cecily: Oh, flowers are as common here, Miss Fairfax, as people are in London.

Gwendolen: Personally I cannot understand how anybody manages to exist in the country, if anybody who is anybody does. The country always bores me to death.

Cecily: Ah! This is what the newspapers call agricultural depression, is it not? I believe the aristocracy are suffering very much from it just at present. It is almost an epidemic amongst them, I have been told. May I offer you some tea, Miss Fairfax?

Gwendolen [with elaborate politeness]: Thank you. [Aside.] Detestable girl! But I require tea!

Cecily [sweetly]: Sugar?

Gwendolen [superciliously]: No, thank you. Sugar is not fashionable any more. [Cecily looks angrily at her, takes up the tongs and puts four lumps of sugar into the cup.]

Cecily [severely]: Cake or bread and butter?

Gwendolen [in a bored manner]: Bread and butter, please. Cake is rarely seen at the best houses nowadays.

Cecily [cuts a very large slice of cake, and puts it on the tray]: Hand that to Miss Fairfax.

[Merriman does so, and goes out with footman. Gwendolen drinks the tea and makes a grimace. Puts down cup at once, reaches out her hand to the bread and butter, looks at it, and finds it is cake. Rises in indignation.]

Gwendolen: You have filled my tea with lumps of sugar, and though I asked most distinctly for bread and butter, you have given me cake. I am known for the gentleness of my disposition, and the extraordinary sweetness of my nature, but I warn you, Miss Cardew, you may go too far.

Cecily [rising]: To save my poor, innocent, trusting boy from the machinations of any other girl there are no lengths to which I would not go.

Gwendolen: From the moment I saw you I distrusted you. I felt that you were false and deceitful. I am never deceived in such matters. My first impressions of people are invariably right.

Cecily: It seems to me, Miss Fairfax, that I am trespassing on your valuable time. No doubt you have many other calls of a similar character to make in the neighbourhood.

Wilder, Thornton. *Our Town: A Play in Three Acts*. New York: Perennial, 2003. (1938)

Emily: (softly, more in wonder than in grief) I can't bear it. They're so young and beautiful. Why did they ever have to get old? Mama, I'm here. I'm grown up. I love you all, everything.— I cant look at everything hard enough. *(pause, talking to her mother who does not hear her. She speaks with mounting urgency)* Oh, Mama, just look at me one minute as though you really saw me. Mama, fourteen years have gone by. I'm dead. You're a grandmother, Mama. I married George Gibbs, Mama. Wally's dead, too. Mama, his appendix burst on a camping trip to North Conway. We felt just terrible about it - don't you remember? But, just for a moment now we're all together. Mama, just for a moment we're happy. Let's look at one another. *(pause, looking desperate because she has received no answer. She speaks in a loud voice, forcing herself to not look at her mother)* I can't. I can't go on. It goes so fast. We don't have time to look at one another. *(she breaks down sobbing, she looks around)* I didn't realize. All that was going on in life and we never noticed. Take me back - up the hill - to my grave. But first: Wait! One more look. Good-by, Good-by, world. Good-by, Grover's Corners? Mama and Papa. Good-bye to clocks ticking? and Mama's sunflowers. And food and coffee. And new-ironed dresses and hot baths? and sleeping and waking up. Oh, earth, you're too wonderful for anybody to realize you. *(she asks abruptly through her tears)* Do any human beings ever realize life while they live it? - every, every minute? *(she sighs)* I'm ready to go back. I should have listened to you. That's all human beings are! Just blind people.

Miller, Arthur. *Death of a Salesman*. New York: Viking, 1996. (1949)
From Act II

Willy: Oh, yeah, my father lived many years in Alaska. He was an adventurous man. We've got quite a little streak of self-reliance in our family. I thought I'd go out with my older brother and try to locate him, and maybe settle in the North with the old man. And I was almost decided to go, when I met a salesman in the Parker House. His name was Dave Singleman. And he was eighty-four years old, and he'd drummed merchandise in thirty-one states. And old Dave, he'd go up to his room, y'understand, put on his green velvet slippers—I'll never forget—and pick up his phone and call the buyers, and without ever leaving is room, at the age of eighty-four, he made his living. And when I saw that, I realized that selling was the greatest career a man could want. 'Cause what could be more satisfying than to be able to go, at the age of eighty-four, into twenty or thirty different cities, and pick up a phone, and be remembered and loved and helped by so many different people? Do you know? When he died—and by the way he died the death of a salesman, in his green velvet slippers in the smoker of the New York, New Haven and Hartford, going into Boston—when he died, hundreds of salesmen and buyers were at his funeral. Things were sad on a lotta trains for months after that. He stands up. Howard has not looked at him. In those days there was personality in it, Howard. There was respect, and comradeship, and gratitude in it. Today, it's all cut and dried, and there's no chance for bringing friendship to bear—or personality. You see what I mean? They don't know me anymore.

Hansberry, Lorraine. *A Raisin in the Sun*. New York: Vintage, 1994. (1959)
From Act III

BENEATHA: He's no brother of mine.

MAMA: What you say?

BENEATHA: I said that that individual is that room is no brother of mine.

MAMA: That's what I thought you said. You feeling like you better than he is today? [BENEATHA does not answer.] Yes? What you tell him a minute ago? That he wasn't a man? Yes? You give him up for me? You done wrote his epitaph too—like the rest of the world? Well who give you the privilege?

BENEATHA: Be on my side for once! You say what he just did, Mama! You saw him—down on his knees. Wasn't it you who taught me—to despise any man who would do that. Do what he's going to do.

MAMA: Yes—I taught you that. Me and your daddy. But I thought I taught you something else too...I thought I taught you to love him.

BENEATHA: Love him? There is nothing left to love.

MAMA: There is always something left to love. And if you ain't learned that you ain't learned nothing. [Looking at her.] Have you cried for that boy today? I don't mean for yourself and for the family 'cause we lost the money. I mean for him; what he been through and what it done to him. Child, when do you think is the time to love somebody the most; when they done good and made things easy for everybody? Well then, you ain't through learning—because that ain't the time at all. It's when he's at him lowest and can't believe in hisself 'cause the world done whipped him so. When you starts measuring somebody, measure him right, child, measure him right. Make sure you done taken into account what hills and valleys he come through before he got to wherever he is.

Soyinka, Wole. *Death and the King's Horseman: A Play*. New York: W. W. Norton, 2002. (1976)
From Act I, Scene 1

ELESIN:
Where the storm pleases, and when, it directs
The giants of the forest. When friendship summons
Is when the true comrade goes.

WOMEN:
Nothing will hold you back?

ELESIN:
Nothing. What! Has no one told you yet?
I go to keep my friend and master company.
Who says the mouth does not believe in
'No, I have chewed all that before?' I say I have.
The world is not a constant honey-pot.

Poetry

Li Po. "A Poem of Changgan." *The Jade Mountain: A Chinese Anthology.* Translated by Witter Bynner. New York: Knopf, 1929. (circa 700)

My hair had hardly covered my forehead.
I was picking flowers, playing by my door,
When you, my lover, on a bamboo horse,
Came trotting in circles and throwing green plums.
We lived near together on a lane in Ch'ang-kan,
Both of us young and happy-hearted.

...At fourteen I became your wife,
So bashful that I dared not smile,
And I lowered my head toward a dark corner
And would not turn to your thousand calls;
But at fifteen I straightened my brows and laughed,
Learning that no dust could ever seal our love,
That even unto death I would await you by my post
And would never lose heart in the tower of silent watching.

...Then when I was sixteen, you left on a long journey
Through the Gorges of Ch'u-t'ang, of rock and whirling water.
And then came the Fifth-month, more than I could bear,
And I tried to hear the monkeys in your lofty far-off sky.
Your footprints by our door, where I had watched you go,
Were hidden, every one of them, under green moss,
Hidden under moss too deep to sweep away.
And the first autumn wind added fallen leaves.
And now, in the Eighth-month, yellowing butterflies
Hover, two by two, in our west-garden grasses
And, because of all this, my heart is breaking
And I fear for my bright cheeks, lest they fade.

...Oh, at last, when you return through the three Pa districts,
Send me a message home ahead!
And I will come and meet you and will never mind the distance,
All the way to Chang-feng Sha.

Donne, John. "A Valediction Forbidding Mourning." *The Complete Poetry of John Donne*. Edited by John T. Shawcross. New York: Anchor Books, 1967. (1633)

As virtuous men pass mildly' away,
And whisper to their souls to go,
Whilst some of their sad friends do say
The breath goes now, and some say, no;

So let us melt, and make no noise,
No tear floods, nor sigh-tempests move,
'Twere profanation of our joys
To tell the laity our love.

Moving of th' earth brings harms and fears,
Men reckon what it did and meant;
But trepidation of the spheres,
Though greater far, is innocent.

Dull sublunary lovers' love
(Whose soul is sense) cannot admit
Absence, because it doth remove
Those things which elemented it.

But we by' a love so much refined
That our selves know not what it is,
Inter-assured of the mind,
Care less, eyes, lips, and hands to miss.

Our two souls therefore, which are one,
Though I must go, endure not yet
A breach, but an expansion,
Like gold to airy thinness beat.

If they be two, they are two so
As stiff twin compasses are two;
Thy soul, the fixed foot, makes no show
To move, but doth, if th' other do.

And though it in the center sit,
Yet when the other far doth roam,
It leans and hearkens after it,
And grows erect, as that comes home.

Such wilt thou be to me, who must
Like th' other foot, obliquely run.
Thy firmness makes my circle just.
And makes me end where I begun.

Wheatley, Phyllis. "On Being Brought From Africa to America." *New Anthology of American Poetry: Traditions and Revolutions, Beginnings to 1900 (Vol 1).* Edited by Steven Gould Axelrod, Camille Roman, and Thomas J. Travisano. Piscataway, New Jersey: Rutgers University Press, 2003. (1773)

'Twas mercy brought me from my Pagan land,
Taught my benighted soul to understand
That there's a God, that there's a Saviour too:
Once I redemption neither sought nor knew.
Some view our sable race with scornful eye,
"Their colour is a diabolic die."
Remember, Christians, Negros, black as Cain,
May be refin'd, and join th' angelic train.

Keats, John. "Ode on a Grecian Urn." *The Complete Poems of John Keats*. New York: Modern Library, 1994. (1820)

Thou still unravish'd bride of quietness,
Thou foster-child of silence and slow time,

Sylvan historian, who canst thus express
A flowery tale more sweetly than our rhyme:
What leaf-fring'd legend haunts about thy shape
Of deities or mortals, or of both,
In Tempe or the dales of Arcady?
What men or gods are these? What maidens loth?
What mad pursuit? What struggle to escape?
What pipes and timbrels? What wild ecstasy?

Heard melodies are sweet, but those unheard
Are sweeter; therefore, ye soft pipes, play on;
Not to the sensual ear, but, more endear'd,
Pipe to the spirit ditties of no tone:
Fair youth, beneath the trees, thou canst not leave
Thy song, nor ever can those trees be bare;
Bold Lover, never, never canst thou kiss,
Though winning near the goal—yet, do not grieve;
She cannot fade, though thou hast not thy bliss,
For ever wilt thou love, and she be fair!

Ah, happy, happy boughs! that cannot shed
Your leaves, nor ever bid the Spring adieu;
And, happy melodist, unwearied,
For ever piping songs for ever new;
More happy love! more happy, happy love!
For ever warm and still to be enjoy'd,
For ever panting, and for ever young;
All breathing human passion far above,
That leaves a heart high-sorrowful and cloy'd,
A burning forehead, and a parching tongue.

Who are these coming to the sacrifice?
To what green altar, O mysterious priest,
Lead'st thou that heifer lowing at the skies,
And all her silken flanks with garlands drest?
What little town by river or sea shore,
Or mountain-built with peaceful citadel,
Is emptied of this folk, this pious morn?
And, little town, thy streets for evermore
Will silent be; and not a soul to tell
Why thou art desolate, can e'er return.

O Attic shape! Fair attitude! with brede
Of marble men and maidens overwrought,
With forest branches and the trodden weed;
Thou, silent form, dost tease us out of thought
As doth eternity: Cold Pastoral!
When old age shall this generation waste,
Thou shalt remain, in midst of other woe
Than ours, a friend to man, to whom thou say'st,
"Beauty is truth, truth beauty,"—that is all
Ye know on earth, and all ye need to know.

Whitman, Walt. "Song of Myself." ***Leaves of Grass*****. Oxford: Oxford University Press, 1990. (c1860)**
From "Song of Myself" 1

I celebrate myself, and sing myself,
And what I assume you shall assume,
For every atom belonging to me as good belongs to you.

I loafe and invite my soul,
I lean and loafe at my ease observing a spear of summer grass.

My tongue, every atom of my blood, form'd from this soil, this air,
Born here of parents born here from parents the same, and their parents the same,
I, now thirty-seven years old in perfect health begin,

Hoping to cease not till death.

Creeds and schools in abeyance,
Retiring back a while sufficed at what they are, but never forgotten,
I harbor for good or bad, I permit to speak at every hazard,
Nature without check with original energy.

Dickinson, Emily. "Because I Could Not Stop for Death." ***The Complete Poems of Emily Dickinson.*** **Boston: Little, Brown, 1960. (1890)**

Because I could not stop for Death—
He kindly stopped for me—
The Carriage held but just Ourselves—
And Immortality.

We slowly drove—He knew no haste
And I had put away
My labor and my leisure too,
For His Civility—

We passed the School, where Children strove
At Recess—in the Ring—
We passed the Fields of Grazing Grain—
We passed the Setting Sun—

We paused before a House that seemed
A Swelling of the Ground—
The Room was scarcely visible—
The Cornice—in the Ground—

Since then—'tis Centuries—and yet
Feels shorter than the Day
I first surmised the Horses' Heads
Were toward Eternity—

Tagore, Rabindranath. "Song VII." ***The Complete Text of Rabindranath Tagore's Gitanjali: Text and Critical Evaluation*** **by S. K. Paul. Translated by Rabindranath Tagore. New Dehli: Sarup and Sons, 2006. (1913)**

My song has put off her adornments.
She has no pride of dress and decoration.
Ornaments would mar our union;
they would come between thee and me;
their jingling would drown thy whispers.

My poet's vanity dies in shame before thy sight.
O master poet, I have sat down at thy feet.
Only let me make my life simple and straight,
like a flute of reed for thee to fill with music.

Eliot, T. S. "The Love Song of J. Alfred Prufrock." ***T. S. Eliot: The Complete Poems and Plays, 1909–1950.*** **Orlando: Harcourt Brace & Company, 1952. (1917)**

Let us go then, you and I,
When the evening is spread out against the sky
Like a patient etherised upon a table;
Let us go, through certain half-deserted streets,
The muttering retreats
Of restless nights in one-night cheap hotels
And sawdust restaurants with oyster-shells:
Streets that follow like a tedious argument
Of insidious intent
To lead you to an overwhelming question…
Oh, do not ask, "What is it?"
Let us go and make our visit.

Pound, Ezra. "The River Merchant's Wife: A Letter." ***Anthology of Modern American Poetry.*** **Edited by Cary Nelson. New York: Oxford University Press, 2000. (1917)**

While my hair was still cut straight across my forehead
I played about the front gate, pulling flowers.
You came by on bamboo stilts, playing horse;
You walked about my seat, playing with blue plums.
And we went on living in the village of Chokan:
Two small people, without dislike or suspicion.

At fourteen I married My Lord you.
I never laughed, being bashful.
Lowering my head, I looked at the wall.
Called to, a thousand times, I never looked back.

At fifteen I stopped scowling,
I desired my dust to be mingled with yours
Forever and forever and forever.
Why should I climb the lookout?

At sixteen you departed,
You went into far Ku-to-en, by the river of swirling eddies,
And you have been gone five months.
The monkeys make sorrowful noise overhead.
You dragged your feet when you went out.
By the gate now, the moss is grown, the different mosses,
Too deep to clear them away!
The leaves fall early this autumn, in wind.
The paired butterflies are already yellow with August
Over the grass in the West garden --
They hurt me.
I grow older.
If you are coming down through the narrows of the river,
Please let me know beforehand,
And I will come out to meet you
    As far as Cho-fo-Sa.

Frost, Robert. "Mending Wall." ***The Complete Poems of Robert Frost*****. New York: Holt, Rinehart and Winston, 1949. (1914)**

SOMETHING there is that doesn't love a wall,
That sends the frozen-ground-swell under it,
And spills the upper boulders in the sun;
And makes gaps even two can pass abreast.
The work of hunters is another thing:
I have come after them and made repair
Where they have left not one stone on stone,
But they would have the rabbit out of hiding,
To please the yelping dogs. The gaps I mean,
No one has seen them made or heard them made,
But at spring mending-time we find them there.
I let my neighbor know beyond the hill;
And on a day we meet to walk the line
And set the wall between us once again.
We keep the wall between us as we go.
To each the boulders that have fallen to each.
And some are loaves and some so nearly balls
We have to use a spell to make them balance:
"Stay where you are until our backs are turned!"
We wear our fingers rough with handling them.
Oh, just another kind of outdoor game,
One on a side. It comes to little more:
He is all pine and I am apple-orchard.
My apple trees will never get across
And eat the cones under his pines, I tell him.
He only says, "Good fences make good neighbors."

Spring is the mischief in me, and I wonder
If I could put a notion in his head:
"Why do they make good neighbors? Isn't it
Where there are cows? But here there are no cows.
Before I built a wall I'd ask to know
What I was walling in or walling out,
And to whom I was like to give offence.
Something there is that doesn't love a wall,
That wants it down!" I could say "Elves" to him,
But it's not elves exactly, and I'd rather
He said it for himself. I see him there,
Bringing a stone grasped firmly by the top
In each hand, like an old-stone savage armed.
He moves in darkness as it seems to me,
Not of woods only and the shade of trees.
He will not go behind his father's saying,
And he likes having thought of it so well
He says again, "Good fences make good neighbors."

Media Text
The Frost Free Library, with essays, interviews, and audio:
http://www.frostfriends.org/library.html

Neruda, Pablo. "Ode to My Suit." Translated by Margaret Sayers Peden. *Selected Odes of Pablo Neruda*. Berkeley: University of California Press, 1990. (1954)

Bishop, Elizabeth. "Sestina." *The Complete Poems of Elizabeth Bishop, 1927–1979*. New York: Farrar, Straus and Giroux, 1983. (1965)

Ortiz Cofer, Judith. "The Latin Deli: An Ars Poetica." *The Latin Deli: Telling the Lives of Barrio Women*. New York: Norton, 1995. (1988)

Presiding over a formica counter,
Plastic Mother and Child magnetized
to the top of an ancient register,
the heady mix of smells from the open bins
of dried codfish, the green plantains
hanging in stalks like votive offerings,
she is the Patroness of Exiles,
a woman of no-age who was never pretty,
who spends her days selling canned memories
while listening to the Puerto Ricans complain
that it would be cheaper to fly to San Juan
than to by a pound of Bustelo coffee here,
and to the Cubans perfecting their speech
of a "glorious return" to Havana—where no one
has been allowed to die and nothing to change until then;
to Mexicans who pass through, talking lyrically
of dólares to be made in El Norte—
all wanting the comfort
of spoken Spanish, to gaze upon the family portrait
of her plain wide face, her ample bosom
resting on her plump arms, her look of maternal interest
as they speak to her and each other
of their dreams and their disillusions—
how she smiles understanding,
when they walk down the narrow aisles of her store
reading the labels of the packages aloud, s if
they were the names of lost lovers: Suspiros,
Merengues, the stale candy of everyone's childhood.
She spends her days
Slicing jamón y queso and wrapping it in wax paper
tied with string: plain ham and cheese
that would cost less at the A&P, but it would not satisfy
the hunger of the fragile old man lost in the folds

of his winter coat, who brings her lists of items
that he reads to her like poetry, or the others,
whose needs she must divine, conjuring up products
from places that now exist only in their hearts—
closed ports she must trade with.

Dove, Rita. "Demeter's Prayer to Hades." *Mother Love: Poems*. New York: Norton, 1996. (1995)

This alone is what I wish for you: knowledge.
To understand each desire has an edge,
To know we are responsible for the lives
we change. No faith comes without cost,
no one believes without dying.
Now for the first time
I see clearly the trail you planted,
What ground opened to waste,
though you dreaded a wealth
of flowers.
There are no curses—only mirrors
held up to the souls of gods and mortals.
And so I give up this fate, too.
Believe in yourself,
go ahead—see where it gets you.

Collins, Billy. "Man Listening to Disc." *Sailing Alone Around the Room*. New York: Random House, 2001. (2001)

Sample Performance Tasks for Stories, Drama, and Poetry

- Students *analyze* the first impressions given of Mr. and Mrs. Bennet in the opening chapter of *Pride and Prejudice* based on *the setting* and how the *characters are introduced*. By comparing these first impressions with their later understanding based on how *the action is ordered* and the *characters develop* over the course of the novel, students understand *the impact of* Jane Austen's *choices* in *relating elements of a story*. [RL.11–12.3]

- Students compare and contrast how the protagonists of Herman Melville's *Billy Budd* and Nathaniel Hawthorne's *Scarlet Letter* maintain their integrity when confronting authority, and they relate their *analysis* of that *theme* to other portrayals in *nineteenth- and early-twentieth-century foundational works of American literature* they have read. [RL.11–12.9]

- Students *analyze* how Anton Chekhov's choice of *structuring* his *story* "Home" by *beginning* in "midstream" *shapes the meaning of the text* and *contributes to its overall* narrative arc. [RL.11–12.5]

- Students *provide an objective summary* of F. Scott's Fitzgerald's *Great Gatsby* wherein they analyze how *over the course of the text* different characters try to escape the worlds they come from, including whose help they get and whether anybody succeeds in escaping. [RL.11–12.2]

- Students *analyze* Miguel de Cervantes's *Don Quixote* and Jean-Baptiste Poquelin Molière's *Tartuffe* for how *what is directly stated in a text differs from what is really meant*, comparing and contrasting the *point of view* adopted by the protagonist in each work. [RL.11–12.6]

- Students compare two or more *recorded or live productions* of Arthur Miller's *Death of a Salesman* to the written text, *evaluating* how *each version interprets the source text* and debating which aspects of the enacted *interpretations* of the play best capture a particular character, scene, or theme. [RL.11–12.7]

- Students compare and contrast the *figurative and connotative meanings* as well as *specific word choices* in John Donne's "Valediction Forbidding Mourning" and Emily Dickinson's "Because I Would Not Stop for Death" in order to *determine how* the metaphors of the carriage and the compass *shape the meaning and tone* of each poem. Students *analyze* the ways both poets use *language that is particularly fresh, engaging, or beautiful* to convey the *multiple meanings* regarding death contained in each *poem*. [RL.11–12.4]

- Students *cite strong and thorough textual evidence* from John Keats's "Ode on a Grecian Urn" to *support* their *analysis* of what the poem says explicitly about the urn as well as what can be *inferred* about the urn from *evidence* in the poem. Based on their close reading, students *draw inferences from the text* regarding what meanings the figures decorating the urn convey as well as noting *where the* poem *leaves matters about the urn and its decoration uncertain*. [RL.11–12.1]

Informational Texts: English Language Arts

Paine, Thomas. *Common Sense*. New York: Penguin, 2005. (1776)

A government of our own is our natural right: And when a man seriously reflects on the precariousness of human affairs, he will become convinced, that it is infinitely wiser and safer, to form a constitution of our own in a cool deliberate manner, while we have it in our power, than to trust such an interesting event to time and chance. If we omit it now, some Massenello* may hereafter arise, who laying hold of popular disquietudes, may collect together the desperate and the discontented, and by assuming to themselves the powers of government, may sweep away the liberties of the continent like a deluge. Should the government of America return again into the hands of Britain, the tottering situation of things, will be a temptation for some desperate adventurer to try his fortune; and in such a case, what relief can Britain give? Ere she could hear the news the fatal business might be done, and ourselves suffering like the wretched Britons under the oppression of the Conqueror. Ye that oppose independence now, ye know not what ye do; ye are opening a door to eternal tyranny, by keeping vacant the seat of government.

(*Thomas Anello, otherwise Massenello, a fisherman of Naples, who after spiriting up his countrymen in the public market place, against the oppression of the Spaniards, to whom the place was then subject, prompted them to revolt, and in the space of a day became king.)

Jefferson, Thomas. The Declaration of Independence. (1776)

IN CONGRESS, July 4, 1776

The unanimous Declaration of the thirteen united States of America

When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume, among the Powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness.—That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed,—That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes; and accordingly all experience hath shown, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security.—Such has been the patient sufferance of these Colonies; and such is now the necessity which constrains them to alter their former Systems of Government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid world.

He has refused his Assent to Laws, the most wholesome and necessary for the public good.

He has forbidden his Governors to pass Laws of immediate and pressing importance, unless suspended in their operation till his

Assent should be obtained; and when so suspended, he has utterly neglected to attend to them.

He has refused to pass other Laws for the accommodation of large districts of people, unless those people would relinquish the right of Representation in the Legislature, a right inestimable to them and formidable to tyrants only.

He has called together legislative bodies at places unusual, uncomfortable, and distant from the depository of their Public Records, for the sole purpose of fatiguing them into compliance with his measures.

He has dissolved Representative Houses repeatedly, for opposing with manly firmness his invasions on the rights of the people.

He has refused for a long time, after such dissolutions, to cause others to be elected; whereby the Legislative Powers, incapable of Annihilation, have returned to the People at large for their exercise; the State remaining in the mean time exposed to all the dangers of invasion from without, and convulsions within.

He has endeavoured to prevent the population of these States; for that purpose obstructing the Laws of Naturalization of Foreigners; refusing to pass others to encourage their migration hither, and raising the conditions of new Appropriations of Lands.

He has obstructed the Administration of Justice, by refusing his Assent to Laws for establishing Judiciary Powers.

He has made judges dependent on his Will alone, for the tenure of their offices, and the amount and payment of their salaries.

He has erected a multitude of New Offices, and sent hither swarms of Officers to harass our People, and eat out their substance.

He has kept among us, in times of peace, Standing Armies without the Consent of our legislatures.

He has affected to render the Military independent of and superior to the Civil Power.

He has combined with others to subject us to a jurisdiction foreign to our constitution, and unacknowledged by our laws; giving his Assent to their Acts of pretended legislation:

For quartering large bodies of armed troops among us:

For protecting them, by a mock Trial, from Punishment for any Murders which they should commit on the Inhabitants of these States:

For cutting off our Trade with all parts of the world:

For imposing taxes on us without our Consent:

For depriving us, in many cases, of the benefits of Trial by Jury:

For transporting us beyond Seas to be tried for pretended offences:

For abolishing the free System of English Laws in a neighbouring Province, establishing therein an Arbitrary government, and enlarging its Boundaries so as to render it at once an example and fit instrument for introducing the same absolute rule into these Colonies:

For taking away our Charters, abolishing our most valuable Laws, and altering fundamentally the Forms of our Governments:

For suspending our own Legislatures and declaring themselves invested with Power to legislate for us in all cases whatsoever.

He has abdicated Government here, by declaring us out of his Protection and waging War against us.

He has plundered our seas, ravaged our Coasts, burnt our towns, and destroyed the lives of our people.

He is at this time transporting large armies of foreign mercenaries to complete the works of death, desolation and tyranny, already begun with circumstances of Cruelty & perfidy scarcely paralleled in the most barbarous ages, and totally unworthy of the Head of a civilized nation.

He has constrained our fellow Citizens taken Captive on the high Seas to bear Arms against their Country, to become the executioners of their friends and Brethren, or to fall themselves by their Hands.

He has excited domestic insurrections amongst us, and has endeavoured to bring on the inhabitants of our frontiers, the merciless Indian Savages, whose known rule of warfare is an undistinguished destruction of all ages, sexes and conditions.

In every stage of these Oppressions We have Petitioned for Redress in the most humble terms: Our repeated Petitions have been answered only by repeated injury. A Prince, whose character is thus marked by every act which may define a Tyrant, is unfit to be the ruler of a free People.

Nor have We been wanting in attention to our British brethren. We have warned them from time to time of attempts by their legislature to extend an unwarrantable jurisdiction over us. We have reminded them of the circumstances of our emigration and settlement here. We have appealed to their native justice and magnanimity, and we have conjured them by the ties of our common kindred to disavow these usurpations, which would inevitably interrupt our connections and correspondence. They too have been deaf to the voice of justice and of consanguinity. We must, therefore, acquiesce in the necessity, which denounces our Separation, and hold them, as we hold the rest of mankind, Enemies in War, in Peace Friends.

We, therefore, the Representatives of the United States of America, in General Congress, Assembled, appealing to the Supreme Judge of the world for the rectitude of our intentions, do, in the Name, and by the Authority of the good People of these Colonies, solemnly publish and declare, That these United Colonies are, and of Right ought to be Free and Independent States; that they are Absolved from all Allegiance to the British Crown, and that all political connection between them and the State of Great Britain, is and ought to be totally dissolved; and that as Free and Independent States, they have full Power to levy War, conclude Peace, contract Alliances, establish Commerce, and to do all other Acts and Things which Independent States may of right do. And for the support of this Declaration, with a firm reliance on the Protection of Divine Providence, we mutually pledge to each other our Lives, our Fortunes and our sacred Honor.

United States. The Bill of Rights (Amendments One through Ten of the United States Constitution). (1791)

Amendment I

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press, or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

Amendment II

A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.

Amendment III

No Soldier shall, in time of peace be quartered in any house, without the consent of the Owner, nor in time of war, but in a manner to be prescribed by law.

Amendment IV

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Amendment V

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb, nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

Amendment VI

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed; which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defence.

Amendment VII

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law.

Amendment VIII

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

Amendment IX

The enumeration in the Constitution of certain rights shall not be construed to deny or disparage others retained by the people.

Amendment X

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

Thoreau, Henry David. *Walden; or, Life in the Woods*. Boston: Houghton, 1893. (1854)

I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived. I did not wish to live what was not life, living is so dear; nor did I wish to practise resignation, unless it was quite necessary. I wanted to live deep and suck out all the marrow of life, to live so sturdily and Spartan-like as to put to rout all that was not life, to cut a broad swath and shave close, to drive life into a corner, and reduce it to its lowest terms, and, if it proved to be mean, why then to get the whole and genuine meanness of it, and publish its meanness to the world; or if it were sublime, to know it by experience, and be able to give a true account of it in my next excursion. For most men, it appears to me, are in a strange uncertainty about it, whether it is of the devil or of God, and have somewhat hastily concluded that it is the chief end of man here to "glorify God and enjoy him forever."

Emerson, Ralph Waldo. "Society and Solitude." *Essays and Poems*. New York: Library of America, 1996. (1857)

'Tis hard to mesmerize ourselves, to whip our own top; but through sympathy we are capable of energy and endurance. Concert fires people to a certain fury of performance they can rarely reach alone. Here is the use of society: it is so easy with the great to be great; so easy to come up to an existing standard;—as easy as it is to the lover to swim to his maiden through waves so grim before. The benefits of affection are immense; and the one event which never loses its romance, is the encounter with superior persons on terms allowing the happiest intercourse.

It by no means follows that we are not fit for society, because soirées are tedious, and because the soirée finds us tedious. A backwoodsman, who had been sent to the university, told me that, when he heard the best-bred young men at the law school talk together, he reckoned himself a boor; but whenever he caught them apart, and had one to himself alone, then they were the boors, and he the better man. And if we recall the rare hours when we encountered the best persons, we then found ourselves, and then first society seemed to exist. That was society, though in the transom of a brig, or on the Florida Keys.

A cold, sluggish blood thinks it has not facts enough to the purpose, and must decline its turn in the conversation. But they who speak have no more,—have less. 'Tis not new facts that avail, but the heat to dissolve everybody's facts. The capital defect of cold, arid natures is the want of animal spirits. They seem a power incredible, as if God should raise the dead. The recluse witnesses what others perform by their aid, with a kind of fear. It is as much out of his possibility as the prowess of Cœur-de-Lion, or an Irishman's day's-work on the railroad. 'Tis said, the present and the future are always rivals. Animal spirits constitute the power of the present, and their feats are like the structure of a pyramid. Their result is a lord, a general, or a boon companion. Before these, what a base mendicant is Memory with his leathern badge! But this genial heat is latent in all constitutions, and is disengaged only by the friction of society. As Bacon said of manners, "To obtain them, it only needs not to despise them," so we say of animal spirits, that they are the spontaneous product of health and of a social habit. "For behavior, men learn it, as they take diseases, one of another."

But the people are to be taken in very small doses. If solitude is proud, so is society vulgar. In society, high advantages are set down to the individual as disqualifications. We sink as easily as we rise, through sympathy. So many men whom I know are degraded by their sympathies, their native aims being high enough, but their relation all too tender to the gross people about them. Men cannot afford to live together by their merits, and they adjust themselves by their demerits,—by their love of gossip, or by sheer tolerance and animal good-nature. They untune and dissipate the brave aspirant.

The remedy is, to reinforce each of these moods from the other. Conversation will not corrupt us, if we come to the assembly in our own garb and speech, and with the energy of health to select what is ours and reject what is not. Society we must have; but let it be society, and not exchanging news, or eating from the same dish. Is it society to sit in one of your chairs? I cannot go into the houses of my nearest relatives, because I do not wish to be alone. Society exists by chemical affinity, and not otherwise.

Put any company of people together with freedom for conversation, and a rapid self-distribution takes place, into sets and pairs. The best are accused of exclusiveness. It would be more true to say, they separate as oil from water, as children from old people, without love or hatred in the matter, each seeking his like; and any interference with the affinities would produce constraint and suffocation. All conversation is a magnetic experiment. I know that my friend can talk eloquently; you know that he cannot articulate a sentence: we have seen him in different company. Assort your party, or invite none. Put Stubbs and Coleridge, Quintilian and Aunt Miriam, into pairs, and you make them all wretched. 'Tis an extempore Sing-Sing built in a parlor. Leave them to seek their own mates, and they will be as merry as sparrows.

A higher civility will re-establish in our customs a certain reverence which we have lost. What to do with these brisk young men who break through all fences, and make themselves at home in every house? I find out in an instant if my companion does not want me, and ropes cannot hold me when my welcome is gone. One would think that the affinities would pronounce themselves with a surer reciprocity.

Here again, as so often, Nature delights to put us between extreme antagonisms, and our safety is in the skill with which we keep the diagonal line. Solitude is impracticable, and society fatal. We must keep our head in the one and our hands in the other. The conditions are met, if we keep our independence, yet do not lose our sympathy. These wonderful horses need to be driven by fine hands. We require such a solitude as shall hold us to its revelations when we are in the street and in palaces; for most men are cowed in society, and say good things to you in private, but will not stand to them in public. But let us not be the victims of words. Society and solitude are deceptive names. It is not the circumstance of seeing more or fewer people, but the readiness of sympathy, that imports; and a sound mind will derive its principles from insight, with ever a purer ascent to the sufficient and absolute right, and will accept society as the natural element in which they are to be applied.

Porter, Horace. "Lee Surrenders to Grant, April 9th, 1865." ***Eyewitness to America: 500 Years of American History in the Words of Those Who Saw It Happen*****. Edited by David Colbert. New York: Vintage, 1998. (1865)**
From "Lee Surrenders to Grant, April 9th, 1865"

When Lee came to the sentence about the officers' side-arms, private horses & baggage, he showed for the first time during the reading of the letter a slight change of countenance & was evidently touched by this act of generosity. It was doubtless the condition mentioned to which he particularly alluded when he looked toward General Grant, as he finished reading & said with some degree of warmth in his manner, 'This will have a very happy effect upon my army.'"

General Grant then said: "Unless you have some suggestions to make in regard to the form in which I have stated the terms, I will have a copy of the letter made in ink, and sign it."

"There is one thing I should like to mention," Lee replied, after a short pause. "The cavalrymen and artillerists own their own horses in our army. Its organization in this respect differs from that of the United States." This expression attracted the notice of our officers present, as showing how firmly the conviction was grounded in his mind that we were two distinct countries. He continued: "I should like to understand whether these men will be permitted to retain their horses."

"You will find that the terms as written do not allow this," General Grant replied; "only the officers are permitted to take their private property."

Lee read over the second page of the letter again, and then said: "No, I see the terms do not allow it; that is clear." His face showed plainly that he was quite anxious to have this concession made; and Grant said very promptly, and without giving Lee time to make a direct request:

"Well, the subject is quite new to me. Of course I did not know that any private soldiers owned their animals; but I think we have fought the last battle of the war,—I sincerely hope so,—and that the surrender of this army will be followed soon by that of all the others; and I take it that most of the men in the ranks are small farmers, and as the country has been so raided by the two armies, it is doubtful whether they will be able to put in a crop to carry themselves and their families through the next winter without the aid of the horses they are now riding, and I will arrange it in this way: I will not change the terms as now written, but I will instruct the officers I shall appoint to receive the paroles to let all the men who claim to own a horse or mule take the animals home with them to work their little farms."

Chesterton, G. K. "The Fallacy of Success." ***Selected Essays.*** **London: Methuen, 1949. (1909)**

There has appeared in our time a particular class of books and articles which I sincerely and solemnly think may be called the silliest ever known among men. They are much more wild than the wildest romances of chivalry and much more dull than the dullest religious tract. Moreover, the romances of chivalry were at least about chivalry; the religious tracts are about religion. But these things are about nothing; they are about what is called Success. On every bookstall, in every magazine, you may find works telling people how to succeed. They are books showing men how to succeed in everything; they are written by men who cannot even succeed in writing books. To begin with, of course, there is no such thing as Success. Or, if you like to put it so, there is nothing that is not successful. That a thing is successful merely means that it is; a millionaire is successful in being a millionaire and a donkey in being a donkey. Any live man has succeeded in living; any dead man may have succeeded in committing suicide. But, passing over the bad logic and bad philosophy in the phrase, we may take it, as these writers do, in the ordinary sense of success in obtaining money or worldly position. These writers profess to tell the ordinary man how he may succeed in his trade or speculation—how, if he is a builder, he may succeed as a builder; how, if he is a stockbroker, he may succeed as a stockbroker. They profess to show him how, if he is a grocer, he may become a sporting yachtsman; how, if he is a tenth-rate journalist, he may become a peer; and how, if he is a German Jew, he may become an Anglo-Saxon. This is a definite and business-like proposal, and I really think that the people who buy these books (if any people do buy them) have a moral, if not a legal, right to ask for their money back. Nobody would dare to publish a book about electricity which literally told one nothing about electricity; no one would dare publish an article on botany which showed that the writer did not know which end of a plant grew in the earth. Yet our modern world is full of books about Success and successful people which literally contain no kind of idea, and scarcely and kind of verbal sense.

It is perfectly obvious that in any decent occupation (such as bricklaying or writing books) there are only two ways (in any special sense) of succeeding. One is by doing very good work, the other is by cheating. Both are much too simple to require any literary explanation. If you are in for the high jump, either jump higher than any one else, or manage somehow to pretend that you have done so. If you want to succeed at whist, either be a good whist-player, or play with marked cards. You may want a book about jumping; you may want a book about whist; you may want a book about cheating at whist. But you cannot want a book about Success. Especially you cannot want a book about Success such as those which you can now find scattered by the hundred about the book-market. You may want to jump or to play cards; but you do not want to read wandering statements to the effect that jumping is jumping, or that games are won by winners. If these writers, for instance, said anything about success in jumping it would be something like this: 'The jumper must have a clear aim before him. He must desire definitely to jump higher than the other men who are in for the same competition. He must let no feeble feelings of mercy (sneaked from the sickening Little Englanders and Pro-Boers) prevent him from trying to do his best. He must remember that a competition in jumping is distinctly competitive, and that, as Darwin has gloriously demonstrated, THE WEAKEST GO TO THE WALL.' That is the kind of thing the book would say, and very useful it would be, no doubt, if read out in a low and tense voice to a young man just about to take the high jump. Or suppose that in the course of his intellectual rambles the philosopher of Success dropped upon our other case, that of playing cards, his bracing advice would run—'In playing cards it is very necessary to avoid the mistake (commonly made by maudlin humanitarians and Free Traders) of permitting your opponent to win the game. You must have grit and snap and go in to win. The days of idealism and superstition are over. We live in a time of science and hard common sense, and it has now been definitely proved that in any game where two are playing IF ONE DOES NOT WIN THE OTHER WILL.' It is all very stirring, of course; but I confess that if I were playing cards I would rather have some decent little book which told me the rules of the game. Beyond the rules of the game it is all a question either of talent or dishonesty; and I will undertake to provide either one or the other—which, it is not for me to say.

Mencken, H. L. ***The American Language, 4th Edition*****. New York: Knopf, 1938. (1938)**
From Chapter XI: "American Slang," Section I: "The Nature of Slang"

What chiefly lies behind (slang) is simply a kind of linguistic exuberance, an excess of word-making energy. It relates itself to the standard language a great deal as dancing relates itself to music. But there is also something else. The best slang is not only ingenious and amusing; it also embodies a kind of social criticism. It not only provides new names for a series of every-day concepts, some new and some old; it also says something about them. "Words which produce the slang effect," observes Frank Sechrist, "arouse associations what are incongruous or incompatible with those of customary thinking."

Everyone, including the metaphysician in his study or the eremite in his cell, has a large vocabulary of slang, but the vocabulary of the vulgar is likely to be larger than that of the cultured, and it is harder worked. Its content may be divided into two categories: (a) old words, whether used singly or in combination, that have been put to new uses, usually metaphorical, and (b) new words that have not yet been admitted to the standard vocabulary. Examples of the first type are rubberneck, for a gaping and prying person, and iceberg, for a cold woman; examples of the second are hoosegow, flim-flam, blurb, bazoo and blah. There is a constant movement of slang into accepted usage. Nice, as an adjective of all work, signifying anything satisfactory, was once used in slang only, but today no one would question "a nice day," "a nice time," or "a nice hotel."…The verb-phrase to hold up is now perfectly good American, but so recently as 1901 the late Brander Matthews was sneering at it as slang. In the same way many other verb-phrases, e.g., to cave in, fill the bill and to fly off the handle, once viewed askance, have gradually worked their way to a relatively high level of the standard speech. On some indeterminate tomorrow to stick up and to take for a ride may follow them.

Wright, Richard. *Black Boy*. New York: Harper Perennial, 1998. (1945)
From Part One: Southern Night

That night in my rented room, while letting the hot water run over my can of pork and beans in the sink, I opened A Book of Prefaces and began to read. I was jarred and shocked by the style, the clear, clean, sweeping sentences. Why did he write like that? And how did one write like that? I pictured the man as a raging demon, slashing with his pen, consumed with hate, denouncing everything American, extolling everything European or German, laughing at the weakness of people, mocking God, authority. What was this? I stood up, trying to realize what reality lay behind the meaning of the words…Yes, this man was fighting, fighting with words. He was using words as a weapon, using them as one would use a club. Could words be weapons? Well, yes, for here they were. Then maybe, perhaps, I could use them as a weapon? No. It frightened me. I read on and what amazed me was not what he said, but how on earth anybody had the courage to say it.

Occasionally I glance up to reassure myself that I was alone in the room. Who were these men about whom Mencken was talking so passionately? Who was Anatole France? Joseph Conrad? Sinclair Lewis, Sherwood Anderson, Dostoevski, George Moore, Gustave Flaubert, Maupassant, Tolstoy, Frank Harris, Mark Twain, Thomas Hardy, Arnold Bennett, Stephen Crane, Zola, Norris, Gorky, Bergson, Ibsen, Balzac, Bernard Shaw, Dumas, Poe, Thomas Mann, O. Henry, Dreiser, H.G. Wells, Gogol, T.S. Eliot, Gide, Baudelaire, Edgar Lee masters, Stendhal, Turgenev, Huneker, Nietzsche, and scores of others? Were these men real? Did they exist or had they existed? And how did one pronounce their names?

Orwell, George. "Politics and the English Language." *All Art Is Propaganda: Critical Essays*. New York: Mariner, 2009. (1946)

Hofstadter, Richard. "Abraham Lincoln and the Self-Made Myth." *The American Political Tradition and the Men Who Made It*. New York: Vintage, 1974. (1948)

Lincoln was shaken by the presidency. Back in Springfield, politics had been a sort of exhilarating game; but in the White House, politics was power, and power was responsibility. Never before had Lincoln held executive office. In public life he had always been an insignificant legislator whose votes were cast in concert with others and whose decisions in themselves had neither finality nor importance. As President he might consult with others, but innumerable grave decisions were in the end his own, and with them came a burden of responsibility terrifying in its dimensions.

Lincoln's rage for personal success, his external and worldly ambition, was quieted when he entered the White House, and he was at last left alone to reckon with himself. To be confronted with the fruits of his victory only to find that it meant choosing between life and death for others was immensely sobering. That Lincoln should have shouldered the moral burden of the war was characteristic of the high seriousness into which he had grown since 1854; and it may be true, as Professor Charles W. Ramsdell suggested, that he was stricken by an awareness of his own part in whipping up the crisis. This would go far to explain the desperation with which he issued pardons and the charity that he wanted to extend to the conquered South at the war's close. In one of his rare moments of self-revelation he is reported to have said: "Now I don't know what the soul is, but whatever it is, I know that it can humble itself." The great prose of the presidential years came from a soul that had been humbled. Lincoln's utter lack of personal malice during these years, his humane detachment, his tragic sense of life, have no parallel in political history.

Tan, Amy. "Mother Tongue." *The Opposite of Fate: Memories of a Writing Life*. New York: G. P. Putnam's Sons, 2003. (1990)

Just last week, I was walking down the street with my mother, and I again found myself conscious of the English I was using, the English I do use with her. We were talking about the price of new and used furniture and I heard myself saying this: "Not waste money that way." My husband was with us as well, and he didn't notice any switch in my English. And then I realized why. It's because over the twenty years we've been together I've often used that same kind of English with him, and sometimes he even uses it with me. It has become our language of intimacy, a different sort of English that relates to family talk, the language I grew up with.

So you'll have some idea of what this family talk I heard sounds like, I'll quote what my mother said during a recent conversation which I videotaped and then transcribed. During this conversation, my mother was talking about a political gangster in Shanghai who had the same last name as her family's, Du, and how the gangster in his early years wanted to be adopted by her family, which was rich by comparison. Later, the gangster became more powerful, far richer than my mother's family, and one day showed up at my mother's wedding to pay his respects. Here's what she said in part: "Du Yusong having business like fruit stand. Like off the street kind. He is Du like Du Zong—but not Tsung-ming Island people. The local people call putong, the river east side, he belong to that side local people. That man want to ask Du Zong father take him in like become own family. Du Zong father wasn't look down on him, but didn't take seriously, until that man big like become a mafia. Now important person, very hard to inviting him. Chinese way, came only to show respect, don't stay for dinner. Respect for making big celebration, he shows up. Mean gives lots of respect. Chinese custom. Chinese social life that way. If too important won't have to stay too long. He come to my wedding. I didn't see, I heard it. I gone to boy's side, they have YMCA dinner. Chinese age I was nineteen."

Anaya, Rudolfo. "Take the Tortillas Out of Your Poetry." *The Anaya Reader*. New York: Warner Books, 1995. (1995)

In a recent lecture, "Is Nothing Sacred?", Salman Rushdie, one of the most censored authors of our time, talked about the importance of books. He grew up in a household in India where books were as sacred as bread. If anyone in the household dropped a piece of bread or a book, the person not only picked it up, but also kissed the object by way of apologizing for clumsy disrespect.

He goes on to say that he had kissed many books before he had kissed a girl. Bread and books were for his household, and for many like his, food for the body and the soul. This image of the kissing of the book one had accidentally dropped made an impression on me. It speaks to the love and respect many people have for them.

I grew up in a small town in New Mexico, and we had very few books in our household. The first one I remember reading was my catechism book. Before I went to school to learn English, my mother taught me catechism in Spanish. I remember the questions and answers I had to learn, and I remember the well-thumbed, frayed volume which was sacred to me.

Growing up with few books in the house created in me a desire and a need for them. When I started school, I remember visiting the one room library of our town and standing in front of the dusty shelves. In reality there were only a few shelves and not over a thousand books, but I wanted to read them all. There was food for my soul in the books, that much I realized.

Sample Performance Tasks for Informational Texts: English Language Arts

- Students *delineate* and *evaluate* the *argument* that Thomas Paine makes in *Common Sense*. They *assess the reasoning* present in his analysis, including the *premises and purposes* of his essay. [RI.11–12.8]

- Students *analyze* Thomas Jefferson's Declaration of Independence, identifying its *purpose* and evaluating *rhetorical features* such as the listing of grievances. Students compare and contrast the *themes* and argument found there to those of other *U.S. documents of historical and literary significance*, such as the Olive Branch Petition. [RI.11–12.9]

- Students *provide an objective summary* of Henry David Thoreau's *Walden* wherein they *analyze how* he articulates *the central ideas* of living simply and being self-reliant and how those ideas *interact and build on one another* (e.g., "According to Thoreau, how specifically does moving toward complexity in one's life undermine self-reliance?") [RI.11–12.2]

- Students *analyze how* the *key term success* is interpreted, *used, and refined over the course of* G. K. Chesterton's essay "The Fallacy of Success." [RI.11–12.4]

- Students determine Richard Hofstadter's *purpose and point of view* in his "Abraham Lincoln and the Self-Made Myth," *analyzing* how both Hofstadter's *style* and *content contribute* to the *eloquent* and *powerful* contrast he draws between the younger, ambitious Lincoln and the sober, more reflective man of the presidential years. [RI.11–12.6]

Informational Texts: History/Social Studies

Tocqueville, Alexis de. *Democracy in America.* Translated by Henry Reeve. (1835)
From Chapter 2: "The Origins of the Anglo-Americans"

The remarks I have made will suffice to display the character of Anglo-American civilization in its true light. It is the result (and this should be constantly present to the mind of two distinct elements), which in other places have been in frequent hostility, but which in America have been admirably incorporated and combined with one another. I allude to the spirit of Religion and the spirit of Liberty.

The settlers of New England were at the same time ardent sectarians and daring innovators. Narrow as the limits of some of their religious opinions were, they were entirely free from political prejudices. Hence arose two tendencies, distinct but not opposite, which are constantly discernible in the manners as well as in the laws of the country.

It might be imagined that men who sacrificed their friends, their family, and their native land to a religious conviction were absorbed in the pursuit of the intellectual advantages which they purchased at so dear a rate. The energy, however, with which they strove for the acquirement of wealth, moral enjoyment, and the comforts as well as liberties of the world, is scarcely inferior to that with which they devoted themselves to Heaven.

Political principles and all human laws and institutions were moulded and altered at their pleasure; the barriers of the society in which they were born were broken down before them; the old principles which had governed the world for ages were no more; a path without a turn and a field without an horizon were opened to the exploring and ardent curiosity of man: but at the limits of the political world he checks his researches, he discreetly lays aside the use of his most formidable faculties, he no longer consents to doubt or to innovate, but carefully abstaining from raising the curtain of the sanctuary, he yields with submissive respect to truths which he will not discuss. Thus, in the moral world everything is classed, adapted, decided, and foreseen; in the political world everything is agitated, uncertain, and disputed: in the one is a passive, though a voluntary, obedience; in the other an independence scornful of experience and jealous of authority.

These two tendencies, apparently so discrepant, are far from conflicting; they advance together, and mutually support each other. Religion perceives that civil liberty affords a noble exercise to the faculties of man, and that the political world is a field prepared by the Creator for the efforts of the intelligence. Contented with the freedom and the power which it enjoys in its own sphere, and with the place which it occupies, the empire of religion is never more surely established than when it reigns in the hearts of men unsupported by aught beside its native strength. Religion is no less the companion of liberty in all its battles and its triumphs; the cradle of its infancy, and the divine source of its claims. The safeguard of morality is religion, and morality is the best security of law and the surest pledge of freedom.

Declaration of Sentiments by the Seneca Falls Conference. *An American Primer*. Edited by Daniel J. Boorstin. Chicago: University of Chicago Press, 1966. (1848)

When, in the course of human events, it becomes necessary for one portion of the family of man to assume among the people of the earth a position different from that which they have hitherto occupied, but one to which the laws of nature and of nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes that impel them to such a course.

We hold these truths to be self-evident: that all men and women are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty, and the pursuit of happiness; that to secure these rights governments are instituted, deriving their just powers from the consent of the governed. Whenever any form of government becomes destructive of these ends, it is the right of those who suffer from it to refuse allegiance to it, and to insist upon the institution of a new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to effect their safety and happiness. Prudence, indeed, will dictate that governments long established should not be changed for light and transient causes; and accordingly all experience hath shown that mankind are more disposed to suffer while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their duty to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of the women under this government, and such is now the necessity which constrains them to demand the equal station to which they are entitled. The history of mankind is a history of repeated injuries and usurpations on the part of man toward woman, having in direct object the establishment of an absolute tyranny over her. To prove this, let facts be submitted to a candid world.

The history of mankind is a history of repeated injuries and usurpations on the part of man toward woman, having in direct object the establishment of an absolute tyranny over her. To prove this, let facts be submitted to a candid world.

He has never permitted her to exercise her inalienable right to the elective franchise.

He has compelled her to submit to laws, in the formation of which she had no voice.

He has withheld from her rights which are given to the most ignorant and degraded men—both natives and foreigners.

Having deprived her of this first right of a citizen, the elective franchise, thereby leaving her without representation in the halls of legislation, he has oppressed her on all sides.

He has made her, if married, in the eye of the law, civilly dead.

He has taken from her all right in property, even to the wages she earns.

He has made her, morally, an irresponsible being, as she can commit many crimes with impunity, provided they be done in the presence of her husband. In the covenant of marriage, she is compelled to promise obedience to her husband, he becoming, to all intents and purposes, her master—the law giving him power to deprive her of her liberty, and to administer chastisement.

He has so framed the laws of divorce, as to what shall be the proper causes, and in case of separation, to whom the guardianship of the children shall be given, as to be wholly regardless of the happiness of women—the law, in all cases, going upon a false supposition of the supremacy of man, and giving all power into his hands.

After depriving her of all rights as a married woman, if single, and the owner of property, he has taxed her to support a government which recognizes her only when her property can be made profitable to it.

He has monopolized nearly all the profitable employments, and from those she is permitted to follow, she receives but a scanty remuneration. He closes against her all the avenues to wealth and distinction which he considers most honorable to himself. As a teacher of theology, medicine, or law, she is not known.

He has denied her the facilities for obtaining a thorough education, all colleges being closed against her.

He allows her in church, as well as state, but a subordinate position, claiming apostolic authority for her exclusion from the ministry, and, with some exceptions, from any public participation in the affairs of the church.

He has created a false public sentiment by giving to the world a different code of morals for men and women, by which moral delinquencies which exclude women from society are not only tolerated, but deemed of little account in man.

He has usurped the prerogative of Jehovah himself, claiming it as his right to assign for her a sphere of action, when that belongs to her conscience and to her God.

He has endeavored, in every way that he could, to destroy her confidence in her own powers, to lessen her self-respect, and to make her willing to lead a dependent and abject life.

Now, in view of this entire disfranchisement of one-half the people of this country, their social and religious degradation—in view of the unjust laws above mentioned, and because women do feel themselves aggrieved, oppressed, and fraudulently deprived of their most sacred rights, we insist that they have immediate admission to all the rights and privileges which belong to them as citizens of the United States.

Douglass, Frederick. "What to the Slave Is the Fourth of July?: An Address Delivered in Rochester, New York, on 5 July 1852." *The Oxford Frederick Douglass Reader.* Oxford: Oxford University Press, 1996. (1852)

Fellow Citizens, I am not wanting in respect for the fathers of this republic. The signers of the Declaration of Independence were brave men. They were great men, too great enough to give frame to a great age. It does not often happen to a nation to raise, at one time, such a number of truly great men. The point from which I am compelled to view them is not, certainly, the most favorable; and yet I cannot contemplate their great deeds with less than admiration. They were statesmen, patriots and heroes, and for the good they did, and the principles they contended for, I will unite with you to honor their memory....

...Fellow-citizens, pardon me, allow me to ask, why am I called upon to speak here to-day? What have I, or those I represent, to do with your national independence? Are the great principles of political freedom and of natural justice, embodied in that Declaration of Independence, extended to us? And am I, therefore, called upon to bring our humble offering to the national altar, and to confess the benefits and express devout gratitude for the blessings resulting from your independence to us?

Would to God, both for your sakes and ours, that an affirmative answer could be truthfully returned to these questions! Then would my task be light, and my burden easy and delightful. For who is there so cold, that a nation's sympathy could not warm him? Who so obdurate and dead to the claims of gratitude, that would not thankfully acknowledge such priceless benefits? Who so stolid and selfish, that would not give his voice to swell the hallelujahs of a nation's jubilee, when the chains of servitude had been torn from his limbs? I am not that man. In a case like that, the dumb might eloquently speak, and the "lame man leap as an hart."

But such is not the state of the case. I say it with a sad sense of the disparity between us. I am not included within the pale of glorious anniversary! Your high independence only reveals the immeasurable distance between us. The blessings in which you, this day, rejoice, are not enjoyed in common. The rich inheritance of justice, liberty, prosperity and independence, bequeathed by your fathers, is shared by you, not by me. The sunlight that brought light and healing to you, has brought stripes and death to me. This Fourth July is yours, not mine. You may rejoice, I must mourn. To drag a man in fetters into the grand illuminated temple of liberty, and call upon him to join you in joyous anthems, were inhuman mockery and sacrilegious irony. Do you mean, citizens, to mock me, by asking me to speak to-day? If so, there is a parallel to your conduct. And let me warn you that it is dangerous to copy the example of a nation whose crimes, towering up to heaven, were thrown down by the breath of the Almighty, burying that nation in irrevocable ruin! I can to-day take up the plaintive lament of a peeled and woe-smitten people!

"By the rivers of Babylon, there we sat down. Yea! We wept when we remembered Zion. We hanged our harps upon the willows in the midst thereof. For there, they that carried us away captive, required of us a song; and they who wasted us required of us mirth, saying, Sing us one of the songs of Zion. How can we sing the Lord's song in a strange land? If I forget thee, O Jerusalem, let my right hand forget her cunning. If I do not remember thee, let my tongue cleave to the roof of my mouth."

Fellow-citizens, above your national, tumultuous joy, I hear the mournful wail of millions! whose chains, heavy and grievous yesterday, are, to-day, rendered more intolerable by the jubilee shouts that reach them. If I do forget, if I do not faithfully remember those bleeding children of sorrow this day, "may my right hand forget her cunning, and may my tongue cleave to the roof of my mouth!" To forget them, to pass lightly over their wrongs, and to chime in with the popular theme, would be treason most scandalous and shocking, and would make me a reproach before God and the world. My subject, then, fellow-citizens, is American slavery. I shall see this day and its popular characteristics from the slave's point of view. Standing there identified with the American bondman, making his wrongs mine, I do not hesitate to declare, with all my soul, that the character and conduct of this nation never looked blacker to me than on this 4th of July! Whether we turn to the declarations of the past, or to the professions of the present, the conduct of the nation seems equally hideous and revolting. America is false to the past, false to the present, and solemnly binds herself to be false to the future. Standing with God and the crushed and bleeding slave on this occasion, I will, in the name of humanity which is outraged, in the name of liberty which is fettered, in the name of the constitution and the Bible which are disregarded and trampled upon, dare to call in question and to denounce, with all the emphasis I can command, everything that serves to perpetuate slavery the great sin and shame of America! "I will not equivocate; I will not excuse"; I will use the severest language I can command; and yet not one word shall escape me that any man, whose judgment is not blinded by prejudice, or who is not at heart a slaveholder, shall not confess to be right and just.

But I fancy I hear some one of my audience say, "It is just in this circumstance that you and your brother abolitionists fail to make a favorable impression on the public mind. Would you argue more, an denounce less; would you persuade more, and rebuke less; your cause would be much more likely to succeed." But, I submit, where all is plain there is nothing to be argued. What point in the anti-slavery creed would you have me argue? On what branch of the subject do the people of this country need light? Must I undertake to prove that the slave is a man? That point is conceded already. Nobody doubts it. The slaveholders themselves acknowledge it in the enactment of laws for their government. They acknowledge it when they punish disobedience on the part of the slave. There are seventy-two crimes in the State of Virginia which, if committed by a black man (no matter how ignorant he be), subject him to the punishment of death; while only two of the same crimes will subject a white man to the like punishment. What is this but the acknowledgment that the slave is a moral, intellectual, and responsible being? The manhood of the slave is conceded. It is admitted in the fact that Southern statute books are covered with enactments forbidding, under severe fines and penalties, the teaching of the slave to read or to write. When you can point to any such laws in reference to the beasts of the field, then I may consent to argue the manhood of the slave. When the dogs in your streets, when the fowls of the air, when the cattle on your hills, when the fish of the sea, and the reptiles that crawl, shall be unable to distinguish the slave from a brute, then will I argue with you that the slave is a man!

For the present, it is enough to affirm the equal manhood of the Negro race. Is it not astonishing that, while we are ploughing, planting, and reaping, using all kinds of mechanical tools, erecting houses, constructing bridges, building ships, working in metals of brass, iron, copper, silver and gold; that, while we are reading, writing and ciphering, acting as clerks, merchants and secretaries, having among us lawyers, doctors, ministers, poets, authors, editors, orators and teachers; that, while we are engaged in all manner of enterprises common to other men, digging gold in California, capturing the whale in the Pacific, feeding sheep and cattle on the hill-side, living, moving, acting, thinking, planning, living in families as husbands, wives and children, and, above all, confessing and worshipping the Christian's God, and looking hopefully for life and immortality beyond the grave, we are called upon to prove that we are men!

Would you have me argue that man is entitled to liberty? That he is the rightful owner of his own body? You have already declared it. Must I argue the wrongfulness of slavery? Is that a question for Republicans? Is it to be settled by the rules of logic and argumentation, as a matter beset with great difficulty, involving a doubtful application of the principle of justice, hard to be understood? How should I look to-day, in the presence of Americans, dividing, and subdividing a discourse, to show that men have a natural right to freedom? Speaking of it relatively and positively, negatively and affirmatively. To do so, would be to make myself ridiculous, and to offer an insult to your understanding. There is not a man beneath the canopy of heaven that does not know that slavery is wrong for him.

What, am I to argue that it is wrong to make men brutes, to rob them of their liberty, to work them without wages, to keep them ignorant of their relations to their fellow men, to beat them with sticks, to flay their flesh with the lash, to load their limbs with irons, to hunt them with dogs, to sell them at auction, to sunder their families, to knock out their teeth, to burn their flesh, to starve them into obedience and submission to their masters? Must I argue that a system thus marked with blood, and stained with pollution, is wrong? No! I will not. I have better employment for my time and strength than such arguments would imply.

What, then, remains to be argued? Is it that slavery is not divine; that God did not establish it; that our doctors of divinity are mistaken? There is blasphemy in the thought. That which is inhuman, cannot be divine! Who can reason on such a proposition? They that can, may; I cannot. The time for such argument is passed.

At a time like this, scorching irony, not convincing argument, is needed. O! Had I the ability, and could reach the nation's ear, I would, to-day, pour out a fiery stream of biting ridicule, blasting reproach, withering sarcasm, and stern rebuke. For it is not light that is needed, but fire; it is not the gentle shower, but thunder. We need the storm, the whirlwind, and the earthquake. The feeling of the nation must be quickened; the conscience of the nation must be roused; the propriety of the nation must be startled; the hypocrisy of the nation must be exposed; and its crimes against God and man must be proclaimed and denounced.

What, to the American slave, is your 4th of July? I answer; a day that reveals to him, more than all other days in the year, the gross injustice and cruelty to which he is the constant victim. To him, your celebration is a sham; your boasted liberty, an unholy license; your national greatness, swelling vanity; your sounds of rejoicing are empty and heartless; your denunciation of tyrants, brass fronted impudence; your shouts of liberty and equality, hollow mockery; your prayers and hymns, your sermons and thanksgivings, with all your religious parade and solemnity, are, to Him, mere bombast, fraud, deception, impiety, and hypocrisy — a thin veil to cover up crimes which would disgrace a nation of savages. There is not a nation on the earth guilty of practices more shocking and bloody than are the people of the United States, at this very hour.

Go where you may, search where you will, roam through all the monarchies and despotisms of the Old World, travel through South America, search out every abuse, and when you have found the last, lay your facts by the side of the everyday practices of this nation, and you will say with me, that, for revolting barbarity and shameless hypocrisy, America reigns without a rival.

An American Primer. **Edited by Daniel J. Boorstin. Chicago: University of Chicago Press, 1966. (1966)**

Lagemann, Ellen Condliffe. "Education." ***The Reader's Companion to American History.*** **Edited by Eric Foner and John A. Garraty. New York: Houghton Mifflin, 1991. (1991)**

McPherson, James M. ***What They Fought For 1861–1865*****. New York: Anchor, 1995. (1994)**
From Chapter 2: "The Best Government on God's Footstool"

One of the questions often asked a Civil War historian is, "Why did the North fight?" Southern motives seem easier to understand. Confederates fought for independence, for their own property and way of life, for their very survival as a nation. But what did the Yankees fight for? Why did they persist through four years of the bloodiest conflict in American history, costing 360,000 northern lives—not to mention 260,000 southern lives and untold destruction of resources? Puzzling over this question in 1863, Confederate War Department clerk John Jones wrote in his diary: "Our men must prevail in combat, or lose their property, country, freedom, everything.... On the other hand the enemy, in yielding the contest, may retire into their own country, and possess everything they enjoyed before the war began."

If that was true, why did the Yankees keep fighting? We can find much of the answer in Abraham Lincoln's notable speeches: the Gettysburg Address, his first and second inaugural addresses, the peroration of his message to Congress on December 1, 1862. But we can find even more of the answer in the wartime letters and diaries of the men who did the fighting. Confederates who said that they fought for the same goals as their forebears of 1776 would have been surprised by the intense conviction of the northern soldiers that they were upholding the legacy of the American Revolution.

The American Reader: Words that Moved a Nation, 2nd Edition**. Edited by Diane Ravitch. New York: HarperCollins, 2000. (2000)**

Amar, Akhil Reed. *America's Constitution: A Biography.* New York: Random House, 2005. (2005)
From Chapter 2: "New Rules for a New World"

Let's begin with two tiny puzzles posed by the Article I command that "Representatives and direct Taxes shall be apportioned among the several States…by adding to the whole Number of free Persons…three fifths of all other Persons." First, although this language specified the apportionment formula "among the several states," it failed to specify the formula within each state.

[…]

A second small puzzle: why did Article I peg the number of representatives to the underlying number of persons, instead of the underlying number of eligible voters, a là New York?

[…]

These two small problems, centering on the seemingly innocent words "among" and "Persons" quickly spiral out into the most vicious words of the apportionment clause: "adding three fifths of all other persons." Other persons here meant other than free persons – that is, slaves. Thus, the more slaves a given state's master class bred or bought, the more seats the state could claim in Congress, for every decade in perpetuity.

The Philadelphia draftsmen camouflaged this ugly point as best they could, euphemistically avoiding the S-word and simultaneously introducing the T-word – taxes – into the equation (Representatives and direct Taxes shall be apportioned).

[…]

The full import of the camouflaged clause eluded many readers in the late 1780s. In the wake of two decades of debate about taxation and burdens under the empire and confederation, many Founding-era Americans confronting the clause focused on taxation rather than on representation. Some Northern critics grumbled that three-fifths should have been five-fifths so as to oblige the South to pay more taxes, without noticing that five-fifths would have also enabled the South to gain more House seats.

McCullough, David. *1776*. New York: Simon & Schuster, 2005. (2005)
From Chapter 3: "Dorchester Heights"

On January 14, two weeks into the new year, George Washington wrote one of the most forlorn, despairing letters of his life. He had been suffering sleepless nights in the big house by the Charles. "The reflection upon my situation and that of this army produces many an uneasy hour when all around me are wrapped in sleep," he told the absent Joseph Reed. "Few people know the predicament we are in."

Filling page after page, he enumerated the same troubles and woes he had been reporting persistently to Congress for so long, and that he would report still again to John Hancock that same day. There was too little powder, still no money. (Money was useful in the common affairs of life but in war it was essential, Washington would remind the wealthy Hancock.) So many of the troops who had given up and gone home had, against orders, carried off muskets that were not their own that the supply of arms was depleted to the point where there were not enough for the new recruits. "We have not at this time 100 guns in the stores of all that have been taken in the prize ship [the captured British supply ship Nancy]," he wrote to Reed. On paper his army numbered between 8,000 and 10,000. In reality only half that number where fit for duty.

It was because he had been unable to attack Boston that things had come to such a pass, he was convinced, The changing of one army to another in the midst of winter, with the enemy so close at hand, was like nothing, "in the pages of history." That the British were so "blind" to what was going on and the true state of his situation he considered nearly miraculous.

He was downcast and feeling quite sorry for himself. Had he known what he was getting into, he told Reed, he would never have accepted the command.

Bell, Julian. *Mirror of the World: A New History of Art*. New York: Thames & Hudson, 2007. (2007)
From Chapter 7: "Theatrical Realities"

The idea that artists are transforming the cultures around them and imagining the previously unimaginable – Michelangelo painting the Sistine Chapel, for instance—makes for a more exciting story. But if we insist on looking for innovation, we may go against the historical grain. Art cultures always move, but not always in leaps. Westerners are used to thinking that small-scale societies (Aboriginal Australia, for instance) have changed their terms of reference relatively slowly, but the same might be said of the largest of all regional civilizations. Through the 16th century—as through most of the last two millennia—the world's wealthiest and most populous state was China, then ruled by the Ming dynasty. Far from Beijing, the empire's capital, a landed elite had converged for three centuries around the lake-side city of Souzhou. In this agreeably sophisticated environment, Weng Zhingming was one of hundreds devoting himself to painting scrolls with landscape or plant studies accompanied by poetic inscriptions. It was a high-minded pursuit, in so far as literati like Wen would not (in principle at least) take money for their work.

Wen's Seven Junipers of 1532 stands out among the throng of such works on account of its whip-crack dynamism, a wild, irregular rhythm bounding over the length of three and a half metres (twelve feet) of paper. It seems to do things with pictorial space that Western painters would not attempt until the 20th century. But its force—unlike that of contemporary works by Michelangelo—is by no means a matter of radicalism. Wen, painting the scroll in his sixties, was returning to an image painted by his revered predecessor in Suzhou, Shen Zhou, and looking back beyond Shen to the style of Zhao Mengfu, who had painted around 1300. His accompanying poem, written 'in admiration of antiquity', identifies the junipers as morally encouraging emblems of resilience as 'magic witnesses of days gone by'. 'Who knows', he adds wistfully, 'what is to come hereafter?' In other words, the momentum here is one of nostalgia: in the hands of a distinguished exponent in a privileged location in a politically unruffled era, backwards-looking might have a creative force of its own.

FedViews by the Federal Reserve Bank of San Francisco (2009)

The opinions expressed in this article do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.

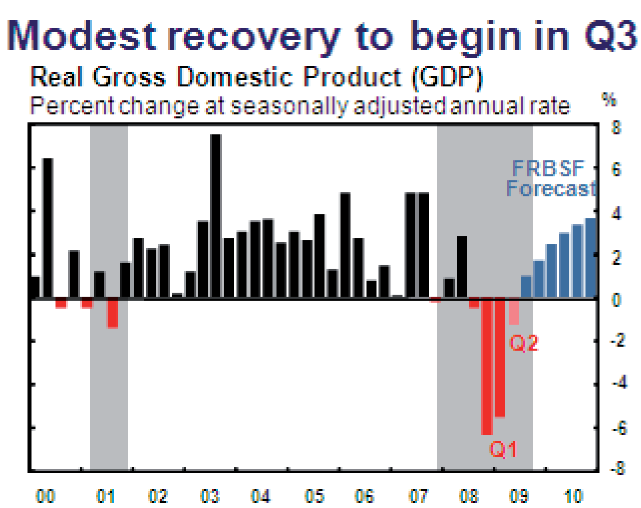
Mary C. Daly, vice president and director of the Center for the Study of Innovation and Productivity at the Federal Reserve Bank of San Francisco, states her views on the current economy and the outlook.

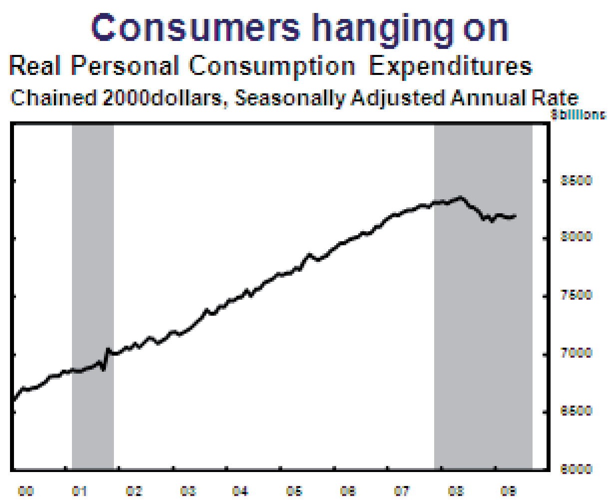
- Financial markets are improving, and the crisis mode that has characterized the past year is subsiding. The adverse feedback loop, in which losses by banks and other lenders lead to tighter credit availability, which then leads to lower spending by households and businesses, has begun to slow. As such, investors' appetite for risk is returning, and some of the barriers to credit that have been constraining businesses and households are diminishing.

- Income from the federal fiscal stimulus, as well as some improvement in confidence, has helped stabilize consumer spending. Since consumer spending accounts for two-thirds of all economic activity, this is a key factor affecting our forecast of growth in the third quarter.

- The gradual nature of the recovery will put additional pressure on state and local budgets. Following a difficult 2009, especially in the West, most states began the 2010 fiscal year on July 1 with even larger budget gaps to solve.

- Still, many remain worried that large fiscal deficits will eventually be inflationary. However, a look at the empirical link between fiscal deficits and inflation in the United States shows no correlation between the two. Indeed, during the 1980s, when the United States was running large deficits, inflation was coming down.




Consumers hanging on
Real Personal Consumption Expenditures
Chained 2000dollars, Seasonally Adjusted Annual Rate
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7500
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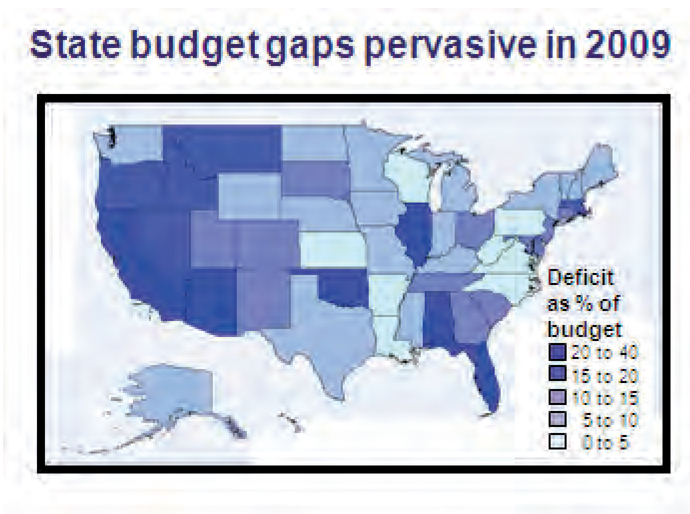
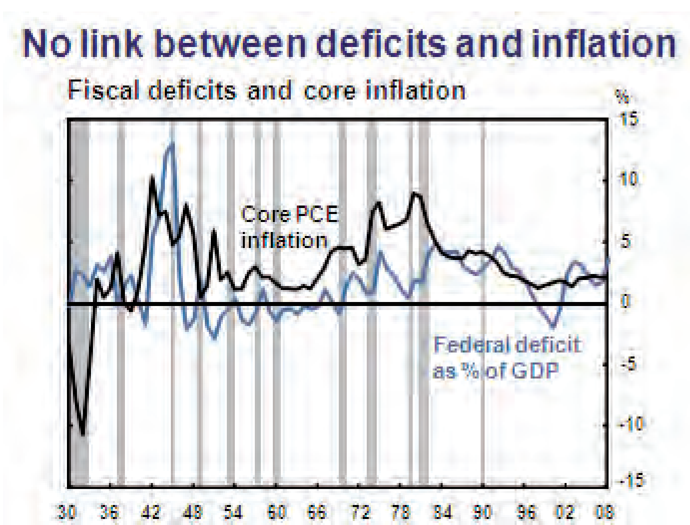

State budget gaps pervasive in 2009
Deficit
as % of
budget
20 to 40
15 to 20
10 to 15
5 to 10
0 to 5


No link between deficits and inflation
Fiscal deficits and core inflation
%
15
10
5
0
-5
-10
-15
Core PCE
inflation
Federal deficit
as % of GDP
30
36
42
48
54
60
66
72
78
84
90
96
02
08

Informational Texts: Science, Mathematics, and Technical Subjects

Paulos, John Allen. *Innumeracy: Mathematical Illiteracy and Its Consequences*. New York: Vintage, 1988. (1988)
From Chapter 1: "Examples and Principles"

Archimedes and Practically Infinite Numbers

There is a fundamental property of numbers named after the Greek mathematician Archimedes which states that any number, no matter how huge, can be exceeded by adding together sufficiently many of any smaller number, no matter how tiny. Though obvious in principle, the consequences are sometimes resisted, as they were by the student of mine who maintained that human hair just didn't grow in miles per hour. Unfortunately, the nanoseconds used up in a simple computer operation do add up to lengthy bottlenecks on intractable problems, many of which would require millennia to solve in general. It takes some getting accustomed to the fact that the minuscule times and distances of microphysics as well as the vastness of astronomical phenomena share the dimensions of our human world.

It's clear how the above property of numbers led to Archimedes' famous pronouncement that given a fulcrum, a long enough lever, and a place to stand, he alone could physically lift the earth. An awareness of the additivity of small quantities is lacking in innumerates, who don't seem to believe that their little aerosol cans of hairspray could play any role in the depletion of the ozone layer of the atmosphere, or that their individual automobile contributes anything to the problem of acid rain.

Gladwell, Malcolm. *The Tipping Point: How Little Things Can Make a Big Difference.* New York: Back Bay Books, 2002. (2002)
From "The Three Rules of Epidemics"

The three rules of the Tipping Point—the Law of the few, the Stickiness Factor, the Power of Context—offer a way of making sense of epidemics. They provide us with direction for how to go about reaching a Tipping Point. The balance of this book will take these ideas and apply them to other puzzling situations and epidemics from the world around us. How do these three rules help us understand teenage smoking, for example, or the phenomenon of word of mouth, or crime, or the rise of a bestseller? The answers may surprise you.

Tyson, Neil deGrasse. "Gravity in Reverse: The Tale of Albert Einstein's 'Greatest Blunder.'" *Natural History*. 112.10 (Dec 2003). (2003)

Sung to the tune of "The Times They Are A-Changin'":

Come gather 'round, math phobes,
Wherever you roam
And admit that the cosmos
Around you has grown
And accept it that soon
You won't know what's worth knowin'
Until Einstein to you
Becomes clearer.
So you'd better start listenin'
Or you'll drift cold and lone
For the cosmos is weird, gettin' weirder.
—The Editors (with apologies to Bob Dylan)

Cosmology has always been weird. Worlds resting on the backs of turtles, matter and energy coming into existence out of much less than thin air. And now, just when you'd gotten familiar, if hot really comfortable, with the idea of a big bang, along comes something new to worry about. A mysterious and universal pressure pervades all of space and acts against the cosmic gravity that has tried to drag the universe back together ever since the big bang. On top of that, "negative gravity" has forced the expansion of the universe to accelerate exponentially, and cosmic gravity is losing the tug-of-war.

For these and similarly mind-warping ideas in twentieth-century physics, just blame Albert Einstein.

Einstein hardly ever set foot in the laboratory; he didn't test phenomena or use elaborate equipment. He was a theorist who perfected the "thought experiment," in which you engage nature through your imagination, inventing a situation or a model and then working out the consequences of some physical principle.

If—as was the case for Einstein—a physicist's model is intended to represent the entire universe, then manipulating the model should be tantamount to manipulating the universe itself. Observers and experimentalists can then go out and look for the phenomena predicted by that model. If the model is flawed, or if the theorists make a mistake in their calculations, the observers will detect a mismatch between the model's predictions and the way things happen in the real universe. That's the first cue to try again, either by adjusting the old model or by creating a new one.

Media Text
NOVA animation of an Einstein "thought experiment":
http://www.pbs.org/wgbh/nova/einstein/relativity/

Calishain, Tara, and Rael Dornfest. *Google Hacks: Tips & Tools for Smarter Searching, 2nd Edition*. Sebastopol, Calif.: O'Reilly Media, 2004. (2004)
From Chapter 1: "Web: Hacks 1–20," Google Web Search Basics

Whenever you search for more than one keyword at a time, a search engine has a default strategy for handling and combining those keywords. Can those words appear individually in a page, or do they have to be right next to each other? Will the engine search for both keywords or for either keyword?

Phrase Searches

Google defaults to searching for occurrences of your specified keywords anywhere on the page, whether side-by-side or scattered throughout. To return results of pages containing specifically ordered words, enclose them in quotes, turning your keyword search into a phrase search, to use Google's terminology.

On entering a search for the keywords:

to be or not to be

Google will find matches where the keywords appear anywhere on the page. If you want Google to find you matches where the keywords appear together as a phrase, surround them with quotes, like this:

"to be or not to be"

Google will return matches only where those words appear together (not to mention explicitly including stop words such as "to" and "or" [...]).

Phrase searches are also useful when you want to find a phrase but aren't sure of the exact wording. This is accomplished in combination with wildcards [...])

Basic Boolean

Whether an engine searches for all keywords or any of them depends on what is called its Boolean default. Search engines can default to Boolean AND (searching for all keywords) or Boolean OR (searching for any keywords). Of course, even if a search engine defaults to searching for all keywords, you can usually give it a special command to instruct it to search for any keyword. Lacking specific instructions, the engine falls back on its default setting.

Google's Boolean default is AND, which means that, if you enter query words without modifiers, Google will search or all of your query words. For example if you search for:

snowblower Honda "Green Bay"

Google will search for all the words. If you prefer to specify that any one word or phrase is acceptable, put an OR between each:

snowblower OR Honda OR "Green Bay"

Kane, Gordon. "The Mysteries of Mass." *Scientific American Special Edition* December 2005. (2005)

Physicists are hunting for an elusive particle that would reveal the presence of a new kind of field that permeates all of reality. Finding that Higgs field will give us a more complete understanding about how the universe works.

Most people think they know what mass is, but they understand only part of the story. For instance, an elephant is clearly bulkier and weighs more than an ant. Even in the absence of gravity, the elephant would have greater mass—it would be harder to push and set in motion. Obviously the elephant is more massive because it is made of many more atoms than the ant is, but what determines the masses of the individual atoms? What about the elementary particles that make up the atoms—what determines their masses? Indeed, why do they even have mass?

We see that the problem of mass has two independent aspects. First, we need to learn how mass arises at all. It turns out mass results from at least three different mechanisms, which I will describe below. A key player in physicists' tentative theories about mass is a new kind of field that permeates all of reality, called the Higgs field. Elementary particle masses are thought to come about from the interaction with the Higgs field. If the Higgs field exists, theory demands that it have an associated particle, the Higgs boson. Using particle accelerators, scientists are now hunting for the Higgs.

Fischetti, Mark. "Working Knowledge: Electronic Stability Control." *Scientific American* April 2007. (2007)

Steer Clear

Automakers are offering electronic stability control on more and more passenger vehicles to help prevent them from sliding, veering off the road, or even rolling over. The technology is a product of an ongoing evolution stemming from antilock brakes.

When a driver jams the brake pedal too hard, anti-lock hydraulic valves subtract brake pressure at a given wheel so the wheel does not lock up. As these systems proliferated in the 1990s, manufacturers tacked on traction-control valves that help a spinning drive wheel grip the road.

For stability control, engineers mounted more hydraulics that can apply pressure to any wheel, even if the driver is not braking. When sensors indicate the car is sliding forward instead of turning or is turning too sharply, the actuators momentarily brake certain wheels to correct the trajectory. "Going to electronic stability control was a big step," says Scott Dahl, director of chassis-control strategy at supplier Robert Bosch in Farmington Hills, Michigan. "We had to add sensors that can determine what the driver intends to do and compare that with what the car is actually doing." Most systems also petition the engine-control computer to reduce engine torque to dampen wayward movement.

U.S. General Services Administration. Executive Order 13423: Strengthening Federal Environmental, Energy, and Transportation Management.
http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=22395 2010 (2007)

Executive Order 13423

Strengthening Federal Environmental, Energy, and Transportation Management

The President Strengthening Federal Environmental, Energy, and Transportation Management
By the authority vested in me as President by the Constitution and the laws of the United States of America, and to strengthen the environmental, energy, and transportation management of Federal agencies, it is hereby ordered as follows:

Section 1. Policy. It is the policy of the United States that Federal agencies conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

Sec. 2. Goals for Agencies. In implementing the policy set forth in section 1 of this order, the head of each agency shall:

(a) improve energy efficiency and reduce greenhouse gas emissions of the agency, through reduction of energy intensity by (i) 3 percent annually through the end of fiscal year 2015, or (ii) 30 percent by the end of fiscal year 2015, relative to the baseline of the agency's energy use in fiscal year 2003;

(b) ensure that (i) at least half of the statutorily required renewable energy consumed by the agency in a fiscal year comes from new renewable sources, and (ii) to the extent feasible, the agency implements renewable energy generation projects on agency property for agency use;

(c) beginning in FY 2008, reduce water consumption intensity, relative to the baseline of the agency's water consumption in fiscal year 2007, through life-cycle cost-effective measures by 2 percent annually through the end of fiscal year 2015 or 16 percent by the end of fiscal year 2015;

(d) require in agency acquisitions of goods and services (i) use of sustainable environmental practices, including acquisition of biobased, environmentally preferable, energy-efficient, water-efficient, and recycled-content products, and (ii) use of paper of at least 30 percent post-consumer fiber content;

(e) ensure that the agency (i) reduces the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of by the agency, (ii) increases diversion of solid waste as appropriate, and (iii) maintains cost-effective waste prevention and recycling programs in its facilities;

(f) ensure that (i) new construction and major renovation of agency buildings comply with the Guiding Principles for

Federal Leadership in High Performance and Sustainable Buildings set forth in the Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (2006), and (ii) 15 percent of the existing Federal capital asset building inventory of the agency as of the end of fiscal year 2015 incorporates the sustainable practices in the Guiding Principles;

(g) ensure that, if the agency operates a fleet of at least 20 motor vehicles, the agency, relative to agency baselines for fiscal year 2005, (i) reduces the fleet's total consumption of petroleum products by 2 percent annually through the end of fiscal year 2015, (ii) increases the total fuel consumption that is non-petroleum-based by 10 percent annually, and (iii) uses plug-in hybrid (PIH) vehicles when PIH vehicles are commercially available at a cost reasonably comparable, on the basis of life-cycle cost, to non-PIH vehicles; and

(h) ensure that the agency (i) when acquiring an electronic product to meet its requirements, meets at least 95 percent of those requirements with an Electronic Product Environmental Assessment Tool (EPEAT)-registered electronic product, unless there is no EPEAT standard for such product,

(ii) enables the Energy Star feature on agency computers and monitors,

(iii) establishes and implements policies to extend the useful life of agency electronic equipment, and (iv) uses environmentally sound practices with respect to disposition of agency electronic equipment that has reached the end of its useful life.

Kurzweil, Ray. "The Coming Merger of Mind and Machine." *Scientific American Special Edition* January 2008. (2008)

The accelerating pace of technological progress means that our intelligent creations will soon eclipse us—and that their creations will eventually eclipse them.

Sometime early in this century the intelligence of machines will exceed that of humans. Within a quarter of a century, machines will exhibit the full range of human intellect, emotions and skills, ranging from musical and other creative aptitudes to physical movement. They will claim to have feelings and, unlike today's virtual personalities, will be very convincing when they tell us so. By around 2020 a $1,000 computer will at least match the processing power of the human brain. By 2029 the software for intelligence will have been largely mastered, and the average personal computer will be equivalent to 1,000 brains.

Once computers achieve a level of intelligence comparable to that of humans, they will necessarily soar past it. For example, if I learn French, I can't readily download that learning to you. The reason is that for us, learning involves successions of stunningly complex patterns of interconnections among brain cells (neurons) and among the concentrations of biochemicals known as neurotransmitters that enable impulses to travel from neuron to neuron. We have no way of quickly downloading these patterns. But quick downloading will allow our nonbiological creations to share immediately what they learn with billions of other machines. Ultimately, nonbiological entities will master not only the sum total of their own knowledge but all of ours as well.

Gibbs, W. Wayt. "Untangling the Roots of Cancer." *Scientific American Special Edition* June 2008. (2008)

Recent evidence challenges long-held theories of how cells turn malignant—and suggests new ways to stop tumors before they spread.

What causes cancer?

Tobacco smoke, most people would say. Probably too much alcohol, sunshine or grilled meat; infection with cervical papillomaviruses; asbestos. All have strong links to cancer, certainly. But they cannot be root causes. Much of the population is exposed to these carcinogens, yet only a tiny minority suffers dangerous tumors as a consequence.

A cause, by definition, leads invariably to its effect. The immediate cause of cancer must be some combination of insults and accidents that induces normal cells in a healthy human body to turn malignant, growing like weeds and sprouting in unnatural places.

At this level, the cause of cancer is not entirely a mystery. In fact, a decade ago many geneticists were confident that science was homing in on a final answer: cancer is the result of cumulative mutations that alter specific locations in a cell's DNA and thus change the particular proteins encoded by cancer-related genes at those spots. The mutations affect two kinds of cancer genes. The first are called tumor suppressors. They normally restrain cells' ability to divide, and mutations permanently disable the genes. The second variety, known as oncogenes, stimulate growth—in other words, cell division. Mutations lock oncogenes into an active state. Some researchers still take it as axiomatic that such growth-promoting changes to a small number of cancer genes are the initial event and root cause of every human cancer.

Gawande, Atul. "The Cost Conundrum: Health Care Costs in McAllen, Texas." ***The New Yorker*** **June 1, 2009. (2009)**

It is spring in McAllen, Texas. The morning sun is warm. The streets are lined with palm trees and pickup trucks. McAllen is in Hidalgo County, which has the lowest household income in the country, but it's a border town, and a thriving foreign-trade zone has kept the unemployment rate below ten per cent. McAllen calls itself the Square Dance Capital of the World. "Lonesome Dove" was set around here.

McAllen has another distinction, too: it is one of the most expensive health-care markets in the country. Only Miami—which has much higher labor and living costs—spends more per person on health care. In 2006, Medicare spent fifteen thousand dollars per enrollee here, almost twice the national average. The income per capita is twelve thousand dollars. In other words, Medicare spends three thousand dollars more per person here than the average person earns.

The explosive trend in American medical costs seems to have occurred here in an especially intense form. Our country's health care is by far the most expensive in the world. In Washington, the aim of health-care reform is not just to extend medical coverage to everybody but also to bring costs under control. Spending on doctors, hospitals, drugs, and the like now consumes more than one of every six dollars we earn. The financial burden has damaged the global competitiveness of American businesses and bankrupted millions of families, even those with insurance. It's also devouring our government. "The greatest threat to America's fiscal health is not Social Security," President Barack Obama said in a March speech at the White House. "It's not the investments that we've made to rescue our economy during this crisis. By a wide margin, the biggest threat to our nation's balance sheet is the skyrocketing cost of health care. It's not even close."

Sample Performance Tasks for Informational Texts: History/Social Studies & Science, Mathematics, and Technical Subjects

- Students *determine the central ideas* found in the Declaration of Sentiments by the Seneca Falls Conference, noting the parallels between it and the Declaration of Independence and *providing a summary that makes clear the relationships among the key details and ideas* of each text and between the texts. [RH.11–12.2]

- Students *evaluate* the *premises* of James M. McPherson's argument regarding why Northern soldiers fought in the Civil War by *corroborating* the *evidence* provided from the letters and diaries of these soldiers with *other* primary and secondary *sources* and *challenging* McPherson's *claims* where appropriate. [RH.11–12.8]

- Students *integrate* the *information* provided by Mary C. Daly, vice president at the Federal Reserve Bank of San Francisco, with the data presented *visually* in the *FedViews* report. In their analysis of these *sources of information presented in diverse formats*, students frame and *address a question* or *solve a problem* raised by their *evaluation* of the evidence. [RH.11–12.7]

- Students *analyze the hierarchical* relationships between phrase searches and searches that use basic Boolean operators in Tara Calishain and Rael Dornfest's *Google Hacks: Tips & Tools for Smarter Searching, 2nd Edition*. [RST.11–12.5]

- Students *analyze* the concept of mass based on their close reading of Gordon Kane's "The Mysteries of Mass" and *cite specific textual evidence* from the *text* to answer the question of why elementary particles have mass at all. Students explain *important distinctions the author makes* regarding the Higgs field and the Higgs boson and their relationship to the concept of mass. [RST.11–12.1]

- Students *determine the meaning of key terms* such as *hydraulic*, *trajectory*, and *torque* as well as other *domain-specific words and phrases* such as *actuators*, *antilock brakes*, and *traction control used* in Mark Fischetti's "Working Knowledge: Electronic Stability Control." [RST.11–12.4]

English Language Arts

Appendix C:

Samples of Student Writing

COMMON CORE STATE STANDARDS FOR

English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

Appendix C: Samples of Student Writing

Samples of Student Writing

Following are writing samples that have been annotated to illustrate the criteria required to meet the Common Core State Standards for particular types of writing—argument, informative/explanatory text, and narrative—in a given grade. Each of the samples exhibits at least the level of quality required to meet the Writing standards for that grade.

The range of accomplishment within each grade reflects differences in individual development as well as in the conditions under which the student writers were expected to work. Some of the samples were written in class or as homework; others were written for on-demand assessments; still others were the result of sustained research projects. Where possible, each sample includes information about the circumstances under which it was produced. The samples come from students in kindergarten through grade 12. The students attended school in a number of states and districts across the country.

At the lower grades, the samples include "opinion" writing, an elementary type of argument in which students give reasons for their opinions and preferences. Because reasons are required, such writing helps prepare students for drafting the arguments they will be expected to create beginning in grade 6.

Acknowledgment

The Standards work group would like to express its appreciation to teachers and students at Monte Vista High School in California and the Randolph Technical Career Center in Vermont; other colleagues in California, Massachusetts, and Washington state; and ACT, Inc., and the *Concord Review*, who helped find and obtain permission for several of the samples included in the set. The group also would like to express its appreciation to the New Standards Project and to the International Reading Association, which allowed the use of several samples from their publications, and to the other student writers who granted permission to reproduce their work here.

Table of Contents

Permissions

The following student writing samples have been reprinted for the Common Core State Standards Initiative with the express permission of the following organizations and individuals.

ACT, Inc.:
Untitled essay on dress codes

California Department of Education:
"Football"; "Miss Sadie"

The *Concord Review*:
"In the Wake of the Spanish Lady: American Economic Resilience in the Aftermath of the Influenza Epidemic of 1918" by Brooke Granowski, *Concord Review*, *20*(1), 203–216 (©2009 Concord Review, Inc.)

Massachusetts Department of Elementary and Secondary Education:
"Dear Mr. Sandler"; "A Pet Story About My Cat . . . Gus"; "Animal Farm"

Monte Vista High School in California:
"The True Meaning of Friendship"; "Lives on Mango, Rides the Whale"; untitled essay on civil disobedience in India; "Marching to His Own Beat"; "Summary of Key Points"

The National Center on Education and the Economy, on behalf of New Standards:
"My fabit Book is do you Want to be my FRIEND"; "Frags (Frogs)"; "I Went to Disnand"; "My Big Book About Spain"; "I bot a little cotton ball"; "Owl Moon"; "My first tooth is gone"; "Horses"; "When my Puppys Ranaway"; "Zoo Field Trip"; "Author Response: Roald Dahl"; "Getting Shot and Living Through It"; "A Geographical Report"; "The Old Man and the Sea"; "___________ School Bond Levy"

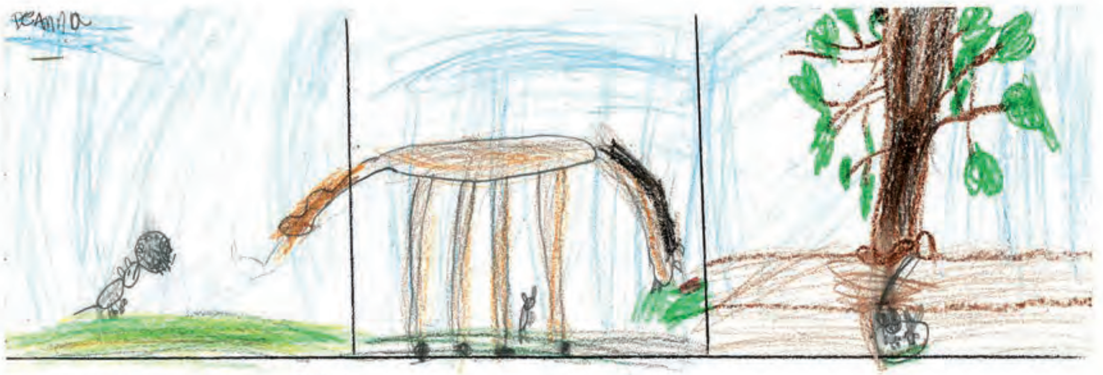
Randolph Technical Career Center in Vermont:
"Wood Joints"; "TIG/GTAW Welding"

Washington State Office of Superintendent of Public Instruction:
"Glowing Shoes"; "Video Cameras in Classrooms"

Permission to reprint each of the following samples was granted by its author:
"Freedom From Structure"; "Fact vs. Fiction and All the Grey Space in Between"; "The Making of a Human Voice and How to Use It"

Student Sample: K, Argument (Opinion)

This opinion piece about a work of literature was produced in class.



my fabit Book is do you Want to be my FRIEND.
the mas as the hos if you Will
be my FRIEND the hos Sid No. the
mos Eid a FRIEND the mos as the
luth mas if you will be my FRIEND
the luth mas Sid Yes they
dig a hal in the gan my
fait pot is the hos

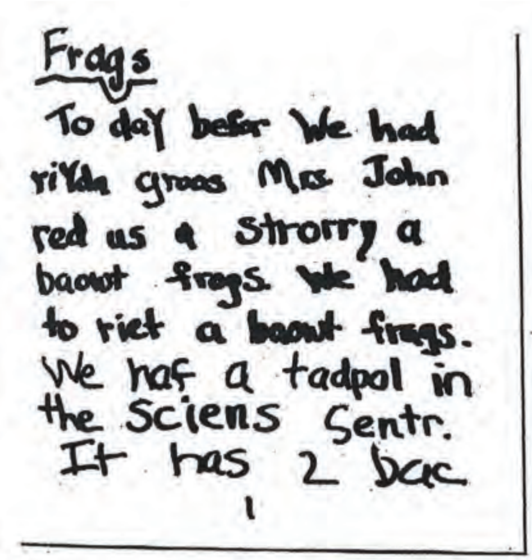
Annotation

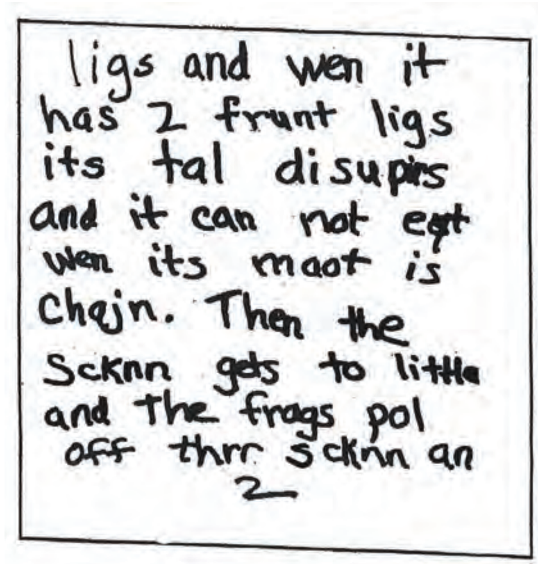
The writer of this piece

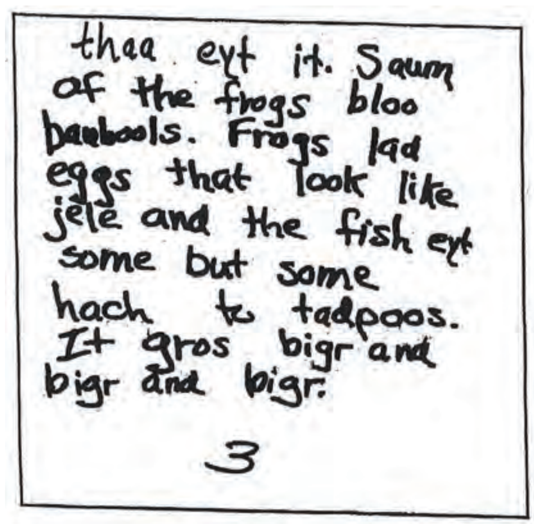
- **tells the reader the name of the book (in the title of the paper).**
  - *My fabit* (favorite) *Book is do you Want to be my FRIEND*
- **states an opinion or preference about the book.**
  - *. . . my fait* (favorite) *pot* (part) *is the hos* (horse)

Student Sample: K, Informative/Explanatory

This informative report was produced in class, and the writer received support from the teacher.


Frags
To day befor We had
riyda groos Mrs John
red us a strorry a
baowt frogs. We had
to riet a baowt frogs.
We haf a tadpol in
the Sciens Sentr.
It has 2 bac
1


ligs and wen it
has 2 frunt ligs
its tal disupirs
and it can not eyt
wen its maot is
Chajn. Then the
Scknn gets to little
and the frags pol
off thrr scknn an
2


thaa eyt it. Saum
of the frogs bloo
bawbools. Frogs lad
eggs that look like
jele and the fish eyt
some but some
hach to tadpoos.
It gros bigr and
bigr and bigr.
3

Annotation

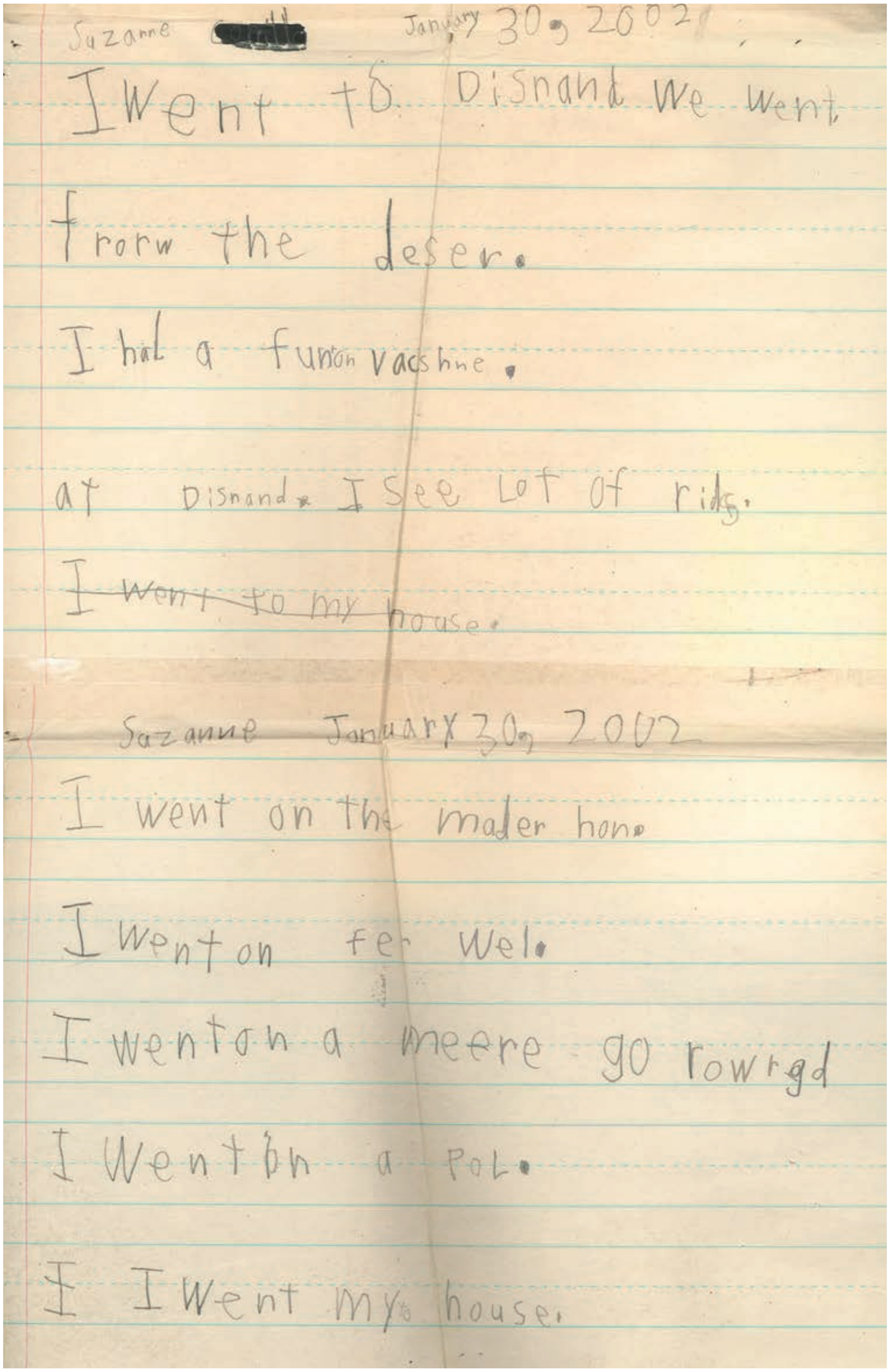
The writer of this piece

- **establishes the topic in a title and goes beyond the title to create a context for writing about frogs.**
    - *To day befor* (before) *We had riyda* (writing) *groos* (groups) *Mrs. ______ red* (read) *us a strorry* (story) *a baowt* (about) *frogs*.
- **supplies some information about the topic.**
    - *It has 2 bac* (back) *ligs* (legs) *and wen* (when) *it has 2 frunt* (front) *ligs* (legs) *its tal* (tail) *disupirs* (disappears) *. . . Then the scknn* (skin) *gets to* (too) *little and the frags pol* (pull) *off thrr* (their) *scknn* (skin) . . .
    - *Frogs lad* (laid) *eggs that look like jele* (jelly) . . .

- **uses additive (adversative and temporal) linking words.**
  - *. . . and wen* (when) . . . *Then . . . but . . .*
- **provides a sense of closure.**
  - *It gros* (grows) *bigr* (bigger) *and bigr and bigr.*
- **demonstrates command of some of the conventions of standard written English.**
  - As a kindergartener, the writer demonstrates remarkable control of the conventions of standard written English. As this was a process piece, it is reasonable to assume that the writer received feedback to correct possible errors with capital letters and periods.

Student Sample: K, Narrative

This narrative is a process piece that was produced in class.



Suzanne [redacted] January 30, 2002

I Went to Disnand We Went
frorw the deser.
I hal a funon vacshne.
at Disnand. I See Lot of rids.
~~I went to my house.~~

Suzanne January 30, 2002

I went on the mader hon.
I Wenton fer Wel.
I wenton a meere go rowrgd
I Wenton a Pol.
I I Went my house.

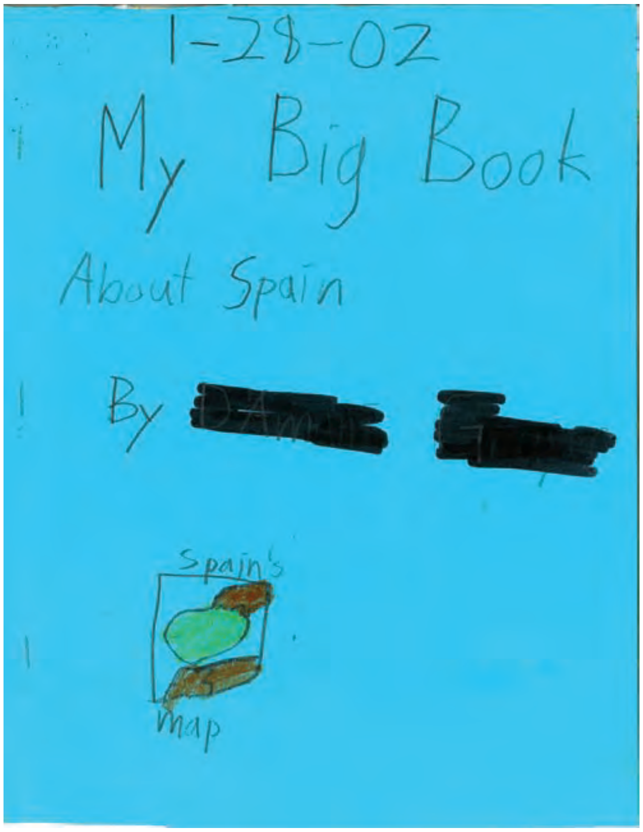
Annotation

The writer of this piece

- **establishes a situation by naming a place.**
    - *Disnand* (Disneyland)
- **recounts several loosely linked events and the order in which they occurred.**
    - *I had a fun on vacshne* (vacation). . . . *I see lot* (lots) *of rids* (rides). *I went on the mader hon* (Matterhorn)*. . . . I went my house.*
- **provides a reaction to what happened.**
    - *I had a fun on vacshne* (vacation).
- **offers a sense of closure.**
    - *I went my house.*
- **demonstrates command of some of the conventions of standard written English.**
    - This piece illustrates consistent control of beginning-of-sentence capitalization and end-of-sentence punctuation. The writer also uses capital letters appropriately in the title of the piece.

Student Sample: Grade 1, Informative/Explanatory

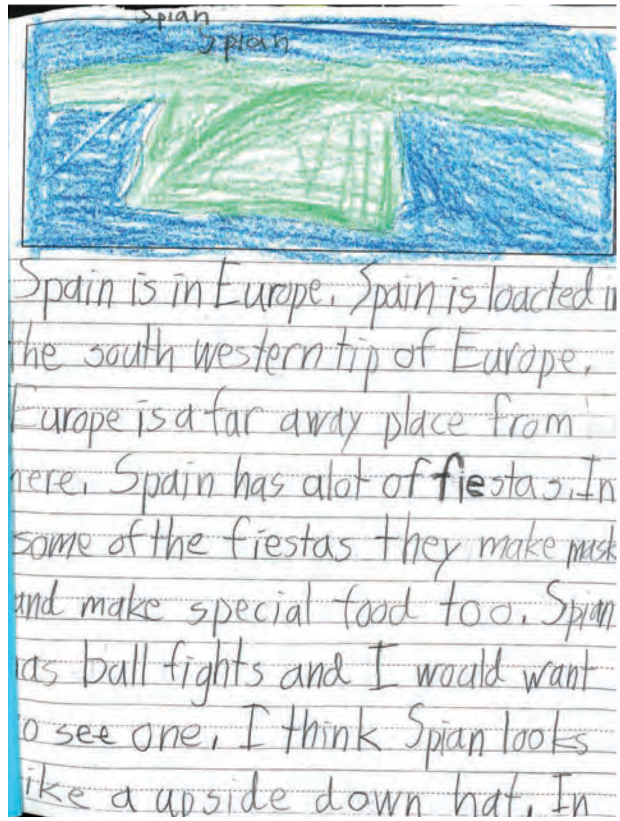
This informative report was produced in class.


1-28-02

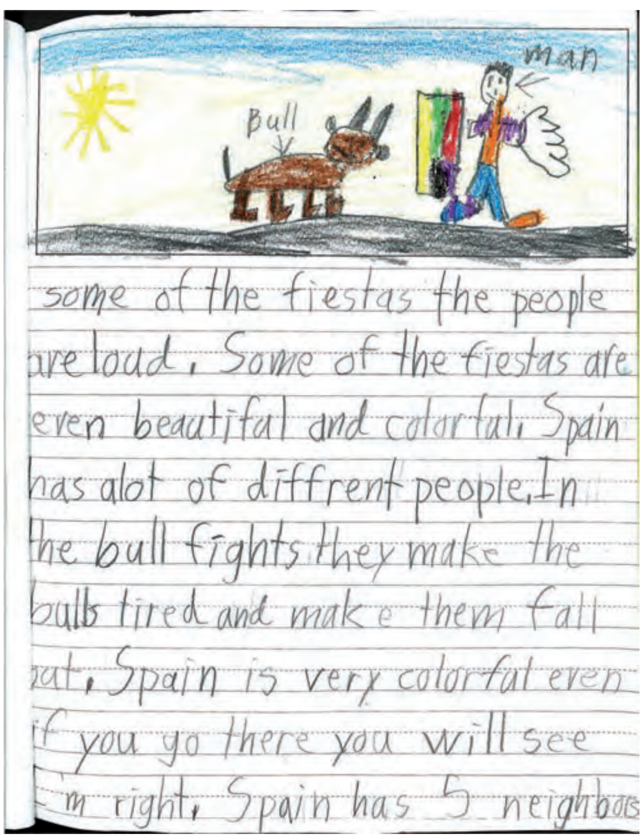
My Big Book

About Spain

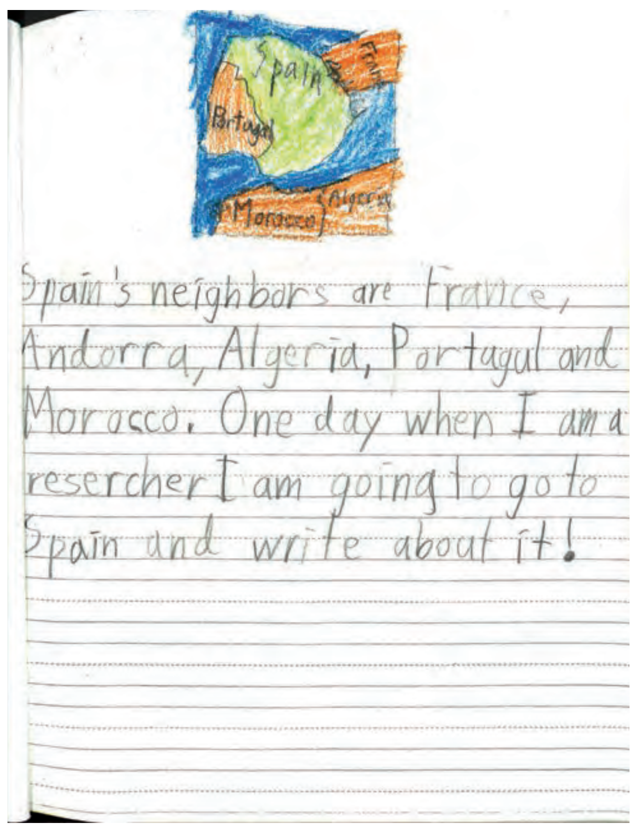
By [redacted]



Spain is in Europe. Spain is loacted i
the south western tip of Europe.
Europe is a far away place from
ere. Spain has alot of fiestas. In
some of the fiestas they make mask
and make special food too. Spian
as ball fights and I would want
o see one. I think Spian looks
ike a upside down hat. In



some of the fiestas the people
are loud. Some of the fiestas are
even beautifal and colorful. Spain
has alot of diffrent people. In
the bull fights they make the
bulls tired and make them fall
out. Spain is very colorful even
if you go there you will see
'm right. Spain has 5 neighbors



Spain's neighbors are France,
Andorra, Algeria, Portugal and
Morocco. One day when I am a
resercher I am going to go to
Spain and write about it!

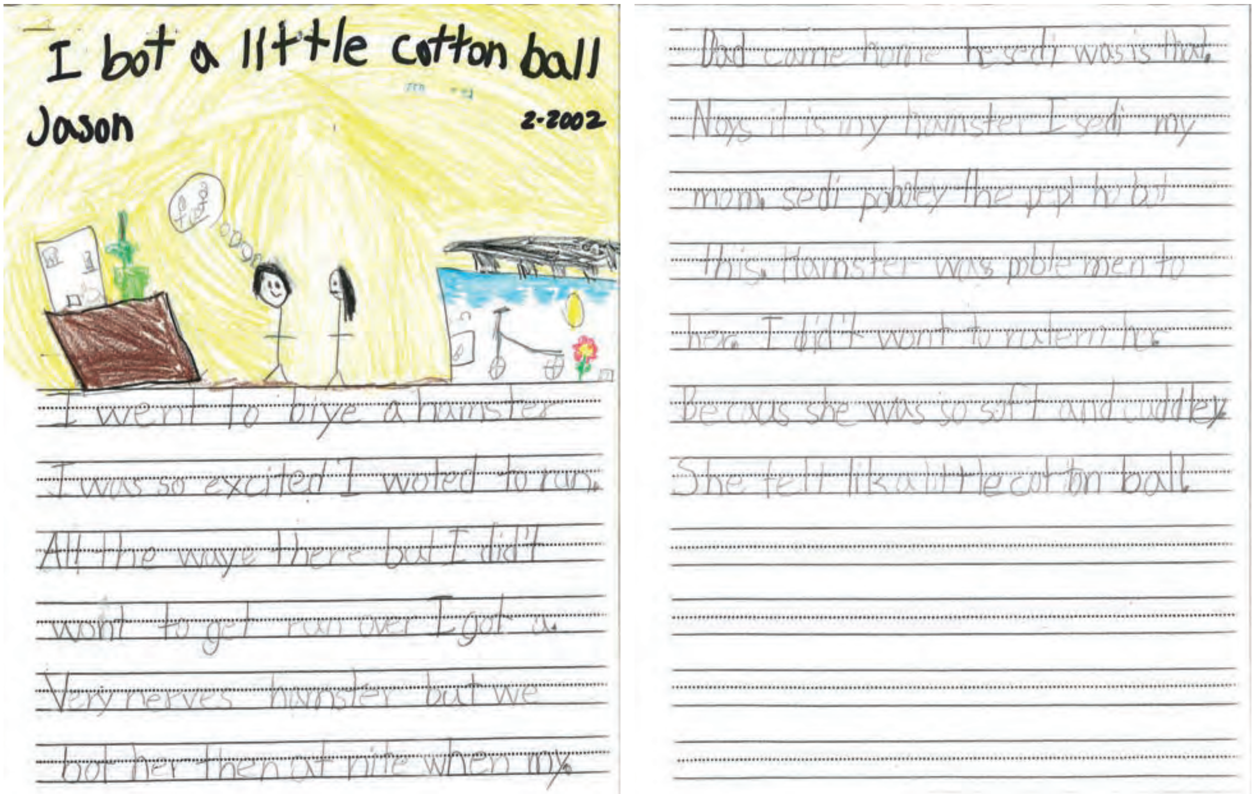
Annotation

The writer of this piece

- **names the topic (in the title).**
    - *My Big Book About Spain*
- **supplies some facts about the topic.**
    - *Spain is loacted* (located) *in the south western tip of Europe.*
    - *Spain has alot of fiestas.*
    - *Spian . . . has bull fights . . .*
    - *Spain's neighbors are France, Andorra, Algeria, Portugal and Morocco.*
- **provides some sense of closure.**
    - *One day when I am a researcher I am going to go to Spain and write about it!*
- **demonstrates command of some of the conventions of standard written English.**
    - This piece illustrates the writer's awareness of beginning-of-sentence capitalization and end-of-sentence punctuation as well as the use of capital letters for proper nouns.

Student Sample: Grade 1, Narrative

This narrative is a process piece that was produced in class.


I bot a little cotton ball
Jason 2-2002

I went to biye a hamster
I was so excited I woted to run.
All the waye there but I did't
wont to get run over I got a.
Very nerves hamster but we
bot her then at nite when my

Dad came home he sedi was is that.
Noys it is my hamster I sedi my
mom sedi pobley the pepl hu bot
this hamster was poble men to
her. I did't wont to ratern her.
Becaus she was so soft and cuddley
She felt lik a little cotton ball.

Annotation

The writer of this piece

- **establishes the situation with the opening sentence.**
  - *I went to biye* (buy) *a hamster . . .*
- **recounts two or more appropriately sequenced events.**
  - *I got a. Very nerves* (nervous) *hamster . . . then at nite* (night) *when my. Dad came home*
- **includes some detail regarding what happened.**
  - *I was so excited I woted* (wanted) *to run. All the waye* (way) *there . . .*
- **uses temporal words to signal event order (though the writer does not consistently include them).**
  - ***then*** *at nite* (night) ***when*** *my. Dad came home he sedi* (said) *was* (what) *is that. Noys* (noise) *. . .*
- **provides some sense of closure.**
  - *I Did't (didn't) wont (want) to ratern (return) her. Becaus she was so soft and cuddley (cuddly). She felt lik (like) a little cotton ball.*

- **demonstrates growing command of the conventions of standard written English.**
  - There is some evidence in this piece that the writer understands various uses of capital letters: frequently sentences begin with a capital letter, and the pronoun I is consistently capitalized. (However, with the exception of the pronoun I, there are no capital letters in the title.) Periods end some sentences but not all and are sometimes introduced in unconventional places.

Student Sample: Grade 2, Argument (Opinion)

This opinion piece about a work of literature was produced in class.

Owl Moon

When you go owling you don't need words, or worm or any thing, but hope. This is the book of Owl Moon. This book is written by Jane Yolen. I like that phrase Because The boy was happy becaus he got to go owling and hes been wonted to go owling for a long time and he finally got to go.

When other Kids are happy that makes me happy. I like it Because it makes me feel good Because you don't haf't to have words to go owling but you haf't to have hope to see an owl.

Annotation

The writer of this piece

- **introduces the topic (with some words from the book) and the title.**
  - *When you go owling you don't need words, or worm* (warm) *or any thing. but hope. This is* (from) *the book of Owl Moon.*
- **states an opinion about the book and supplies reasons to support the opinion.**
  - *I like that phrase Because The boy was happy becaus* (because) *he got to go owling and hes* (he's) *been wonted* (wanting) *to go owling for a long time and he finally got to go. When other kids are happy that makes me happy.*
- **uses linking words to connect opinion and reasons.**
  - *I like it* ***Because*** *it makes me feel good* ***Because*** *you don't haf't* (have) *to have words to go owling* ***but*** *you haf't to have hope to see an owl.*
- **provides a concluding statement.**
  - *I like it Because it makes me feel good Because you don't haf't* (have) *to have words to go owling but you haf't to have hope to see an owl.*
- **demonstrates growing command of the conventions of standard written English.**
  - This piece illustrates the writer's understanding that capital letters are used in a title, that the pronoun *I* should be capitalized, and that sentences should begin with a capital letter. The title of the book is underlined, and most words are spelled correctly. The use of the comma and the apostrophe is not consistent, but all sentences end with periods.

Student Sample: Grade 2, Narrative

This narrative was produced in class, and the writer likely received support from the teacher.

My first tooth is gone

I recall one winter night. I was four. My sister and I were running down the hall and something happend. It was my sister and I had run right into each other. Boy! did we cry. But not only did I cry, my tooth was bleeding. Then it felt funny. Then plop! There it was lying in my hand. So that night I put it under my pillow and in the morning I found something. It was not my tooth it was two dollars. So I ran down the hall, like I wasen't supposed to, and showed my mom and dad. They were suprised because when they lost teeth the only thing they got is 50¢.

Annotation

The writer of this piece

- **establishes a situation in time and place appropriate for what is to come.**
    - *I recall one winter night. I was four. My sister and I were running down the hall and something happend.*
- **recounts a well-elaborated sequence of events using temporal words to signal event order.**
    - *My sister and I were running down the hall* ***and*** *something happend. . . .* ***But*** *not only did I cry . . .* ***Then*** *it felt funny.* ***Then*** *plop! There it was lying in my hand.*
- **includes details to describe actions, thoughts, and feelings.**
    - *Boy! did we cry.*
    - *Then it felt funny.*
    - *So I ran down the hall, like I wasen't supposed to, and showed my mom and dad*
- **provides a sense of closure.**
    - *They were suprised because when they lost teeth the only thing they got is 50¢.*
- **demonstrates growing command of the conventions of standard written English.**
    - This piece illustrates the writer's largely consistent use of beginning-of-sentence capitalization and end-of-sentence punctuation (both periods and exclamation points). The pronoun *I* is also capitalized consistently, and almost all the words are spelled correctly. The writer sets off a parenthetical element with commas and uses an apostrophe correctly.

Student Sample: Grade 3, Informative/Explanatory

This informative report is a process piece that was produced in class.

Horses

by Gwen

Why I Chose This Animal

I chose horses because I like to ride them. I also like to pet them. At the camp I go to everybody gets to have horses back riding lessons. Horses are so beautiful and fun to ride.

Horse Families

A mother or female horse is called a mare. A father or male horse is called a stallion. A foal is a baby horse.

Markings

A star is a little white diamond on the forelock. The forelock is a horses forehead. A race is a white line down the middle of the horses face. A blaze is kind of like a race but wider. If the white line on it face spreads out to its eyes it is called a white face. A small amount of white on its muzzle is called a snip. A muzzle is a horses mouth.

Breeds and Color Coats

Icelandic and Shetland ponies are very small when they are full grown. Chestnuts are red-brown and Roans have white hairs on their brown coat. Cream is a rare color. Rare means you don't see the color cream very much. Brown horses are brown all over. Blacks are black all over. Piebalds have black and white spots. Skewbalds are brown and white. Duns are a sandy brown with black manes and tails. Palominos have a yellowish coat and a shiny mane and tail. Grays have black and white hairs that make the color gray. Bays are brown with black manes,tails,and legs. Whites are white all over.

Breeds I Like

I like thoroughbreds because they are such a pretty brown. I like Arabians because their different coats are very beautiful and they're one of the oldest horses. I like Morgans because they have a beautiful reddish-brown coat. I like Lipizzaners because their white coats are so very pretty. I like Icelandic and Shetland ponies because they are so very cute, pretty and small.

Horses from Different Countries

Hocaidos are from Japan, Sumbas are from Indonesia, and Pintos are from America.

Horse Movement

A horse can walk, trot, canter, and gallop. A trot is kind of like a skip. A canter is like a fast skip. And a gallop is like running.

Friendly Horses

Horses can be great friends. Some horses can be dangerous. Most horses are are very lovable.

Foals

Baby horses are called foals. When a foal is ready to be born, the mare(the mother horse) lies down. As soon as the foal is born it struggles to break out of the membrane sack. When the foal breaks out of the sack it breathes on it's own. In about less than a minute the foal tries to get up and walk on it's own. Foals are born with their hooves first and head last. They drink their mother's milk until they're nine to ten months old.

How Long a Horse Lives

They live about 12 to 14 years.

Horses Habitat

You usually find horses in a barn. Some horses are wild. You can find horses on ranches too.

What Horses Eat

Horses eat hay, grass, barley and oats. The best food for a tired horse is oatmeal. Don't give a young horse too much oatmeal, it makes them too hyper. Horses love carrots, apples, molasses and sugar cubes. A block of salt gives the horse important minerals and makes them thirsty so the will drink enough water.

The Most Dangerous Horse

The most dangerous horse is the Percheron. Some people cannot pronounce that so they call them war horses. It is only dangerous if it is a wild horse. If it is wild it can kill you in 7 to 8 minutes. If it is trained it is nice like any other horse.

The Fastest Horse

The fastest horse is the wild stallion. If you thought , like I did that the Wild stallion was really dangerous you were wrong. A wild stallion can kill you but it could take up to one hour.

The First Horses

The first horses were no bigger than a fox and looked like a donkey. They had short tails and small ears. These horses lived millions of years ago, but now they are extinct. The only way we knew there were horses like that was because the first humans (our ancestors) painted these horses on ancient cave walls. These horses lived in North America and over the years they changed into the horses we know now.

Horse Survival

Most horses live on farms or ranches, but some horses are wild. Wild horses can survive hard weather and they graze on hills, marshes and grasslands. These days wild horses are very rare. People work to keep these wild horses free.

My Description of a Horse

A horse is a mammal because it has fur, drinks milk and their babies are born alive. They have four legs and hooves. They have beautiful long manes and tails.

I like horses and I know a lot about them. I like to ride them and they're so beautiful! Their coats are beautiful, I wish I had a horse of my own!

Annotation

The writer of this piece

- **introduces a topic.**
  - *I chose horses because I like to ride them. . . . Horses are so beautiful and fun to ride.*
- **creates an organizational structure (using headers) that groups related information together.**
  - *Horse Families; Markings; Breeds and Color Coats; Horses from Different Countries*
- **develops the topic with facts and details.**
  - *Hocaidos are from Japan, Sumbas are from Indonesia, and Pintos are from America.*
  - *A horse can walk, trot, canter, and gallop.*
  - *They* [horses] *live about 12 to 14 years.*
  - *The most dangerous horse is the Percheron.*
- **uses linking words and phrases to connect ideas within categories of information.**
  - *I like Morgans* ***because*** *they have a beautiful reddish-brown coat.*
  - ***When*** *a foal is ready to be born, the mare (the mother horse) lies down.*

- *The first horses were no bigger than a fox* ***and*** *looked like a donkey.*
- *Most horses live on farms or ranches,* ***but*** *some horses are wild.*

- **provides a concluding section.**
  - *I like horses and I know a lot about them. I like to ride them and they're so beautiful! Their coats are beautiful, I wish I had a horse of my own!*
- **demonstrates growing command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 3, Narrative

This narrative was produced in class, and the writer likely received support from the teacher.

When my PuppysRanaway
ONE night when the air was
warm, my puppys were sleeping
on the back porch. Me and my
sisters were getting ready for bed.
When I was in bed, I read a chapter
from my. Nancy Drew book. When I finished
the chapter I turned out my lamp. I wuldn't
goto sleep.
I went into the living room. I
saw my mom geting ready to walk
out the door. I asked "where are
you going"? "Just for a drive" she
replied. She had aworried exspression
on her face.
I knew somthing was wrong.
I thought maybe if I went outside
and played with my puppys. I would
forget about moms worried exspression
and go to sleep.
When I opened The back door
I excpected my puppys Maggie and
Tucker to jump up on me. They
didn't come at all. I called, they
still didn't come.
Now I knew somthing was wrong.
I went and woke up my dad, he
said moms got it under control
I thought mom had taken them
to the vet because somthing was
really wrong. Dad wouldn't tell me
anything else. I went to my room and
cried. Thats all I rembered about that

night because I fell asleep.
The next day I still worried.
I worried all through school.
When I got home from me
and my mom made a snack for
sisters.
I asked my mom, "so wereare
the puppys"? Her eyes started to
fill with tears as she answered
my question with 3 words, "I don't
know," she burst into tears. So did I.
She hugged me. "If we never find
them I am sure they will have
a good home.
I went outside and sat in moms
rocking chair. I cried some more.
Mom came out I got up. She
sat down and motioned me by waving
her hand to come and sit on her lap.
I went over and cried on her
shoulder.
After dinner that night we went
looking for them, we couldn't find them
at all.
My dad after work each day went
to the pound to see if they had
picked them up. They didn't at all.
I've got over them leaving because
mom says we can get 2 new puppys
very soon.

Annotation

The writer of this piece

- **establishes a situation and introduces the narrator.**
    - *ONE night when the air was warm, my puppys were sleeping on the back porch. . . . I turned out my lamp. I wuldn't go to sleep. . . . I saw my mom geting ready to walk out the door. . . . She had a worried exspression on her face. I knew somthing was wrong.*
- **organizes an event sequence that unfolds naturally and uses temporal words and phrases to signal event order.**
    - ***When** I opened The back door I excpected my puppys Maggie and Tucker to jump up on me. They didn't come at all. I called, they **still** didn't come. **Now** I knew something was wrong.*

- **uses dialogue and description of characters' actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations.**
    - *I asked "where are you going"? "Just for a drive" she replied. She had a worried exspression on her face.*
    - *I knew somthing was wrong.*
    - *I went to my room and cried.*
    - *The next day I still worried. I worried all through school.*
    - *Her eyes started to fill with tears as she answered my question with 3 words, "I don't know," she burst into tears. So did I. She hugged me.*
    - *I went outside and sat in moms rocking chair. I cried some more.*
    - *I've got over them leaving because mom says we can get 2 new puppys very soon.*
- **provides a sense of closure.**
    - *I've got over them leaving because mom says we can get 2 new puppys very soon.*
- **demonstrates growing command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 4, Argument (Opinion)

This argument was produced in class, and the writer likely received feedback from her teacher and peers.

Zoo Field Trip

Dear Mr. ____________ and Mrs. ____________,

We have a problem. The wildlife here in ___________ is very limited. There is not a lot of opportunity to learn about conservation and wildlife preservation. If we took a field trip to ___________ our problem would be solved. ___________, ___________, ___________ and I would like to take our class for a great learning experience. In addition, we will provide a study guide to ___________ to identify the animals and provide information about conservation of endangered wildlife.

If we went on a field trip, we will learn about the wildlife from around the world and how ___________ provides a natural habitat for them to live and breed. This information would help us to understand the importance of science in our day to day life. We would use math to make a budget and figure out a way to earn money. These skills will be very useful again and again. We will learn how to make a schedule with target dates. This will provide us with a plan that covers the entire project from start to finish. The preparation of the study guide will require lots of research and organization of information.

The first thing to do is research, research, research! Next, we will choose a fund raiser (with your approval, of course). This will earn money for the field trip. The parents will hopefully chip in their time and money, if we don't get enough. We will prepare a plan schedule. This will provide the dates that team members will need to accomplish the steps toward our goal. My competent adult model is the <u>Unofficial Guide to Walt Disney World.</u> It shows us step by step how to plan a trip and what to see.

Now, you are asking why should I approve a trip to ___________? How does this help ___________ and the students? Besides the fact that the project planning, fund raising, budgeting and reporting will provide an excellent learning opportunity, it will provide education. It will also provide awareness of wildlife and the importance of conservation. This project will be evaluated by its successful planning and its ability to involve our class in wildlife conservation. The trip will be evaluated by the student participation on the trip and a plan of conservation that identifies what we can all do to protect and respect wildlife so they will still be around when we have children.

Sincerely,

____

Annotation

The writer of this piece

- **introduces a topic clearly, states an opinion, and creates an organizational structure in which related ideas are grouped to support the writer's purpose.**
  - *We have a problem. The wildlife here in ___________ is very limited. There is not a lot of opportunity to learn about conservation and wildlife preservation. If we took a field trip to ___________ our problem would be solved. ___________, ___________, ___________ and I would like to take our class for a great learning experience.*
- **provides reasons that are supported by facts and details.**
  - *If we went on a field trip, we will learn about the wildlife from around the world and how ___________ provides a natural habitat for them to live and breed. This information would help us to understand the importance of science in our day to day life. We would use math to make a budget and figure out a way to earn money . . . We will learn how to make a schedule with target dates . . . The preparation of the study guide will require lots of research and organization of information.*

- **links opinion and reasons using words and phrases.**
  - *The first thing to do . . . Next . . . Now, you are asking . . . Besides the fact . . .*
- **provides a concluding section related to the opinion presented.**
  - The final paragraph details possible objections to the field trip and argues against each one:

    Now, you are asking why should I approve a trip to ___________?. . . Besides the fact that the project planning, fund raising, budgeting and reporting will provide an excellent learning opportunity, it will provide education. It will also provide awareness of wildlife and the importance of conservation.
- **demonstrates exemplary command of the conventions of standard written English.**
  - This piece has been edited by student response groups as well as by adults, so it is nearly flawless in terms of observing the conventions of standard written English.

Student Sample: Grade 4, Narrative

This narrative was produced for an on-demand assessment. Students were asked to respond to the following prompt: "One morning you wake up and find a strange pair of shoes next to your bed. The shoes are glowing. In several paragraphs, write a story telling what happens."

Glowing Shoes

One quiet, Tuesday morning, I woke up to a pair of bright, dazzling shoes, lying right in front of my bedroom door. The shoes were a nice shade of violet and smelled like catnip. I found that out because my cats, Tigger and Max, were rubbing on my legs, which tickled.

When I started out the door, I noticed that Tigger and Max were following me to school. Other cats joined in as well. They didn't even stop when we reached Main Street!

"Don't you guys have somewhere to be?" I quizzed the cats.

"Meeeeeooooow!" the crowd of cats replied.

As I walked on, I observed many more cats joining the stalking crowd. I moved more swiftly. The crowd of cats' walk turned into a prance. I sped up. I felt like a rollercoaster zooming past the crowded line that was waiting for their turn as I darted down the sidewalk with dashing cats on my tail.

When I reached the school building . . . SLAM! WHACK! "Meeyow!" The door closed and every single cat flew and hit the door.

Whew! Glad that's over! I thought.

I walked upstairs and took my seat in the classroom.

"Mrs. Miller! Something smells like catnip! Could you open the windows so the smell will go away? Pleeeeaase?" Zane whined.

"Oh, sure! We could all use some fresh air right now during class!" Mrs. Miller thoughtfully responded.

"Nooooooo!" I screamed.

When the teacher opened the windows, the cats pounced into the building.

"It's a cat attack!" Meisha screamed

Everyone scrambled on top of their desks. Well, everyone except Cade, who was absolutely obsessed with cats.

"Awww! Look at all the fuzzy kitties! They're sooo cute! Mrs. Miller, can I pet them?" Cade asked, adorably.

"Why not! Pet whichever one you want!" she answered.

"Thanks! Okay, kitties, which one of you wants to be petted by Cade Dahlin?" he asked the cats. None of them answered. They were all staring at me.

"Uh, hi?" I stammered.

Rrriiiiinng! The recess bell rang. Everyone, including Mrs. Miller, darted out the door.

Out at recess, Lissa and I played on the swings.

"Hey! Look over there!" Lissa shouted. Formed as an ocean wave, the cats ran toward me.

Luckily, Zane's cat, Buddy, was prancing along with the aroma of catnip surrounding his fur. He ran up to me and rubbed on my legs. The shoes fell off. Why didn't I think of this before? I notioned.

"Hey Cade! Catch!"

Cade grabbed the shoes and slipped them on.

The cats changed directions and headed for Cade.

"I'm in heaven!" he shrieked.

Annotation

The writer of this piece

- **orients the reader by establishing a situation and introducing the narrator and characters.**
    - *One quiet, Tuesday morning, I woke up to a pair of bright, dazzling shoes, lying right in front of my bedroom door.*
- **organizes an event sequence that unfolds naturally.**
    - The teacher opens the window; cats come into the classroom; at recess the cats surge toward the narrator; her shoes fall off; another student (one who loves cats) picks up the narrator's shoes; the cats move toward him; he is delighted.
    - *. . . Tigger and Max were following me to school. Other cats joined in as well. . . . When I reached the school building . . . SLAM! WHACK! "Meeyow!" The door closed and every single cat flew and hit the door.*
- **uses dialogue and description to develop experiences and events or show the responses of characters to situations.**
    - *I felt like a rollercoaster zooming past the crowded line that was waiting for their turn . . .*
    - *Whew! Glad that's over! I thought.*
    - *"Awww! Look at all the fuzzy kitties! They're sooo cute! Mrs. Miller, can I pet them? Cade asked, adorably.*
- **uses a variety of transitional words and phrases to manage the sequence of events.**
    - *When I started out the door . . . As I walked on . . . When I reached the school building . . .*
- **uses concrete words and phrases and sensory details to convey experiences and events precisely.**
    - *The shoes were a nice shade of violet and smelled like catnip. I found that out because my cats, Tigger and Max, were rubbing on my legs, which tickled.*
    - *"Awww! Look at all the fuzzy kitties! They're sooo cute! . . .*
- **provides a conclusion that follows from the narrated experiences or events.**
    - The narrator describes Cade earlier in the piece as a student obsessed with cats. The story concludes logically because such a character would likely be pleased with the effects of wearing catnip-scented shoes.
- **demonstrates exemplary command of the conventions of standard written English.**

Student Sample: Grade 5, Informative/Explanatory

The informative writing that follows was produced in class.

Author Response: Roald Dahl
By:

Roald Dahl is a very interesting author to me. That's because he knows what a kid wants to hear. He has a "kid's mind". He is the only author that I know that makes up interesting words like Inkland, fizz wizard, and gobble funking. All his stories are the same type. I don't mean the same story written again and again. What I mean is that they all have imagination, made up words, and disgusting thoughts. Some of his stories that have those things are Charlie and the Chocolate Factory, Matilda, The Witches and Danny the Champion of the World. The Witches is the book that I am reading right now, and it is like The BFG, another book that is by Roald Dahl. They are alike because in The BFG, Sophie and the BFG, (the big friendly giant), are trying to stop other giants from eating human beings. The Witches has the same problem. The Boy, (he has no name), is trying to stop the witches from turning children into small mice, and then killing the mice by stepping on them. Both stories have to stop evil people from doing something horrible.
Roald Dahl uses a lot of similes. Some similes that he used that I like are: Up he shot again like a bullet in the barrel of a gun. And my favorite is: They were like a chorus of dentists' drills all grinding away together.
In all of Roald Dahl's books, I have noticed that the plot or the main problem of the story is either someone killing someone else, or a kid having a bad life. But it is always about

something terrible. All the characters that Roald Dahl ever made were probably fake characters. A few things that the main characters have in common are that they all are poor. None of them are rich. Another thing that they all have in common is that they either have to save the world, someone else, or themselves.

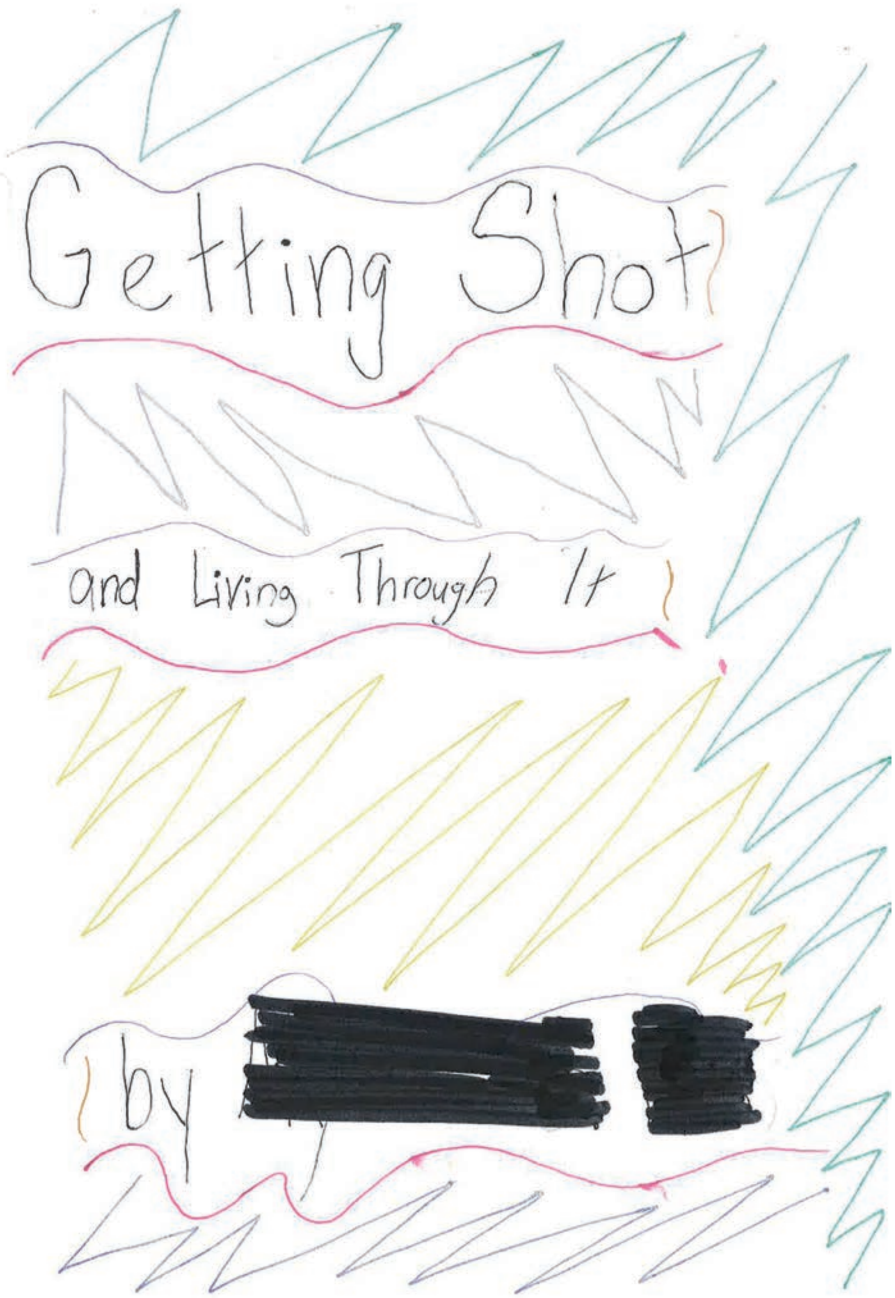
Annotation

The writer of this piece

- **introduces the topic clearly, provides a general observation and focus, and groups related information logically.**
    - *Roald Dahl is a very interesting author to me. That's because he knows what a kid wants to hear.*
- **develops the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.**
    - *He is the only author that I know that makes up interesting words like Inkland, fizz wizard, and gobble funking.*
    - *Roald Dahl uses a lot of similes. Some similes that he used that I like are: Up he shot again like a bullet in the barrel of a gun. And my favorite is: They were like a chorus of dentists' drills all grinding away together.*
    - *In all of Roald Dahl's books, I have noticed that the plot or the main problem of the story is either someone killing someone else, or a kid having a bad life.*
- **links ideas within and across categories of information using words, phrases, and clauses.**
    - *The Witches is the book that I am reading right now, and it is like The BFG, another book that is by Roald Dahl. They are alike because . . .*
- **uses precise language and domain-specific vocabulary to inform about or explain the topic.**
    - *Roald Dahl uses a lot of similes.*
    - *I have noticed that the plot or the main problem of the story . . .*
    - *All the characters . . .*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 5, Narrative

This narrative was produced in class, and the writer likely received feedback from her teacher and peers.



We were in the darkness filled, mountain-top cold, waiting room. We were preparing for the shots of our lives. Getting shots for malaria and more.

There were many benches all shoved to the right. It was hard to see the color in the murky dark but it seemed to be some sort of faded brown. The room was big, no, huge which gave it all the more reason to be terror bringing. Who knew what would be lurking in the corner? Rats, monsters, anything! There were also doors. Three doors, which were also brown and also faded. One was the way in. Not the way out unfortunately. Another was the way to the other evil places. With the evil hallway and the evil office. The last door was the most evil, The Shot Room.

The rest of the room was filled with families. Including my family of five. My five year old self, my three year old brother, and my one year old sister. Then there was my mom and dad. Some of the other children were screeching or crying or not knowing what would happen to them. So they would just be playing. I was in the midde of both. I was playing with fear, playing, knowing what would happen, knowing that the worst moment of my life was coming ever closer. It was like knowing you would be put to sleep, sent to the dementors, waiting to take a ride in the Electric Chair.

I had had shots before. They were not your best friend. After a long while a nurse said, "Alyssa, Trevor, and Taryn, your turn." It was our turn. I got half dragged and I half walked. The door creaked open. It was the room of no return. The door slamed shut. There was no way out. Grown-ups guarding every outryway, making sure we couldn't escape. Seeing there was no way out we gave up and went for it.

Trevor went first. Before the shot was even touching him he was already howling. When it did hit him he was yelling loud enough to deafen you. He was done. It was my turn (he was still crying so a nurse tried to calm him down).

I was paralyzed with fear, I was death-defyed, I was scared. My mom and dad told me to "just be brave." "Just be brave?!" How could I "Just be brave?!" But I had no time to think. It was coming. Just waiting to pounce, just waiting to penetrate my skin! I saw why Trevor had screamed so loud. I couldn't hear anything, I could just see it coming, closer, closer!

It touched, entered my flesh, and fufilled it's job. I started with a whimper then, BOOM!— blast cry.

When Taryn had her turn she

didn't even notice! Ugh! She
was sapposed to cry the most!
Worse than Trevor!

But then I remembered
it was over. We opened the door
and the sparkling sun blinded
our eyes. It was over. All over.
Finally.

Annotation

The writer of this piece

- **orients the reader by establishing a situation and introducing the narrator.**
  - *We were in the darkness filled, mountain-top cold, waiting room. We were preparing for the shots of our lives.*
- **organizes an event sequence that unfolds naturally and uses a variety of transitional words, phrases, and clauses to manage the sequence of events.**
  - *Trevor went first. . . . It was my turn. . . . When Taryn had her turn . . .*
- **uses narrative techniques to develop experiences and events or show the responses of characters to situations.**
  - Humor through exaggeration: *Before the shot was even touching him he was already howling. When it did hit him he was yelling loud enough to deafen you.*
  - Reporting a character's thoughts: *I was paralyzed with fear, I was death-defyed, I was scared.*
  - Pacing: *It touched, entered my flesh, and fufilled it's job. I started with a whimper the, BOOM! full blast cry.*
- **uses concrete words and phrases and sensory details to convey experiences and events precisely.**
  - *We were in the darkness filled, mountain-top cold, waiting room. We were preparing for the shots of our lives.*
  - *There were also doors. Three doors, which were also brown and also faded. One was the way in. Not the way out unfortunately.*
  - *The rest of the room was filled with families. Including my family of five. My five year old self, my three year old bother, and my one year old sister.*
- **provides a conclusion that follows from the narrated experiences or events (emphasizing closure by the use of sentence fragments).**
  - *We opened the door and the sparkling sun blinded our eyes. It was over. All over. Finally.*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 6, Argument

This argument was written as homework after a class in which grade 6 students viewed a movie titled *Benchwarmers* and discussed how movie writers and producers promote smoking. The letter is addressed to the producer of a film in which smoking appears.

Dear Mr. Sandler,

Did you know that every cigarette a person smokes takes seven minutes off their life? I mentioned this because I just watched the movie, Benchwarmers, and I noticed that Carlos smoked. Why did you feel the need to have one of the characters smoke? Did you think that would make him look cool? Did you think that would make him look older? It did neither of those things. As a matter of fact, I think it made him look stupid and not very cool. Especially when he put out a cigarette on his tongue.

If I were producing a movie, I would want my characters to be strong, healthy and smart. I would not have any smokers in my movies for many reasons. The first reason is it sets a bad example for children. An estimated 450,000 Americans die each year from tobacco related disease. In fact, tobacco use causes many different types of cancers such as lung, throat, mouth, and tongue. Another reason not to promote smoking is it ages and wrinkles your skin. Who wants to look 75 if you are only 60? It turns your teeth yellow and may lead to gum disease and tooth decay. Lastly, smoking is a very expensive habit. A heavy smoker spends thousands of dollars a year on cigarettes. I can think of better things to spend money on.

So Mr. Sandler, I urge you to take smoking out of all future movies you produce. Instead of having your characters smoke have them do healthy things. That will set a positive influence for children instead of poisoning their minds. Thanks for reading my letter. I hope you agree with my opinion.

Sincerely, ___________

P.S. I love your Chanukah song.

Annotation

The writer of this piece

- **introduces a claim.**
    - *I would not have any smokers in my movies for many reasons.*
- **organizes the reasons and evidence clearly.**
    - *The first reason is it sets a bad example for children.*
    - *Another reason not to promote smoking is it ages and wrinkles your skin.*
    - *It turns your teeth yellow and may lead to gum disease and tooth decay.*
- **supports the claim with clear reasons and relevant evidence, demonstrating an understanding of the topic.**
    - *Lastly, smoking is a very expensive habit. A heavy smoker spends thousands of dollars a year on cigarettes.*
- **uses words, phrases, and clauses to clarify the relationship between the claim and reasons.**
    - *The first reason . . . Another reason . . . Lastly . . .*
- **establishes and maintains a formal style (except for the postscript).**
    - *Dear Mr. Sandler . . . Thanks for reading my letter. I hope you agree with my opinion . . .* Sincerely . . .

- **provides a concluding statement that follows from the argument presented.**
  - *Instead of having your characters smoke have them do healthy things. That will set a positive influence for children instead of poisoning their minds.*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 6, Argument

This argument (incorrectly labeled a story) is a process piece produced in class.

A Pet Story About My Cat . . . Gus

People get pets so that they will never be lonely, and they will always have a friend to be there for them. Ask your heart, what makes the best pet??? Some people think a best pet is picky, energetic, and sneaky, but I think my pet is the best pet because he is a cuddle bug, he's playful, and he loves me! Gus was about eight weeks old when we got him, now he is 4 1/2 months old, and he is about as big as a size eight sneaker. He is a little gray and white kitten. If you look closely he has a gray tail, but there are darker gray rings around it. He has a little white on his face, and some on his tummy and paws. He has a little stripe on his leg but it is his back left leg only. He's very cute, and he purrs a lot! He also has a cute little gray nose.

One of the reasons why my cat Gus is the best pet is because he is a cuddle bug. When Gus was a baby, he had to be kept in a cage because he wasn't allowed to interact with the other pets until he was older. He couldn't interact with the other pets because when Twister was a baby, the ferrets bit her ear and dragged her under the bed, and bit her in the back of the neck and we didn't want the same thing to happen to Gus. Also because Twister had to be kept in a cage when she was little, too. His cage was in my room so when he meowed, as if to say, "Get me out!" I would have to take him out and sleep with him. All he would do is thank me for doing that by snuggling against my chin! Another example to prove that Gus is a cuddle bug, is that when I'm feeding Gus, I put his and Twister's bowl up on the counter when I do so, and Twister sits there patiently while Gus is snuggling against my legs to show affection toward me. He snuggles my leg even when I'm walking around! Well, at least he tries to, because he follows me, and when I stop walking, he starts to cuddle. Eventually I pick him up and cuddle him back!!! Finally, when I have nothing to do and I'm just sitting on my bed reading, Gus jumps up with me and then he pushes away the covers to get under them, and he sleeps on my chest to keep my company when I'm board. After he slept on my tummy many times, he finally got the nickname ___________ Cuddle Buddy. Now I always snuggle with my favorite cuddle buddy . . . Gus!!!

A second reason why Gus is the best pet is because he's playful. Most of the time when Gus is lying on the couch minding his own business, I'll reach out to pet him then he'll start biting my hand and attacking it!!! He does this to be playful, not to hurt anyone but he just wants to have fun. It kind of tickles when he does it, actually. Gus also has a little toy mouse that is attached to a string that I drag around the house so that Gus will follow it. The mouse has a leopard skin pattern on it with balls of fur as hands and feet. The mouse is about the size of the pencil sharpeners in Mrs. ___________ classroom. He goes after that mouse so fast that it's hard to see him running by to catch it. When Gus was a baby, I would put him in my bed to sleep with, but before we went to sleep, I would move my feet around underneath the covers, while Gus was on top chasing them around. Eventually, he got tired and lied down near my feet, but before he was completely asleep, I would pick him up and put him near my pillow and we slept together. Gus loves doing that all the time. I love how Gus is so playful!!!

The last reason why Gus is the best pet is because he loves me! He always misses me whenever I'm not there. When I come home from school and I open the door, Gus comes flying around the corner, and starts to climb my pants! When he gets high enough. I grab him in my arms and we start cuddling each other while Gus is happily purring. He does this a lot. Most of the time I'm in my room watching TV, while Gus and Twister are fighting and killing each other, they come dashing around the corner and into my room. I, of course, have to break up the fight. After that, I put them on my bed and hold them down, but they keep squirming. Soon, they get tired and sleep with me, silently, watching TV. Gus is with me as much as possible. Sometimes he's busy playing with Twister, sleeping, or eating. Otherwise, he's playing or sleeping with me. We do so many things together and I'm glad I got him, but technically, he chose me. It was a homeless cat shelter. They were able to catch the kittens, but not there mommy. His brothers and sisters were all playing, but he was sleeping under the table. Soon, he walked out from under the table and slept with me while we cuddled on the couch. That's how I met Gus.

People have feelings for their pets that show that they love them very much. When I had to decide what makes the best pet, I would say that Gus is the best pet because he is a cuddle bug, he's playful, and he loves me. When you think about the examples that I gave you, like when I told you about how Gus snuggles against my chin, you saw that Gus ***IS*** the best pet and if you don't believe me, you have a problem with deciding who the best pet is.

Annotation

The writer of this piece

- **introduces a claim and organizes the reasons and evidence clearly.**
    - *. . . I think my pet is the best pet because he is a cuddle bug, he's playful, and he loves me!*
- **supports the claim with clear reasons and relevant evidence, demonstrating an understanding of the topic.**
    - *One of the reasons why my cat Gus is the best pet is because he is a cuddle bug.* The writer elaborates this point by providing three examples of his cat's affectionate nature: freed from his cage, the cat snuggles against the narrator's chin; the cat rubs against the narrator's legs; and the cat sleeps on the narrator.
    - *A second reason why Gus is the best pet is because he's playful.* The writer elaborates this point with three examples of the cat's playful nature: Gus attacks the narrator's hand; Gus plays with a toy mouse; and Gus attacks the narrator's feet when they are under the covers.
    - *The last reason why Gus is the best pet is because he loves me!* The writer elaborates this point with three examples: Gus runs to greet the narrator when he returns home from school; Gus and the other cat, Twister, scuffle with one another until the narrator separates them, and then they sleep with the narrator as he watches television; and Gus spends as much time as possible in the narrator's company.
- **uses words, phrases, and clauses to clarify the relationships among the claim and reasons.**
    - *One of my reasons . . . A second reason . . . The last reason . . .*
- **establishes and maintains a formal style (except for the last sentence).**
    - The style throughout the document is appropriate for convincing readers about the writer's claim although the last sentence in the three-page-long paper (*. . . if you don't believe me, you have a problem with deciding who the best pet is*) seems inappropriate because it lapses into *ad hominem.*
- **provides a concluding statement that follows from the argument presented.**
    - *When I had to decide what makes the best pet, I would say that Gus is the best pet . . . When you think about the examples that I gave you, like when I told you about how Gus snuggles against my chin, you saw that Gus **IS** the best pet . . .*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 7, Argument

This argument was produced for an on-demand assessment. Students were asked to a write a letter to their principal about a plan to install video cameras in the classroom for safety reasons. The abbreviated time frame of the assessment (and the consequent lack of opportunity to perform research and revise) explains the absence of information from sources and possibly also the occasional errors.

Video Cameras in Classrooms

You are seated in class as your teacher explains and points things out on the whiteboard. You twitch your hand, accidentally nudging your pencil, which rolls off your desk and clatters to the floor. As you lean over to pick up your pencil, your cell phone falls out of your coat pocket! Luckily you catch it without your teacher seeing, but it is in plain view of the video camera's shiny lens that points straight at you. The classroom phone rings, and after a brief conversation, your teacher walks over to your desk and kneels down beside you. "About that cell phone of yours . . ." How did that get you in trouble? How could it possibly be a good idea to put cameras in classrooms?

When students are in their classrooms, teachers are in the classroom too, usually. But when a teacher goes out of the classroom, what usually happens is either everything goes on as usual, or the students get a little more talkative. Cameras aren't there because people talk a lot. It is the teacher's job to keep people quiet. If something horrible happened, somebody in class would usually report it, or it would just be obvious to the teacher when he came back that something had happened.

If we already have cameras in the halls, why spend the money to get thirty more cameras for all the different classrooms? Our school district already has a low budget, so we would be spending money on something completely unnecessary. There hasn't been camera-worthy trouble in classrooms. Camera-worthy trouble would be bad behavior every time a teacher left the room. There is no reason to install cameras that might just cause trouble, both for the students and for the budget.

Different students react differently when there is a camera in the room. Some students get nervous and flustered, trying hard to stay focused on their work with a camera focused on them. 90% of students claim that they do better work when they are calmer, and cameras are not going to help. Other students look at cameras as a source of entertainment. These students will do things such as wave at the camera, make faces, or say hi to the people watching through the camera. This could be a big distraction for others who are trying to learn and participate in class. Still other students will try to trick the camera. They will find a way to block the lens or do something that the camera will not be likely to catch. All of these different students will be distracted by the cameras in their classrooms.

Instead of solving problems, cameras would cause the problems. That is why I disagree with the idea to put cameras in classrooms. This plan should not be put to action.

Annotation

The writer of this piece

- **introduces a claim (stated late in the essay).**
    - *. . . I disagree with the idea to put cameras in classrooms. This plan should not be put to action.*
- **acknowledges alternate or opposing claims.**
    - *Instead of solving problems, cameras would cause the problems.*
- **supports the claim with logical reasoning and relevant evidence, demonstrating an understanding of the topic.**
    - [Cameras are not necessary because] [i]*f something horrible happened, somebody in class would usually report it, or it would just be obvious to the teacher when he came back that something had happened.*
    - *. . . we already have cameras in the halls . . .*

    - *Our school district already has a low budget . . .*
- **uses words, phrases, and clauses to create cohesion and clarify the relationships among the claim, reasons, and evidence.**
    - *If . . . already . . . why . . . so . . . Some students . . . Other students . . . These students . . . All of these different students . . .*
- **establishes and maintains a formal style.**
    - *When students are in their classrooms, teachers are in the classroom too, usually. But when a teacher goes out of the classroom, what usually happens is either everything goes on as usual, or the students get a little more talkative.*
    - *Different students react differently when there is a camera in the room.*
- **provides a concluding statement that follows from and supports the argument presented.**
    - *Instead of solving problems, cameras would cause the problems. That is why I disagree with the idea to put cameras in classrooms. This plan should not be put to action.*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 7, Informative/Explanatory

The extended project that led to this scientific report required students to review existing research, conduct original research, and produce a report. Although the student who wrote the report was in grade 7, the conceptual understanding the report displays is clearly at an exemplary level.

A Geographical Report

My report is on a very rare and unique wetland that many people do not even know exists. They occur only in a few places around the world.

My topic is created by a specific geographical condition. Vernal pools in San Diego occur only on the local mesas and terraces, where soil conditions allow, but these are the ideal place for much of the city's urban and agricultural development. Is it possible to find a balance between the two conflicting purposes of expansion and preservation?

This raises an interesting question; how can you establish vernal pools being thought of as a geographical asset?

METHODS

To answer my question I had to get information on vernal pools: what they are, where they are, and how they are a sensitive natural habitat. Then I needed to examine how city expansion is affecting vernal pools, and if it is apt to continue. I needed to know what the City thinks about the problem and what they are planning to do.

First I looked for any information available on vernal pools at public libraries, but I couldn't find what I was looking for. The topic is apparently too obscure. Next I went to a university library that had an environmental department to get as much information as possible (University of San Diego).

I also interviewed several authorities in the field: the district representative for the U.S. Army Corps of Engineers, the federal agency responsible for the protection of wetlands; a senior environment planner with the City of San Diego, who wrote the City's Resource Protection Ordinance (RPO); the Station botanist at Miramar Naval Air Station, who is in charge of their vernal pool management plan on the land that has the largest number of pools remaining in the City of San Diego; a biologist working for RECON (Regional Environmental Consultants), a firm which is mapping the vernal pools for the City of Hemet, (another city in San Diego County facing the same issues); and finally a geographer working for SANDAG (San Diego Association of Governments), a regional organization that gathers, records, and analyzes data associated with regional planning and environmental issues. They answered many questions and offered their own ideas and information, including additional articles on my subject. I looked at several maps and photos of vernal pools locations, and charts of changing land use.

To decide how much education may be needed about vernal pools, I made a questionnaire, and surveyed two classrooms of elementary students, and a group of forty-two adults, trying to cover most age groups.

WHAT VERNAL POOLS ARE

Vernal pools are a unique and rare form of wetland. Wetlands are areas that are covered or soaked by water enough to support plants that grow only in moist ground. Some examples of wetlands are bogs, swamps, marshes, and edges of lakes and streams. These are what people think of when they hear "wetland". But vernal pools are different than these other types of wetlands. They are located on dry and flat places. No one would expect to find a wetland in such a dry area!

San Diego vernal pools are surrounded by small mounds called "mima mounds". The name mima mounds come from the Mima Prairie near Olympia, Washington. People don't know for sure how mima mounds are formed. Some think that they were formed by gophers piling up the earth. Others think that ice wedges from glaciers caused the upheaval, or maybe the wind pushed loose dirt, catching in clumps of shrubs. Mounds can be found on prairies or terraces with a hardpan or clay layer underneath.

Vernal pools are depressions between the mima mounds. In winter the pools are filled by rain storms. In spring the pools look their best, when plants are in full splendor. By summer the pools are dry and look only like a dry pothole, (See illustration of pool cycles and typical cross section.) A vernal pool does not dry by soaking into the ground; the layer of clay or rock underneath the pool prevents the water from soaking through. Instead they dry out from evaporation, or use by the plants. The mima mounds are not impervious so one pool tends to drain into another. Therefore, the pools have to be on flat land; the pools cannot be on a slope or the water would run off, and the pools would not be filled.

[Illustration here]

Typical Cross Section of Vernal Pool

[Illustration here]

Vernal Pool Cycle

WHY VERNAL POOLS ARE SO IMPORTANT

Vernal pools are a very rare, specific habitat. Hardly any are left, so we don't have many to lose. There used to be vernal pools on many of the mesas and terraces of San Diego County, and the Central Valley of California. Now there are almost no vernal pools in the Central Valley, and an estimated 97% have been lost in San Diego County. An estimated 80% of the remaining pools in San Diego are located on Miramar Naval Air Station. (See map, next page.)

[Illustration here]

Vernal Pool Distribution, San Diego County

It does not take much to disturb a vernal pool. Even grazing or off road vehicle use in the summer, when pool species are dormant and people could think they are just a dry hole, can damage them. Most are disturbed by grading and flattening of their habitat, or by breakup of the impervious layer. With just flat land there would be no depressions for vernal pools to form; what would form would be "vernal mud". With no impervious layer the water would just sink into the ground, and would be there only for a short period of time, not enough for wetland plants.

The mima mounds have to be protected too. If the watershed for the pools is changed, the condition of the pools changes. If there isn't enough water from runoff, then all plant or animal life in them disappears, because they need enough moisture at the right time, to live. If there is too much water, then the pool may turn into another kind of wetland, such as a bog.

Although people have begun to study them, there is still a lot to learn. One thing scientists know is that they are a part of a larger environment. Many animals travel from other areas to feed on plants or animals, or drink from the vernal pools. For example, water fowl from many other places will stop at the pools to eat the fairy shrimp and snack on the plants.

Vernal pools have a large assortment of rare and exotic flora and fauna (plants and animals). Five of them are on the federal list of endangered species, and one more is a candidate for listing. The plants and animals in vernal pools are unusual because they have only developed recently compared to other changes in evolution. As scientists study the pools more intently they are finding more and more unknown species. There are temporary pools in other places around the world, but California's vernal pools are different because of their long drought phase, which causes the plants and animals to adapt to the climate. They go into a dormant phase. For example, fairy shrimp lay eggs before the drought which hatch when it gets moist enough to be active. Some plants, in a short period of time, develop seeds; others appear to die out, but quickly spout again from the rain. Many of these species cannot survive outside vernal pools, and some are "endemic" (species found only in a very restricted geographical area).

PROTECTION TECHNIQUES

The first step is to try to keep development away from vernal pools. But to do this you first need to know where the pools are. Thanks to regional mapping efforts, existing vernal pools have been fairly well identified in San Diego County.

There are already laws against disturbances of vernal pools. You could go to jail or get fined a large sum of money for disturbing a wetland. The U.S. Fish and Wildlife Service protects the listed endangered species present, and the U. S. Army Corps of Engineers makes sure you don't fill any kind of wetland habitat, including vernal pools. The local office of the U.S. Army Corps of Engineers has submitted a proposal to Washington for a stricter permit process for vernal pools.

When possible the vernal pools should be part of a large preserve of open space. That way the pools would not be isolated islands, but part of their natural communities, and would be protected by a buffer of distance. Fences should not be put directly around the vernal pools unless it cannot be avoided, because it would keep some animals out, such as rabbits which spread plant seeds around when they eat them.

It is important to educate people about vernal pools so they know how important they are and what they look like, and so they know how to preserve them. To see how much education may be needed in San Diego, I surveyed ninety-two people (forty-two adults and fifty elementary students to try to cover all age groups). I asked them if they had heard of vernal pools, and if they knew what they were. About 21% thought they had heard of them, but only 7% really knew what they were. (See pie chart.) I found that much education is needed.

[Illustration here]

Survey Results

At N.A.S. Miramar the Station botanist has been putting articles dealing with vernal pools in almost every issue of the base newspaper. Now most people on the base know about vernal pools, and know how valuable they are.

RECOGNIZING AN ASSET

Education is a key to preserving vernal pools. Vernal pools are very unique and we do not have many to lose. Making new ones does not work. Studies done at the University of California, Santa Barbara, have shown that after five years their complexity goes down.

First, vernal pools must be protected. There could be different ranges of accessibility, from remote (available to research only), somewhat accessible (good for guided seasonal visits), to readily accessible (which may have to be protected by fencing or supervision). The most accessible ones would be a great educational opportunity for the general public. The pools closer to development could be developed into nature centers, with raised boardwalks to protect the habitat, as is done over the hot springs in Yellowstone. (See illustration.)

[Illustration here]

Cross Section of Possible Nature Center

Interpretive signs and docents could provide information. Being very unique, vernal pools would make interesting learning centers. People would learn how the plants and animals adapt to the seasonal changes. This would teach people the importance of vernal pools, how complex they are, how to identify them, and how to preserve them when wet or dry. A park in the Sacramento area has an adjacent vernal pool with hiking trails around it; and it seems to work there because the people there know how important and delicate it is.

Ecotourism, a popular concept now, would be another idea. San Diego is a place where tourists already come. The very climate and geography that brings people here is what created vernal pools. Ecotourism would be easy to add to the other attractions, and would indirectly benefit the city. A tour company might be authorized to place advertisements to bring people to learn the importance of vernal pools and their ecosystem. With many people outside San Diego knowing about vernal pools and concerned about their well-being, there would be widespread support for vernal pool protection.

CONCLUSION

The problem of endangering vernal pools will not go away, because the City will need more land to develop. However, vernal pools remain a rare and unique wetland, and need protection. Even though there are laws made to protect them, pools are still being lost. Education is needed. Widespread education showing how important vernal pools are, and how easy they are to disturb, will create widespread support for protection.

A balance between expansion and preservation will not come easily, but if the public views vernal pools as a geographical asset, the balance will shift toward long-term vernal pool preservation.

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Annotation

The writer of this piece

- **introduces the topic clearly, previewing what is to follow.**
    - *My report is on a very rare and unique wetland that many people do not even know exists. . . . Vernal pools in San Diego occur only on the local mesas and terraces, where soil conditions allow, but these are the ideal place for much of the city’s urban and*

agricultural development. Is it possible to find a balance between the two conflicting purposes of expansion and preservation?

- **organizes ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect.**
    - Definition: *Vernal pools are a unique and rare form of wetland. . . . Vernal pools are depressions between the mima mounds. . . . Vernal pools are a very rare, specific habitat.*
    - Comparison/contrast: *Some examples of wetlands are bogs, swamps, marshes, and edges of lakes and streams. . . . But vernal pools are different than these other types of wetlands. They are located on dry and flat places.*
    - If/then and cause/effect: *If the watershed for the pools is changed, the condition of the pools changes. If there isn't enough water from runoff, then all plant or animal life in them disappears, because they need enough moisture at the right time, to live.*
- **includes formatting and graphics when useful to aiding comprehension.**
    - The writer uses a number of headings to help section off the text: *METHODS*, *WHAT VERNAL POOLS ARE*, *WHY VERNAL POOLS ARE SO IMPORTANT*, *PROTECTION TECHNIQUES*, *RECOGNIZING AN ASSET*, and *CONCLUSION*.
    - The writer offers a cross-section of a vernal pool, an illustration of the vernal pool cycle, a map of the distribution of vernal pools in San Diego County, a pie chart of responses to a survey, and a cross-section of a possible nature center.
- **develops the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.**
    - *Vernal pools are a unique and rare form of wetland. Wetlands are areas that are covered or soaked by water enough to support plants that grow only in moist ground. Some examples of wetlands are bogs, swamps, marshes, and edges of lakes and streams.*
    - *San Diego vernal pools are surrounded by small mounds called "mima mounds".*
    - *. . . the layer of clay or rock underneath the pool prevents the water from soaking through. . . . an estimated 97%* [of vernal pools] *have been lost in San Diego County.*
- **uses appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.**
    - *Vernal pools are a very rare, specific habitat. Hardly any are left, so we don't have many to lose.*
    - *First, vernal pools must be protected.*
    - *Ecotourism, a popular concept now, would be another idea.*
- **uses precise language and domain-specific vocabulary to inform about or explain the topic.**
    - *Vernal pools . . . habitat . . . wetland . . . bogs . . . mima mounds . . . pool cycles . . .*
- **establishes and maintains a formal style.**
    - *Vernal pools are a unique and rare form of wetland. Wetlands are areas that are covered or soaked by water enough to support plants that grow only in moist ground.*
    - *Vernal pools have a large assortment of rare and exotic flora and fauna (plants and animals). Five of them are on the federal list of endangered species, and one more is a candidate for listing.*
- **provides a concluding section that follows from and supports the information or explanation presented.**
    - *A balance between expansion and preservation will not come easily, but if the public views vernal pools as a geographical asset, the balance will shift toward long-term vernal pool preservation.*
- **demonstrates exemplary command of the conventions of standard written English.**

Student Sample: Grade 8, Informative/Explanatory

This essay was written about a favorite activity. The writer wrote for one entire class period the first day and revised his essay the second day after discussing ideas for revision with a partner.

Football

What I like doing best is playing football, mainly because it is one of my best sports. One of the greatest things about it, in my opinion, is the anticipation, wondering what the other players are thinking about what you might do. Football is a physical game, of course, but it's the mental aspect that I appreciate the most.

At times football can get grueling, which makes the game even more exciting. The first time you make contact with another player (even with all that equipment) you get very sore. That is true for everyone, but in time you get used to the aches and pains. After awhile, you develop mental discipline, which allows you to ignore some of the pain. The mental discipline then allows you to go all out, to unload everything you have, every play. That's how you win games, everyone going all out, giving 110%.

The game takes concentration, just as much as any other sport, if not more. You develop this aspect in practice. That is why it is so important to have hours and hours of it. Mentally, you have to get over the fear, the fear of eleven madmen waiting for chance to make you eat dirt. And that comes through practice. Once you overcome the fear, you can concentrate on the more important things, like anticipating the other guy's next move. Studying the playbook and talking with other players also helps.

During the game, your mind clears of all thoughts. These thoughts become instinct. You have to react, and react quickly, and you develop reactions and instinct in practice. For example, when you're carrying the ball or about to make a tackle, you want to make sure you have more momentum than the other guy. If you don't you'll be leveled. But, you should react instinctively to that situation by increasing your momentum.

Playing defense, all you want to do is hit the man with the ball, hit him hard. Right when you unload for a stick, all your body tightens. Then you feel the impact. After you regain your thoughts, you wonder if you're all right. You wait for your brain to get the pain signal from the nerves. Even so, if you do get that signal, which is always the case, you keep right on playing. You can't let that experience shake your concentration.

On offense, while playing receiver, you can actually "hear" the footsteps of the defensive back as you're concentrating on catching the ball. What separates the men from the boys is the one who "hears" the footsteps but doesn't miss the ball. That's mental discipline, concentration.

Football is very physical or else it wouldn't be fun. But it is also a mental game and that is why it's challenging. You can get hurt in football if you screw up and ignore the right way to do things. However, mental discipline and concentration, which you develop during hours of practice, helps you avoid such mistakes.

Annotation

The writer of this piece

- **introduces the topic clearly, previewing what is to follow.**
  - *What I like doing best is playing football . . . Football is a physical game, of course, but it's the mental aspect that I appreciate the most.*
- **organizes ideas, concepts, and information into broader categories.**
  - Information is organized into three components of the mental aspect of football: discipline, concentration, and instinct.

- **develops the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.**
    - *At times football can get grueling, which makes the game even more exciting. The first time you make contact with another player (even with all that equipment) you get very sore.*
    - *For example, when you're carrying the ball or about to make a tackle, you want to make sure you have more momentum than the other guy. If you don't you'll be leveled.*
- **uses appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.**
    - *At times . . . The first time . . . After awhile . . . During the game . . . For example . . . But . . . Playing defense . . . After . . . However . . .*
    - *On offense, while playing receiver, you can actually "hear" the footsteps of the defensive back . . .*
- **uses precise language and domain-specific vocabulary to inform about or explain the topic.**
    - *. . . playbook . . . defense . . . offense . . . receiver . . . defensive back*
- **establishes and maintains a formal style (with occasional lapses into cliché and undefined terms).**
- **provides a concluding section that follows from and supports the information or explanation presented.**
    - The conclusion emphasizes the importance of the controlling idea (the mental aspect of football) by putting it in a new light: *You can get hurt in football if you screw up and ignore the right way to do things. However, mental discipline and concentration, which you develop during hours of practice, helps you avoid such mistakes.*
- **demonstrates good command of the conventions of standard written English (with some errors that do not interfere materially with the underlying message) and some stylistically effective constructions (e.g.,** *Playing defense, all you want to do is hit the man with the ball, hit him hard***).**

Student Sample: Grade 8, Informative/Explanatory

This analysis of a work of literature was completed as a homework assignment for an English class.

The Old Man and the Sea

In the book The Old Man and the Sea, Ernest Hemingway tells the story of an old Cuban fisherman named Santiago who, considered by the villagers to be the worst type of unlucky, is still determined to win a battle against a giant Marlin off the coast of Cuba. Santiago succeeds, but his successes do not come without great hardship and struggle. He spends three days being dragged in his skiff by the enormous marlin with minimal food and water, all the while enduring acute physical pain, tiredness, and an unending loneliness due to the absence of his young friend, Manolin. It is only after Santiago's prize fish is completely devoured by sharks that he returns home to the village scorners and the safety of Manolin's trust. As his suffering and loss compound, we can see that Hemingway's quote "a man can be destroyed but not defeated" offers a key insight into Santiago's life.

As the story begins, we learn that Santiago has gone eighty-four days straight without catching a fish. Young Manolin's parents will no longer allow the two to fish together, for they do not want their son being exposed any more to this type of failure. Santiago and Manolin are deeply saddened by this news, but Santiago does not let the loss of his friend or the defeat that others see him suffering keep him off the sea. Rather, with bright and shining eyes he thinks "maybe today. Every day is a new day" (pg. 32), and prepares to catch the biggest fish of his life. This shows that even though almost all of Santiago's acquaintances feel that his fishing career is over, he sees it about to reach its all time high. Though he knows he is physically older and weaker than most of his fellow fisherman, he refuses to let their opinions and stereotypes destroy his confidence and determination.

As the story progresses, Hemingway presents an even more vivid picture of Santiago refusing to be destroyed by the forces that threaten to defeat him. Even after he accomplishes the difficult task of hooking the giant Marlin, he finds his skiff being dragged by the fish for over two days. Living in the small boat is no easy task for Santiago, and soon injury and suffering seem to take over his entire body. His back is sore from sitting so long against the stiff wood, his face is cut from fishing hooks, his shoulders ache, and his eyes have trouble focusing. Most difficult to endure though is the terrible condition in which he finds his hands. The left one is weakened from a period of being tightly cramped, and both are extremely mutilated from the burn of the moving fishing line. It would have been so much easier for Santiago to simply give up and release the fish, yet he knows that if he endures a little longer, victory will be his. Even when it seems he has no effort left, Santiago promises himself "I'll try it again." (pg. 93) This is Santiago's real inner determination coming through. He has encountered so many obstacles during the past few days, yet he will not let them defeat his dream of killing the fish. There is no outside force promising a splendid reward if he succeeds, only those that threaten to ridicule him if he is destroyed. Santiago is working solely on his own desire to fulfill his dream and prove to himself that, although his struggles may cost him his life, he can accomplish even the seemingly impossible.

After three long days and nights, Santiago's determination pays off, and at last he manages to catch and kill the Marlin. It is only a very short time that he has to relish in his triumph though, for a few hours later vicious sharks begin to destroy the carcass of the great fish. For hours, Santiago manages to ward them off, but this time it is not he who wins the final battle. Spirits low and pain at an all time high, Santiago returns to the village, towing behind him only the bare skeleton of a treasure that once was. It seems as though Santiago is ready to just curl up and die, and indeed he has reason to feel this way. Yet as he rests alone and talk with Manolin, we see a hint of Santiago's determination, that has characterized his personality throughout the entire story, begin to shine through. Upon reaching home, he begins to make plans with Manolin about future adventures they will have together. Hemingway tells us that Santiago, in his youth, had loved to watch the majestic lions along his home on a white sand beach in Africa, and he still returns to those dreams when searching for contentment. That night, as Santiago drifts off to sleep, Hemingway tells that he was indeed "dreaming about the lions." (pg. 127) This is perhaps the truest test of how much courage and determination a person has. If even when they have suffered the biggest defeat of their life, they are able to look to the future and realize the wonderful things they still posses. Though the forces of nature and time destroyed Santiago's prize fish, he refuses to let that fact ruin the rest of his life. No one can take away his love for Manolin or memories of what once was, and because of this, no one can ever truly defeat Santiago.

In conclusion, throughout the entire story The Old Man and the Sea, Santiago refuses to surrender to the forces working against him. He ignores the comments of those who think he is unlucky, endures great physical pain, and rises up from the depths of sorrow over the lost Marlin to find happiness in what he does possess. Hemingway's quote "a man can be destroyed but not defeated" truly does display the amount of determination that Santiago shows throughout his life.

Annotation

The writer of this piece

- **introduces the topic clearly, previewing what is to follow.**
  - The writer provides a brief summary of the plot in the introduction and then uses a quotation to advance the thesis of the essay and preview what is to follow: *As his suffering and loss compound, we can see that Hemingway's quote "a man can be destroyed but not defeated" offers a key insight into Santiago's life.*
- **organizes ideas, concepts, and information into broader categories.**
  - Two key elements of the quotation (*destroyed but not defeated*) help establish the overall structure of the piece.
  - The second, third, and fourth paragraphs each recount extended examples of Santiago's struggle and determination (e.g., *. . . Santiago has gone eighty-four days straight without catching a fish. Young Manolin's parents will no longer allow the two to fish together, for they do not want their son being exposed any more to this type of failure . . . but Santiago does not let the loss of his friend or the defeat that others see him suffering keep him off the sea. Rather, with bright and shining eyes he thinks "maybe today. Every day is a new day"*. . .).
- **develops the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.**
  - Concrete details: *. . . eighty-four days straight without catching a fish . . .* [hands] *extremely mutilated from the burn of the moving fishing line . . . towing behind him only the bare skeleton of a treasure that once was*.
  - Quotations: *That night, as Santiago drifts off to sleep, Hemingway tells that he was indeed "dreaming about the lions." (pg. 127)*
  - Examples*: . . . injury and suffering . . . His back is sore . . . his face is cut . . . his shoulders ache . . .*
- **uses appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.**
  - *As his suffering and loss compound . . . As the story progresses . . . Even after . . . After three long days and nights . . . In conclusion, throughout the entire story The Old Man and the Sea . . .*
- **uses precise language to inform about or explain the topic.**
  - *. . . minimal food and water . . . acute physical pain . . . eighty-four days straight without catching a fish . . . only the bare skeleton . . .*
- **establishes and maintains a formal style.**
  - *In the book The Old Man and the Sea, Ernest Hemingway tells the story of an old Cuban fisherman named Santiago who, considered by the villagers to be the worst type of unlucky, is still determined to win a battle against a giant Marlin off the coast of Cuba.*
  - *As the story begins, we learn . . . In conclusion . . .*
- **provides a concluding section that follows from and supports the information or explanation presented (and returns to the quotation used in the thesis statement).**
  - *In conclusion, throughout the entire story The Old Man and the Sea, Santiago refuses*

to surrender to the forces working against him. He ignores the comments of those who think he is unlucky, endures great physical pain, and rises up from the depths of sorrow over the lost Marlin to find happiness in what he does possess. Hemingway's quote "a man can be destroyed but not defeated" truly does display the amount of determination that Santiago shows throughout his life.

- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 8, Narrative

This narrative was written to fulfill an assignment in which students were asked to introduce a special person to readers who did not know the person. The students were advised to reveal the personal quality of their relationship with the person presented. The student who wrote this piece borrowed ideas from a fictional piece she had read.

Miss Sadie

Miss Sadie no longer sits in her rocking chair on her porch on summer days. But I still can see her. The old chair squeaking with every sway of her big, brown body. Her summer dresses stained from cooking in her sweet smelling kitchen. I see her gray hair pulled back in that awful, yellow banana clip. Most of all, I hear that voice. So full of character and wisdom.

I used to bring Miss Johnson cookies every summer day of 1988. I miss the days when I would sit on that shabby old porch and listen to her stories. "Melissa!" she would holler. "What 'chu doin' here? Come see me and my poor self, have ya?"

She once told me of her grandmother who escaped slavery, back when white men could only do anything, she would say. Her grandma ran for miles without food or water. It wasn't too long before her master came looking for her and took her home to whip her. I thought of how Blacks are treated today. I sighed. She would sing in her soulful, blaring voice, old negro hymns passed down from her mother and grand mother. I would sit there in amazement.

Once, Jimmy Taylor came walking by us yelling, "Melissa! Whattaya want with that old, fat, Black lady, anyways?"

Before I could retaliate, Miss Johnson said to me, "Now you musn't. We must feel sorry for that terrible child. His mother must have done gone and not taught him no manners!" She actually wanted me to bow my head and pray for him. (Even though I went to his house and punched him out the next day.)

My friends would tease me for spending the whole summer with Sadie Johnson, "The Cuckoo of Connecticut," they called her. But I'm so very glad I did. She taught me then, to not care what other people thought. I learned that I could be friends with someone generations apart from my own.

My visits became less frequent when school started. I had other things to think about. Boys, clothes, grades. You know, real important stuff.

One day I was thinking, I haven't seen Miss Sadie in a while. So after school I trotted up to her house amidst the twirling, autumn leaves.

I rang her bell. The door cracked open and the women adjusted her glasses. "May I help you?"

"Miss Sadie, It's me, Melissa."

"I-I" She'd stuttered. "I don't remember," she said and shut the door. I heard crying. I rang the door again and she screamed, "Please leave!" in a scared, confused voice.

I went home bewildered and my mother told me to stop bothering Miss Sadie. I said I wasn't bothering her. Mama said, "Miss Johnson has a disease. Alzheimer's disease. It makes her forget things... people, family even. and so, I don't want you over there anymore, you hear?"

Then, I didn't realize or comprehend, how someone so special to you could forget your own existence when you'd shared a summer so special and vivid in your mind.

That Christmas I went to bring Miss Johnson cookies. She wasn't there. I learned from a family member that she was in the hospital and that she'd die very soon. As the woman, a daughter maybe, spoke, my heart broke.

"Well, you make sure she gets these cookies," I said, my voice cracking and tears welling in my eyes.

Today, I've learned to love old people. For their innocence, for their knowledge. I've learne to always treat people with kindness, no matter how cruel they may seem. But mainly I've learned, that you must cherish the time spent with a person. And memories are very valuable. Because Miss Sadie no longer sits in her rocking chair on her porch on summer days. I'm glad that I can still see her.

Annotation

The writer of this piece

- **engages and orients the reader by establishing a context and point of view, and introducing a narrator and characters.**
    - The writer engages the reader by entering immediately into the story line and orients the reader by skillfully backfilling information about the setting (*the old chair squeaking*; *that shabby old porch*) and the narrator's experiences with Miss Sadie (bringing Miss Sadie cookies, listening to her stories, listening to her sing *old negro hymns*).
- **organizes an event sequence that unfolds naturally and logically.**
    - The writer begins in the present, when *Miss Sadie no longer sits in her rocking chair*, then—appropriately for a narrator engaged in reflection—creates an image with specific details of Miss Sadie as she was in the past (*every sway of her big brown body . . . her gray hair pulled back in that awful, yellow banana clip*).
- **uses narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and characters.**
    - Reflection: *My friends would tease me for spending the whole summer with Sadie Johnson, "The cookoo of Connecticut," they called her. But I'm so very glad I did. She taught me then, to not care what other people thought. I learned that I could be friends with someone generations apart from my own . . . Then, I didn't realize or comprehend, how someone so special to you could forget your own existence when you'd shared a summer so special and vivid in your mind*.
    - Dialogue: *I rang her bell. The door cracked open and the women adjusted her glasses. "May I help you?"*

      "Miss Sadie, it's me, Melissa."

      "I–I," she'd stuttered. "I don't remember," she said and shut the door.
    - Tension: *I heard crying. I rang the door again and she screamed, "Please leave!" in a scared, confused voice*.
    - Reporting internal thoughts and reactions: *"Whattaya want with that old, fat, Black lady, any ways?" . . . As the woman, a daughter maybe, spoke, my heart broke.*
- **uses a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events.**
    - *no longer . . . still . . . used to . . . I miss the days . . . once . . . then . . . Today . . .*
- **uses precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.**
    - *The old chair squeaking with every sway of her big, brown body.*
    - *Her summer dresses stained from cooking. I smell her sweet smelling kitchen.*
    - *. . . her soulful, blaring voice . . .*
    - *. . . the twirling, autumn leaves.*
    - *The door cracked open . . .*
    - *"I–I," she'd stuttered.*
- **provides a conclusion that follows from and reflects on the narrated experiences or events.**
    - In the conclusion, the writer returns to the image in the beginning of the narrative (*Miss Sadie no longer sits in her rocking chair on her porch on summer days. But I still can see her*) to reflect on the importance of memories (*I'm glad that I can still see her*).

- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**
    - Occasional sentence fragments were likely included for stylistic purposes (e.g., *The old chair squeaking with every sway of her big, brown body*; *Her summer dresses stained from cooking*; *Because Miss Sadie no longer sits in her rocking chair on her porch on summer days*).

Student Sample: Grade 9, Argument

This argument was written in response to a classroom assignment. The students were asked to compare a book they read on their own to a movie about the same story and to prove which was better. Students had six weeks to read and one and a half weeks to write, both in and out of class.

The True Meaning of Friendship

John Boyne's story, The Boy in the Striped Pajamas, tells the tale of an incredible friendship between two eight-year old boys during the Holocaust. One of the boys is Bruno, the son of an important German commander who is put in charge of Auschwitz Camp, and the other is Shmuel, a Jewish boy inside the camp. Throughout the story their forbidden friendship grows, and the two boys unknowingly break the incredible racial boundaries of the time. They remain best friends until Bruno goes under the fence to help Shmuel find his father when they are both killed in the gas showers of the camp. By comparing and contrasting supporting characters, irony, and the themes in the movie and the book, it is clear that the movie, The Boy in the Striped Pajamas (Mark Herman, 2008) is not nearly as good as the novel of the same title.

Characterization is very important to a story and influences how a person interprets the novel or movie, and one important way that the book differs from the movie is how Bruno's mother is characterized. In the movie, she is unrealistically portrayed as an honest woman with good moral values, and is almost as naive as Bruno is about what is going on at Auschwitz. When she discovers what her husband is doing to people at the camp she is deeply disturbed. Mortified by her husband's cruelty, their relationship declines. In contrast, she is a far more sinister character in the book. Though Bruno is too young to understand what his mother is doing, one of the reasons he dislikes Lieutenant Kotler is that, " *. . .* he was always in the living room with Mother and making jokes with her, and Mother laughed at his jokes more than she laughed at Father's" (162). Bruno's mother is very unhappy in her new situation away from Berlin, and her discontent leads her to cheat on her husband. This also leads her to unknowingly hurt her son, for Bruno is upset that she is paying more attention to Lieutenant Kotler than she is to his father, and the damage she causes could be magnified if she continues to disrupt their family. Further examples of her abysmal character and unfaithfulness are revealed when Bruno's mother finds the young lieutenant and says, "Oh Kurt, precious, you're still here *. . .* I have a little free time now if—Oh! she said, noticing Bruno standing there. 'Bruno! What are you doing here?'"(166). Her disloyalty further allows the reader to see that her character is far from virtuous, contrary to the opinion of a person who viewed the movie. Throughout the story, it also becomes apparent that Bruno's mother is also an alcoholic, and, "Bruno worried for her health because he'd never known anyone to need quite so many medicinal sherries" (188). Unable to come to terms with her new circumstances and strained relationship with her husband, Bruno's mother tries to drink away her problems, further conveying that she is a weak character. Bruno's extreme innocence about his mother and situation at Auschwitz are magnified by the use of irony in both the movie and the book.

In some ways the book and the movie have similar aspects, and one of these aspects is how irony is used to emphasize Bruno's innocence and to greatly emphasize the tragic mood of the story. In the final climactic scene of the movie—just after Bruno has gone under the fence to help Shmuel find his father—the two boys are led to the gas showers to be killed. Unaware of what is about to happen to them, Bruno tells Shmuel that his father must have ordered this so it must be for a good reason, and that they are going into the air-tight rooms to stay out of the rain and avoid getting sick. This statement is incredibly ironic because, unbeknownst to Bruno, his father has unknowingly commenced his own son's death sentence. In addition to this, the soldiers have no intention of keeping their prisoners healthy. It never occurs to Bruno that anyone would want to destroy another human being or treat them badly, and his innocence makes his premature death all the more tragic. Although the movie may be incredibly ironic in a few specific instances, the book contains a plethora of ironic events that also accentuate Bruno's childishness and naivety. A profound example of this is exhibited when Bruno thinks to himself that, " *. . .* he did like stripes and he felt increasingly fed up that he had to wear trousers and shirts and ties and shoes that were too tight for him when Shmuel and his friends got to wear striped pajamas all day long" (155). Bruno has no clue that the people in the "striped pajamas" are being cruelly treated and murdered, and is jealous of what he thinks is freedom. Bruno once again reveals his innocence when he asks Pavel, the Jewish man from the camp who cleans him up after a fall, "If you're a doctor, then why are you waiting on tables? Why aren't you working at a hospital somewhere?" (83). It is a mystery to Bruno that a doctor would be reduced to such a state for no transparent reason, and his beliefs should be what all adults think. Though what he says is naive, it points out the barbarity of the German attitude toward the Jews. If an uneducated child could be puzzled by this, then how could learned adults allow such a thing? Through Bruno's comment, John Boyne conveys the corruptness of the German leaders during the Holocaust, an idea that the movie does not relay to the watcher nearly as well. The book impels the reader to think deeper about the horrors of the Holocaust, and all this ties into the true theme of the story.

The Boy in the Striped Pajamas and its movie counterpart both have different themes, but it is the book's theme that accurately states the author's message. The movie ends with a race against time as Bruno's family searches for him in the camp, trying to find him before he is killed. They are too late, and Bruno and Shmuel die together like so many other anonymous children during the Holocaust. The theme of the movie is how so many children died at the ruthless hands of their captors; but the book's theme has a deeper meaning. As Bruno and Shmuel die together in the chamber, " *. . .* the room went very dark, and in the chaos that followed, Bruno found that he was still holding Shmuel's hand in his own and nothing in the world would have persuaded him to let it go" (242). Bruno loves Schmuel, and he is willing to stay with him no matter what the consequences, even if it means dying with him in the camp that his father controls. They have conquered all boundaries, and this makes the two boys more than just two more individuals who died in Auschwitz. The Boy in the Striped Pajamas is not the story of two children who died in a concentration camp; this story is about an incredible friendship that triumphed over racism and lasted until the very end. It is the story of what should have been between Jews and Germans, a friendship between two groups of people in one nation who used their strengths to help each other.

Based on the analysis of supporting characters, irony, and themes of John Boyne's The Boy in the Striped Pajamas and the movie, it can be concluded that the book is far superior to the movie. Though Bruno's mother is a dishonest woman in the book, her bad character is more realistic for the time when compared to the mother in the movie who is horrified by Auschwitz. John Boyne uses many examples of irony in the book to emphasize Bruno's innocence and to magnify the tragedy of his death. Unlike the movie the irony in the book leads the reader to ponder on the barbarity of the German leaders during the Holocaust. The book's theme of long lasting friendship gives purpose to the story, while the movie's theme of the cruelty of concentration camps does not lead the viewer to delve deeper into the story. It is necessary for the person to read this book in order to understand the true message of friendship and cooperation in the story, a message that a person who had only seen the movie could not even begin to grasp.

Annotation

The writer of this piece

- **introduces a precise claim and distinguishes the claim from (implied) alternate or opposing claims.**
    - *. . . it is clear that the movie, The Boy in the Striped Pajamas (Mark Herman, 2008) is not nearly as good as the novel of the same title.*
- **develops the claim and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's need for information about the book.**
    - Reason: *In the movie, she* [the mother] *is unrealistically portrayed as an honest woman with good moral values . . . she is a far more sinister character in the book . . .*
    - Evidence: *. . . one of the reasons he* [Bruno] *dislikes Lieutenant Kotler is that, " . . . he was always in the living room with Mother and making jokes with her, and Mother laughed at his jokes more than she laughed at Father's"* (162) *. . . Bruno's mother finds the young lieutenant and says, "Oh Kurt, precious, you're still here . . . I have a little free time now if—Oh! she said, noticing Bruno standing there. 'Bruno! What are you doing here?'"(166). . . . Bruno's mother is also an alcoholic, and, "Bruno worried for her health because he'd never known anyone to need quite so many medicinal sherries" (188)*
    - Reason: *. . . it is the book's theme that accurately states the author's message . . . the book's theme has a deeper meaning . . . The book's theme of long lasting friendship gives purpose to the story . . .*
    - Evidence: *The movie ends with a race against time as Bruno's family searches for him in*

the camp, trying to find him before he is killed. They are too late, as Bruno and Shmuel die together like so many other anonymous children during the Holocaust . . . [In the book] *As Bruno and Shmuel are standing together in the chamber, " . . . the room went very dark, and in the chaos that followed, Bruno found that he was still holding Shmuel's hand in his own and nothing in the world would have persuaded him to let it go" (242).*

- **uses words, phrases and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim and reasons, between reasons and evidence, and between claims and (implied) counterclaims.**
    - *In the movie . . . In contrast . . . Though Bruno is too young . . . Further examples of her abysmal character . . . Throughout the story, it also becomes apparent . . . In the final climactic scene . . . because, unbeknownst to Bruno . . . A profound example of this . . . Based on the analysis . . .*
- **establishes and maintains a formal style and objective tone.**
    - *John Boyne's story, The Boy in the Striped Pajamas, tells the tale of an incredible friendship between two eight-year old boys during the Holocaust. . . . Characterization is very important to a story and influences how a person interprets the novel or movie, and one important way that the book differs from the movie is how Bruno's mother is characterized . . . In some ways the book and the movie have similar aspects, and one of these aspects is how irony is used to emphasize Bruno's innocence and to greatly emphasize the tragic mood of the story . . .*
- **provides a concluding section that follows from and supports the argument presented.**
    - *Based on the analysis of supporting characters, irony, and themes of John Boyne's The Boy in the Striped Pajamas and the movie, it can be concluded that the book is far superior to the movie. Though Bruno's mother is a dishonest woman in the book, her bad character is more realistic for the time when compared to the mother in the movie who is horrified by Auschwitz. John Boyne uses many examples of irony in the book to emphasize Bruno's innocence and to magnify the tragedy of his death. Unlike the movie the irony in the book leads the reader to ponder on the barbarity of the German leaders during the Holocaust. The book's theme of long lasting friendship gives purpose to the story, while the movie's theme of the cruelty of concentration camps does not lead the viewer to delve deeper into the story. It is necessary for the person to read this book in order to understand the true message of friendship and cooperation in the story, a message that a person who had only seen the movie could not even begin to grasp.*
- **demonstrates exemplary command of the conventions of standard written English.**

Student Sample: Grade 9, Informative/Explanatory

This essay was written in response to the following assignment: *Consider The House on Mango Street* by Sandra Cisneros (1984) and the movie *Whale Rider,* based on the novel by Maori author Witi Ihimaera and directed by Niki Caro (2003). Write a comparison/contrast paper discussing the similarities and differences between these two works. Keeping in mind the main characters Esperanza Cordero and Paikea Apirana, the traditions of the two cultures, Hispanic and Maori, the role of women, religion, and symbolism, compare and contrast how Esperanza and Pai bridge the past and the present for their people.

Lives on Mango, Rides the Whale

More than 8,000 miles of land and sea separate two seemingly contrasting young women. One young girl lives in the urban streets of Chicago, depicted in *The House on Mango Street* by Sandra Cisneros (1984), while the other thrives in the countryside of New Zealand, as shown in *Whale Rider*, directed by Niki Caro (2003)—one an immigrant from a foreign country and the other a native Maori descendent. Both girls struggle for change, fighting their own quiet wars. Despite the vast differences in lifestyle and culture, both Esperanza Cordero of Chicago and Paikea Apirana of New Zealand are destined to be leaders of their generation in spite of the multitude of traditions and expectations that define them as individuals and their role as women in society. These two natural-born leaders are bridging the gap between the ancient customs and modern-day life.

While culture has a huge impact on the Cordero and Apirana families, the protagonists of both groups are affected the most. In Esperanza's world, women are put down and locked inside their husband's houses, having no rights and absolutely no say in their own households. The patriarchal society overwhelms every aspect of life, and Esperanza demands change through rebelling in her own quiet war. "I have decided not to grow up tame like the others who lay their necks on the threshold waiting for the ball and chain" (*The House on Mango Street*). She plans to set her own example, to forge her own path, in the hopes that the oppressed women of Mango Street will realize alternative options. Desperately seeking an opportunity to flee Mango Street, Esperanza dreams of the day when she will leave just another crippled house to seek her own way in the world. However, she states, "They will not know I have gone away to come back. For the ones I left behind. For the ones who cannot get out" (*The House on Mango Street*). Paikea, on the other hand is a native of New Zealand. According to legend, her ancestor and namesake rode on the back of a whale to this land and her family has been there ever since. Because of her rich and influential history, Pai is very proud of her culture. She wants the best for her people and she understands that the village and tribe must modernize and change with the times or else they may lose everything. For example, in the movie *Whale Rider*, Pai walks into her kitchen to find three elder women smoking cigarettes. Hiding the evidence, the conversation dies as soon as she enters the room, but she says to them, "Maori women have got to stop smoking." Pai loves her culture and the significance of the whale, yet she, like Esperanza, demands change, starting with her grandfather Koro accepting the fact that Pai is destined to become the first female chief of the village. Both girls dream of the day where their women will be respected and treated as equals in their patriarchal societies.

Family also plays an important role in both *The House on Mango Street* and *Whale Rider*. The Corderos are one happy group, with lots of strong and inspirational individuals, binding relatives together like a ribbon on a present. Esperanza, the namesake and great-grandmother of the young protagonist, was a strong-willed woman. "My great-grandmother. I would've liked to have known her, a wild horse of a woman, so wild she wouldn't marry" (*The House on Mango Street*). Another prominent man is Esperanza's Uncle Nacho. At a baptism, Uncle Nacho convinces Esperanza to dance; despite her sad brown shoes, she in fact does with her uncle telling her how beautiful she is, making her forget her discomfort and hatred of her shoes. Even though Esperanza may be loved in her family and close community, she is of low social status in general. She, like Geraldo in the vignette "Geraldo No Last Name," is "just another brazer who didn't speak English. Just another wetback. You know the kind. The ones who always look ashamed." Her father is a gardener at rich people's houses, and her mother watches over the four children (Esperanza, Nenny, Carlos, and Kiki). From a typical Mexican family, Esperanza is not poor but also has never really experienced any luxury other than a used car.

On the other hand, Paikea comes from a broken family. Her mother died during childbirth, along with her twin brother. After feeling the depression of loss and loneliness, Pai's father Porourangi left New Zealand to live in Germany, where he sculpted and sold Maori art. Pai was left to be raised by her grandparents Koro, the current chief, and Nanny Flowers. Similar to Esperanza, Pai shares common family members that inspired them and encouraged them through their trials, Nanny Flowers, for example, raised Pai to be the woman she is—independent and tough. Regardless of the criticism from Koro, Nanny Flowers encourages Pai to do what she knows is best, even if that results in harsh consequences. For example, during the movie, Pai and the young boys of the village attend a school lesson taught by Koro. Pai is last in line, but sits down on the front bench with the others, although Koro tells her to sit in the back, the proper place for a woman. She refuses to move even when her grandfather threatens to send her away, which he does because Pai will not give up her seat. As she walks away from the group, Nanny Flowers has a proud little smile on her lips, for she knows that Pai is ordained to be the next leader. Because Pai is next in line to become the chief, she is of very high status, just below the current chief.

A prominent figure on Mango Street, Esperanza presents an alternative to the oppression of women in the community. In the outside world, however, she is just another young girl with parents who immigrated to the United States in the hopes of a better life for their children. Esperanza wants to set an example for the women trapped in their houses, to provide an escape for those ensnared in the barbed wire of marriage. Above all, she dreams of the day where she can leave Mango Street, yet she knows that it is her duty to return to free her friends. As told by the Three Sisters, "You will always be Esperanza. You will always be Mango Street. You can't erase what you know. You can't forget who you are." These three women told Esperanza that she was special and was meant to be a strong and leading person, just like Pai and the whales. Because of the rich diversity and influences in her neighborhood, Esperanza learns through her friends and experiences they share. Marin, Rafaela, Lucy, Rachel, Sally, and Alicia all provided a learning experience in one way or another. As all of these young ladies are in a similar age range with Esperanza, they undergo multiple trials side-by-side.

Contrastingly, Paikea has the blood of a leader running through her veins. She is a native, a leader, and a change. Pai, like Esperanza, is a leading figure amongst the women of her community. Always aware of the outer world, Pai knows that her people must adapt to the changing times or they will be swept away by the current of technology. She holds a great love and respect for her culture and people, and she wants what is best for them, even if it involves changing ancient traditions and ways. Pai knows it is her duty to stay, and her desire keeps her rooted in her little village. Once, Pai's father offered to take her to Germany with him to start a new life, and she agreed to go with him. However, in the car ride along the beach, a whale calls from the depths of the ocean and it is then that Pai knows she cannot leave her people. She asks her father to turn around and she returns to the village of her people. Due to having little to no interaction with kids her age, Pai must learn from her elders and through Koro's reactions. The children of the village tease and taunt Pai for her name and her big dreams, yet she pays them no attention. Unlike Esperanza, Pai knew from the beginning that she was destined to be great and is different from others her age.

Finally, the personalities of these two protagonists are exceedingly different. Esperanza, although older than Paikea, has low self-esteem and little self-confidence. She is afraid of adults, and as shown in "A Rice Sandwich," she often cries when confronted by her elders. Throughout the novel, Esperanza is shamed by her actions, other's actions, and other's words. All this young girl wants is to make friends and be loved by others, but she gets in her own way. However, when the world seems against her and she is all alone, Esperanza writes to escape. As directed by her deceased Aunt Lupe, she continues the poetry and short stories that free her from the chokehold of Mango Street. While she finds joy in pencils and paper, she does not in her name. "Esperanza" in Spanish means "hope" and "waiting," two words that describe this girl perfectly. She is the hope for the oppressed but she must wait for her opportunity to leave. In contrast to Pai, she actually did have a childhood, a carefree times of playing and having fun with friends before the burden of responsibility is placed on their shoulders, like the sky on Atlas's.

Paikea, alternatively, is a proud and confident girl. She knows what is best and what her people must do in order to survive. Starting with the women, she tells them to change their ways at the ripe old age of ten. Pai is a serious and mature child, with a grown mannerism and demeanor. Little can shame her, except for her grandfather; all Pail wants is to be loved and accepted by Koro. While everyone in the village can see that Pai is fated to become the next chief, Koro stubbornly refuses to believe until the very end. In her position, she takes her ancestry very seriously. Pai was named after her ancestor who rode the back of a whale to New Zealand, and she is exceedingly proud of her name, unlike Esperanza. And unlike Esperanza, it seems as though Pai has no time for boys or any relationships between them. She considers herself "one of the boys," and shows no interest. Growing up with her situation and the multiple responsibilities that followed left little time for an actual childhood.

In the end, the fate of two different cultures rests in the hands of two different young girls. While they both strive for freedom from oppression and change, Esperanza Cordero and Paikea Apirana have different techniques through which they reach those goals. Esperanza, a quiet and ashamed girl of 13 or 14, chooses a singular path to walk. She chooses the road she must walk alone, unaccompanied but free from patriarchal domination. While fighting to free those sitting at the window, Esperanza finds her own destiny as the change needed on Mango Street. Paikea, a strong and confident girl of 10 or 11, walks the forbidden path, the path of a chief. She chooses to defy her grandfather and all traditions in order to modernize her people. In order to save them, she must change them. Both young women, influential and inspiring, search for the key to free the ones they love.

Annotation

The writer of this piece

- **introduces the topic.**
    - *More than 8,000 miles of land and sea separate two seemingly contrasting young women. One young girl lives in the urban streets of Chicago, depicted in* The House on Mango Street *by Sandra Cisneros (1984), while the other thrives in the countryside of New Zealand, as shown in* Whale Rider, *directed by Niki Caro (2003)—one an immigrant from a foreign country and the other a native Maori descendent. Both girls struggle for change, fighting their own quiet wars. Despite the vast differences in lifestyle and culture, both Esperanza Cordero of Chicago and Paikea Apirana of New Zealand are destined to be leaders of their generation in spite of the multitude of traditions and expectations that define them as individuals and their role as women in society. These two natural-born leaders are bridging the gap between the ancient customs and modern-day life.*
- **organizes complex ideas, concepts, and information to make important connections and distinctions.**
    - The writer uses a compare/contrast organizing strategy to explain similarities and differences between the two girls' cultures, families, and personalities and in how they go about bridging *the gap between the ancient customs and modern-day life.*
- **develops the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
    - Details: *One young girl lives in the urban streets of Chicago, depicted in* The House on Mango Street *by Sandra Cisneros (1984), while the other thrives in the countryside of New Zealand, as shown in* Whale Rider, *directed by Niki Caro (2003)—one an immigrant from a foreign country and the other a native Maori descendent.*
    - Examples: *. . . Nanny Flowers encourages Pai to do what she knows is best, even if that results in harsh consequences. For example, during the movie, Pai and the young boys of the village attend a school lesson taught by Koro. Pai is last in line, but sits down on the front bench with the others, although Koro tells her to sit in the back, the proper place for a woman. She refuses to move even when her grandfather threatens to send her away, which he does because Pai will not give up her seat. As she walks away from the group, Nanny Flowers has a proud little smile on her lips . . .*
    - Quotations: *. . . and Esperanza demands change through rebelling in her own quiet war. "I have decided not to grow up tame like the others who lay their necks on the threshold waiting for the ball and chain"* (The House on Mango Street).
- **uses appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
    - *Despite the vast differences in lifestyle and culture, both . . . While culture has a huge impact on the Cordero and Arirana families, the protagonists . . . However, she states . . . According to legend . . . For example . . . yet she, like Esperanza . . . Even though . . . On the other hand . . . Similar to Esperanza . . . Regardless of the criticism from Joro . . . In the outside world, however . . . Above all, she dreams of the day . . . yet she knows . . . Contrastingly . . . Once . . . However . . . Due to having little interaction with kids her age . . . Unlike Esperanza, Pai . . . Finally . . . In contrast to Pai . . . In the end . . . While they both strive for freedom from oppression and change . . .*
- **uses precise language and domain-specific vocabulary to manage the complexity of the topic.**
    - *More than 8,000 miles of land and sea separate two seemingly contrasting young women. One young girl lives in the urban streets of Chicago, depicted in* The House on Mango Street *by Sandra Cisneros (1984), while the other thrives in the countryside of New Zealand, as shown in* Whale Rider, *directed by Niki Caro (2003)—one an immigrant*

from a foreign country and the other a native Maori descendent. . . . the personalities of these two protagonists are exceedingly different. . . . In the end, the fate of two different cultures rests in the hands of two different young girls.

- **establishes and maintains a formal style and objective tone while attending to the norms and conventions of the discipline in which the student is writing.**
  - *More than 8,000 miles of land and sea separate two seemingly contrasting young women.*
  - *Both young women, influential and inspiring, search for the key to free the ones they love.*
- **provides a concluding section that follows from and supports the information or explanation presented.**
  - *In the end, the fate of two different cultures rests in the hands of two different young girls. While they both strive for freedom from oppression and change, Esperanza Cordero and Paikea Apirana have different techniques through which they reach those goals. Esperanza, a quiet and ashamed girl of 13 or 14, chooses a singular path to walk. She chooses the road she must walk alone, unaccompanied but free from patriarchal domination. While fighting to free those sitting at the window, Esperanza finds her own destiny as the change needed on Mango Street. Paikea, a strong and confident girl of 10 or 11, walks the forbidden path, the path of a chief. She chooses to defy her grandfather and all traditions in order to modernize her people. In order to save them, she must change them. Both young women, influential and inspiring, search for the key to free the ones they love.*
- **demonstrates exemplary command of the conventions of standard written English.**

Student Sample: Grade 9, Informative/Explanatory

This short constructed response was prompted by the following test question: "Explain how civil disobedience was used in the struggle for India's independence." The student had only a portion of a class period to write the response.

Civil disobedience is the refusal to follow an unjust law. Gandhi led India to independence by using civil disobedience and non-violent resistance. His motto was, "will not fight, will not comply." One of Gandhi's first acts of civil disobedience was when he refused to move to 3rd class on the train. He bought a 1st class ticket but they wouldn't let him sit there. He then got kicked off the train. This is just one example of Gandhi's enforcement of non-violent resistance. He has done many things from refusing to get off the sidewalk to being beaten for burning his pass. He figured that if he died, it would be for the right reasons. He said, "They can have my body, not my obedience." Eventually he got all of India going against Britain's unjust laws. While it took the people of India longer to realize, Gandhi proved that civil disobedience and non-violent resistance can be a more effective way of fighting back. Britain finally let India have its independence.

Annotation

The writer of this piece

- **introduces the topic.**
  - *Civil disobedience is the refusal to follow an unjust law.*
- **organizes complex ideas, concepts, and information to make important connections and distinctions.**
  - The writer presents examples to illustrate civil disobedience and nonviolent resistance.
- **develops the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
  - Details: . . . *3rd class on the train . . . 1st class ticket . . .*
  - Quotations: *His motto was, "will not fight, will not comply" . . . He said, "They can have my body, not my obedience."*
  - Examples: *One of Gandhi's first acts of civil disobedience was when he refused to move to 3rd class on the train . . . He has done many things from refusing to get off the sidewalk to being beaten for burning his pass.*
- **uses appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
  - *. . . This is just one example . . . Eventually . . . While it took the people of India longer to realize, Gandhi . . .*
- **uses precise language and domain-specific vocabulary to manage the complexity of the topic.**
  - *Civil disobedience is the refusal to follow an unjust law. . . . While it took the people longer to realize, Gandhi proved that civil disobedience and non-violent resistance can be a more effective way of fighting back.*
- **establishes and maintains a formal style and objective tone (although there are some lapses into overy colloquial language, such as *kicked off* and *figured*).**
  - *Civil disobedience is the refusal to follow an unjust law.*
- **provides a concluding statement that follows from and supports the information or explanation presented.**
  - *Eventually he got all of India going against Britain's unjust laws. . . . Britain finally let India have its independence.*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 10, Argument

This argument was produced by a student who was asked to write a persuasive essay that required research. The student generated the topic and had an opportunity to revise.

___________ School Bond Levy

The ___________ School Board has recently proposed a bond levy to add new facilities as well as conduct some major repairs to the school. The bond includes building a new gymnasium, a new science room and lab, a new Media Center/Library, new Chapter 1 and Special Education classrooms, and other facilities such as more parking space, an increase in storage area, and new locker rooms. Along with new construction, the board is proposing to remodel facilities such as the drama/music areas, the entire roof, the heating system, the school kitchen, and present gym as well. This bond allowing ___________ School to add more facilities should be passed in order for young students to be provided with a better education.

Several arguments have been brought up concerning the levy since it failed in the March election. Some say that the school doesn't need to have brand new facilities and better classrooms, but it does. Just this year the school had to shut down for days at a time as a result of a malfunction of the heating system. The roof of the library also had a leaking problem all winter long. The leaking has actually caused the ceiling tiles to rot to the point where they are having to be removed. It isn't safe to sit underneath them because, in fact, they have fallen to tables where students had been working only minutes before.

Another issue that people may be concerned with is the money that taxpayers have to put up for the building. The cost of the project in its entirety will be 2.9 million dollars, meaning that for the next 25 years, taxpayers would pay 40 cents more per thousand dollars in property tax than they do this year. The project does cost a significant amount of money, but the school needs it. If something isn't done now, then the facilities such as the library, the science room and others will continue to grow steadily worse. The construction and remodeling needs to be done eventually, so why not now, when interest rates are low and expenses are also low. Superintendent ___________ commented that it would cost the taxpayers much less money now than ten years from now. Another reason that this is a good time to pass this bond is that the results of Ballot Measure 5 are going into effect at the same time as the levy. As it stands now, property tax rates will go down another $2.50 by next year; however, if taxpayers don't mind paying what they do now and can handle a 40 cent increase, then the school can be that much better.

Many other good reasons we exist for funding this construction now. For one, better facilities will be made available to everyone: staff members, students, and community members. The new gym will allow student athletes to have earlier practices and more time for homework. With only one gym in a K–12 school system, the junior high has to practice in the morning before school, starting at 6:30 A.M., meaning that both the girls and boys teams had to practice at the same time, with half of the court for the girls half for the boys. After school, the high school girls would practice from 3:30 to 5:30 P.M. The varsity boys would then start at 5:30 or 6:00 and go until 7:30. After that, the junior varsity boys would come in for an hour and a half. It's absurd to think that student athletes can make good use of their time with a schedule like that. If the bond were to pass, both the new gym and the present gym would be used for practices and athletes wouldn't have to wait so long to practice every day.

Another reason that the gym should be built is that it is no longer adequate. The bleachers are too close to the court and so there is no room to walk by without getting in the way during a game. The gym also poses a problem for the cheerleaders. As it is now, there is no room for them to cheer. They have to stand on one of the ends which, of course, is right in the way of people walking by. If a new gym were built, enough room would be provided surrounding the court that there wouldn't be any of the problems there are now.

Another advantage to the bond proposed is that it would provide more space in the school. The school has always been small, which is in some ways nice, but it needs to expand. The lack of space is a problem because everyone is crammed into one little hallway trying to make it around from class to class. As it is, there isn't enough room for the library to just be a library or the kitchen to just be a kitchen. Students can't even go to the library when they need to because Health, Media, and other classes are held there. The Satellite Learning classroom, which shares a space with the kitchen, usually has a difficult learning atmosphere each day people prepare food for the hot lunch program. Another problem area is the current science room and lab. Lab facilities are outdated and cannot be replaced for a variety of reasons related to the plumbing and electrical systems. Both science teachers have said publicly that the chemical storage room is inadequate and unsafe. The science curriculum is a core part of students' education and they deserve good facilities.

It is clear then, that ___________ School needs significant improvements in which case the bond must be passed. As a community, education is an essential part of the future. In the past, ___________ has relied in the timber industry for employment, but times are changing and the younger generations need to be better prepared to meet the challenges that arise. For example, they need to able to take part in a variety of activities and be able to achieve in many different areas. If the school is inadequate, how can the younger generations be provided with the education and training they need to be successful in the future?

Annotation

The writer of this piece

- **introduces a precise claim, distinguishes it from alternate or opposing claims, and creates an organization that establishes clear relationships among the claim, counterclaims, reasons, and evidence.**
  - *This bond allowing ___________ School to add more facilities should be passed in order for young students to be provided with a better education.*
  - *Some say that the school doesn't need to have brand new facilities and better classrooms, but it does.*
  - *Another issue that people may be concerned with is the money that taxpayers have to put up for the building.*
- **develops the claim and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.**
  - *Just this year the school had to shut down for days.*
  - Details about the malfunction of the heating system and the falling ceiling tiles in the library support the claim that *brand new facilities and better classrooms* are needed.
  - *Another issue that people may be concerned with is the money that taxpayers have to put up for the building. The cost of the project in its entirety will be 2.9 million dollars, meaning that for the next 25 years, taxpayers would pay 40 cents more per thousand dollars in property tax than they do this year.*
  - *Superintendent ___________ commented that it would cost the taxpayers much less money now than ten years from now.*
  - *. . .* [The gym] *is no longer adequate.*
  - *The school has always been small . . .* [and] *it needs to expand.*
  - Details about the scheduling of classes in the library support the claim that the school *needs to expand.*
- **uses words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim and reasons, between reasons and evidence, and between claim and counterclaims.**
  - *The project does cost a significant amount of money, but the school needs it.*
  - *Another issue that people may be concerned with . . . Many other good reasons . . . Another reason . . .*
- **establishes and maintains a formal style and objective tone.**
  - *Another advantage to the bond proposed is that it would provide more space in the school.*
  - *It is clear then, that . . .*

- **provides a concluding section that follows from and supports the argument presented.**
  - *If the school is inadequate, how can the younger generations be provided with the education and training they need to be successful in the future?*
- **demonstrates exemplary command of the conventions of standard written English.**

Student Sample: Grade 10, Informative/Explanatory

This essay was produced for an on-demand assessment. Students were told to write about a character in a work of literature whose pride or selfishness creates problems. The abbreviated time frame of the assessment situation (and the consequent lack of opportunity to revise) explains the absence of information and quotations from researched sources and perhaps the occasional spelling errors as well.

Animal Farm

In the novel, Animal Farm, by George Orwell, there is one very particular character whose pride and selfishness creates problems. This character had just merely good ideas in the beginning. However, as time went on, his true self-interest began to shine through. This character started a free republic of animals and turned it into a plantation that used animals as slaves. He never did have enough and always wanted more, regardless of the price that others had to pay. This character whose pride and selfishness creates problems, is none other than the great leader of Animal Farm himself, comrade Napolean [Napoleon], the pig.

Comrade Napolean is a powerful authority on Animal Farm. In fact he is the leader of Animal Farm and a high strung leader at that. After Old Major died, Napolean lived upon Old Major's ideas. Napolean lead all the animals to rebellion so that Manor Farm ceized to exist, and Animal Farm was born. In the first year, he even worked the fields and helped bring in their biggest harvest ever. Little did the animals know, but he would soon change. Eventually the animals started receiving less food because Napolean needed more food to power his "large" brain. Later, he goes and runs off his successor, Snowball, so he can have the whole farm to himself. Then he stopped working the fields. He started taking young animals and selling them or using them for his own use. He stopped sleeping in the hay and slept in the farm house instead. Finally, he took away half the grain fields so he could plant barely to make himself beer. This Napolean was a power hungry, selfish individual for sure.

Being power hungry, always causes problems, and boy did Napolean cause problems. The animals had received so little food that many were starving, you could see their bones, and some even died of starvation. Nopoleans's lack of work meant the animals had to work harder, and it wasn't easy on an empty stomach. Many animals would break their legs or hoofs but would continue to work. The lack of new workers due to Napolean's selling them off, meant that nobody could retire, and one old animal even died in the fields. Snowball was a great teacher for the animals, and now that he was gone, they lacked education. Then with finally only half of the fields being productive for food, the animals starved even more and worked harder to make beer that they never saw. Not to mention that they had to sleep on a dirt floor while the lazy Napolean slept in his nice comfortable bed. His selfishness had deffinately created problems.

Napolean's experience had changed the farm drastically. He thought things were getting better while the animals knew they were only getting worse. After the rebellion, many humans disliked Animal Farm and the animals disliked humans. Nopoleans's selfish ways were much like those of a farmer. So eventually as Napolean became more "human," the town's people began to like him. Napolean could care less about his animals, just so long as he was on good terms with the humans. By the novel's end, Napolean is great friends with every human in town. However, his animal slaves are no longer happy as they once were. They still hate humans which means now, they hate Napolean. So due to Napolean's pride, the story has changed its ways from start to finish. He has turned friends into foe and foe into friends, but at great cost.

In the novel, Animal Farm, by George Orwell, Comrade Napolean is a character whose pride and selfishness creates problems. The starving animals have suffered greatly because of their leader's pride. On the other hand, Napolean has gained great success through his selfishness. Unfortunately, that's just the way it is. You can't have pride without problems. Even if they are little problems, it's still due to pride. Now, if Napolean had pride in his farm rather than in himself, well then maybe the humans would've hated him, but he'd still has his true friends of four legs. However, he chose to follow a different path and he burned those bridges along the way. So for now, Comrade Napolean's pride and selfishness has created problems for the animals, but someday, it will create problems for himself.

Annotation

The writer of this piece

- **introduces the topic.**
    - *In the novel, Animal Farm, by George Orwell, there is one very particular character whose pride and selfishness creates problems. . . . This character whose pride and selfishness creates problems, is none other than the great leader of Animal Farm himself, comrade Napolean [Napoleon], the pig.*
- **organizes complex ideas, concepts, and information to make important connections and distinctions.**
    - The organization of the explanation is mostly chronological. The writer focuses on how Napoleon changes over time, how he becomes *power hungry,* and *selfish,* and eventually *"human."* The writer describes the problems that Napoleon's changing nature creates.
- **develops the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
    - Details: *In the first year, he* [Napoleon] *even worked the fields and helped bring in their* [the animals'] *biggest harvest ever. . . . Not to mention that they had to sleep on a dirt floor while the lazy Napolean slept in his nice comfortable bed.*
    - Examples: *. . . nobody could retire, and one old animal even died in the fields.*
- **uses appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
    - *In the novel, Animal Farm, by George Orwell, there is one very particular character whose pride and selfishness creates problems. This character had just merely good ideas in the beginning.*
    - *In the novel . . . In fact . . . In the first year . . . Eventually . . . Being power hungry . . . Not to mention . . . On the other hand . . .*
- **uses precise language and domain-specific vocabulary to manage the complexity of the topic.**
    - *In the novel, Animal Farm, by George Orwell, there is one very particular character whose pride and selfishness creates problems. . . . This character started a free republic of animals and turned it into a plantation that used animals as slaves.*
- **establishes and maintains a formal style and objective tone (with the exception of . . . *and boy did Napolean cause problems*).**
    - *In the novel, Animal Farm, by George Orwell, there is one very particular character whose pride and selfishness creates problems. . . . Comrade Napolean's pride and selfishness has created problems for the animals, but someday, it will create problems for himself.*
- **provides a concluding section that follows from and supports the information or explanation presented.**
    - *In the novel, Animal Farm, by George Orwell, Comrade Napolean is a character whose pride and selfishness creates problems. The starving animals have suffered greatly because of their leader's pride. On the other hand, Napolean has gained great success through his selfishness. Unfortunately, that's just the way it is. You can't have pride without problems. Even if they are little problems, it's still due to pride. Now, if Napolean had pride in his farm rather than in himself, well then maybe the humans would've hated him, but he'd still has his true friends of four legs. However, he chose to follow a different path and he burned those bridges along the way. So for now, Comrade Napolean's pride and selfishness has created problems for the animals, but someday, it will create problems for himself*
- **demonstrates command of some aspects of the conventions of standard written English (yet displays several errors in spelling and other mechanics).**

Student Sample: Grade 11, Informative/Explanatory

The essay that follows was written in response to this assignment: "Reflection Topic #3: Pride and Acceptance. Wright struggles to find his 'place' in society. He refuses to forgo his morality and beliefs to conform to the status quo. Examine Wright's pride. Find examples in the text that demonstrate the influence pride has on Wright's actions. How does his pride influence his decisions? Is pride a positive or negative influence in Wright's life? How does Wright's pride affect how his family members treat him?" Students had one week to complete this assignment. The maximum length allowed was three pages.

Marching to His Own Beat

Pride is often criticized by society and habitually seen as a negative characteristic evoking such connotations as conceit, egotism, arrogance, and hubris. In Richard Wright's struggle to find his "place" in society in Black Boy, pride has both negative and positive connotations. Despite the negative consequences, pride allows Wright to maintain his moral compass, oppose conformity, and pursue his passion of writing, thus demonstrating pride's positive influence on Wright's life.

Wright's pride prompts him to make principled decisions and carry out actions that illustrate his morality and inherent beliefs. Wright refuses to neglect his values and chooses right over wrong even when he recognizes that failure to adhere to what is expected of him will ultimately result in negative and often violent consequences. When he receives the title of valedictorian and refuses to read the speech prepared for him by his principal, choosing instead to present his own speech in spite of the threat of being held back, Wright's pride is demonstrated. Although he comprehends the consequences and the gravity of his decision, Wright refuses to compromise his beliefs: "I know that I'm not educated, professor . . . But the people are coming to hear the students, and I won't make a speech that you've written" (174). Though urged by his family members and his classmates to avoid conflict and to comply with the principal's demand, Wright refuses because he does not believe it is the morally correct thing to do. Even though his pride is negatively perceived by his peers and relatives as the source of defiance, they fail to realize that his pride is a positive factor that gives him the self confidence to believe in himself and his decisions. Wright's refusal to acquiesce to his family's ardent religious values is another illustration of his pride. Wright is urged by his family and friends to believe in God and partake in their daily religious routines; however, he is undecided about his belief in God and refuses to participate in practicing his family's religion because "[His] faith, such as it was, was welded to the common realities of life, anchored in the sensations of [his] body and what [his] mind could grasp, and nothing could ever shake this faith, and surely not [his] fear of an invisible power" (115). He cannot put his confidence into something unseen and remains unwavering in his belief. Pride allows Wright to flee from the oppressive boundaries of expectations and to escape to the literary world.

Wright's thirst and desire to learn is prompted by his pride and allows him to excel in school and pursue his dreams of becoming a writer. The reader observes Wright's pride in his writing when he wrote his first story. Pleased with his work, he "decided to read it to a young woman who lived next door . . . [He] looked at her in a cocky manner that said: . . . I write stuff like this all the time. It's easy" (120-121). This attitude of satisfaction permits Wright to continue to push himself to improve and pursue his craft. Pride eventually leads Wright to submit his work to the local newspaper; his obvious pride in his work is clearly portrayed when he impatiently tells the newspaper editor, "But I want you to read it *now*" (165) and asks for his composition book back when he does not immediately show interest in his story. Pride in his academic achievements motivates him to excel in his studies; after Wright advanced to sixth grade in two weeks, he was elated and thrilled at his astonishing accomplishment: "Overjoyed, I ran home and babbled the news . . . I had leaped a grade in two weeks, anything seemed possible, simple, easy" (125). Wright's pride in his intelligence and studies allows him to breeze through school: "I burned at my studies . . . I read my civics and English and geography volumes through and only referred to them in class. I solved all my mathematical problems far in advance" (133). Pride provides him with the self-confidence and contentment that his family and society fail to give him. It removes Wright from both the black culture and the white culture and moves him rather to the "art culture", in which Wright can achieve higher than what is anticipated of him.

Wright's ability to oppose conformity and forego the status quo also stems from his pride. Pride propels him to assert himself even if it defies what is expected of him as a black individual. Upon telling one of his old employers, a white woman, that he wants to be a writer, she indecorously scoffs at him and makes an impudent remark "You'll never be a writer . . . Who on earth put such ideas into your . . .

head?" (147). This remark causes him to almost immediately quit his job; Wright remarks, "The woman had assaulted my ego; she had assumed that she knew my place in life . . . what I ought to be, and I resented it with all my heart" (147). Wright's refusal to simply go along with what is expected of him, thoroughly disappoints and aggravates his family and society, yet his pride has a positive influence on his life; pride allows Wright to not only remove himself from the boundaries of the black vs. white society and the insidious effect of racism but it also sets Wright free from the constraints of acceptance. Pride ultimately frees Wright to pursue his passion and identify himself not as a black or white person but rather as a "writer".

In Wright's struggle to overcome the overwhelming expectations he is faced with by society, pride puts him at odds with his family and society but ultimately serves as a positive influence, allowing him to withstand conformity and escape the status quo. This attitude allows Wright to maintain his moral compass, believe in his self worth, and pursue his passion. Pride is more than pure arrogance and haughtiness. To Wright, pride is something far greater; pride is the characteristic that gives him the strength to march to his own beat; to the beat of the literary world.

Annotation

The writer of this piece

- **introduces a topic.**
    - *Pride is often criticized by society and habitually seen as a negative characteristic evoking such connotations as conceit, egotism, arrogance, and hubris. In Richard Wright's struggle to find his "place" in society in* <u>*Black Boy*</u>*, pride has both negative and positive connotations. Despite the negative consequences, pride allows Wright to maintain his moral compass, oppose conformity, and pursue his passion of writing, thus demonstrating pride's positive influence on Wright's life.*
- **organizes complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole.**
    - In separate paragraphs, the writer organizes the body of his text to provide examples of the ways in which Wright's pride allows him *to maintain his moral compass, oppose conformity, and pursue his passion of writing.*
- **develops the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
    - Examples: *When he receives the title of valedictorian and refuses to read the speech prepared for him by his principal, choosing instead to present his own speech in spite of the threat of being held back, Wright's pride is demonstrated.*
    - Quotations: *Although he comprehends the consequences and the gravity of his decision, Wright refuses to compromise his beliefs: "I know that I'm not educated, professor . . . But the people are coming to hear the students, and I won't make a speech that you've written" (174).*
    - Details: *. . . after Wright advanced to sixth grade in two weeks, he was elated and thrilled at his astonishing accomplishment . . . Upon telling one of his old employers, a white woman, that he wants to be a writer, she indecorously scoffs at him and makes an impudent remark . . .*
- **integrates selected information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.**
    - Using a standard format, the writer uses quotations selectively to illustrate examples of pride's positive influence on Wright's life: (e.g., *The reader observes Wright's pride in his writing when he wrote his first story. Pleased with his work, he "decided to read it to a young woman who lived next door . . . [He] looked at her in a cocky manner that said: . . . I write stuff like this all the time. It's easy" (120-121).*

- **uses appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
    - *. . . In Richard Wright's struggle . . . When he receives the title of valedictorian . . . Although . . . Though urged by his family members . . . Even though . . . however . . . The reader observes . . . This attitude of satisfaction . . . Upon telling one of his old employers . . . This remark causes him . . . In Wright's struggle to overcome the overwhelming expectations he is faced with by society . . .*
- **uses precise language and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.**
    - *. . . moral compass . . . principled decisions . . . valedictorians . . . the consequences and gravity of his decision . . . obvious pride . . . excel in his studies . . . thoroughly disappoints and aggravates . . .*
    - *. . . march to his own beat; to the beat of the literary world.*
- **establishes and maintains a formal style and objective tone while attending to the norms and conventions of the discipline in which the student is writing.**
    - *Pride is often criticized by society and habitually seen as a negative characteristic evoking such connotations as conceit, egotism, arrogance, and hubris . . . To Wright, pride is something far greater: pride is the characteristic that gives him the strength to march to his own beat; to the beat of the literary world.*
- **provides a concluding section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).**
    - *In Wright's struggle to overcome the overwhelming expectations he is faced with by society, pride puts him at odds with his family and society but ultimately serves as a positive influence, allowing him to withstand conformity and escape the status quo. This attitude allows Wright to maintain his moral compass, believe in his self worth, and pursue his passion. Pride is more than pure arrogance and haughtiness. To Wright, pride is something far greater: pride is the characteristic that gives him the strength to march to his own beat; to the beat of the literary world.*
- **demonstrates exemplary command of the conventions of standard written English.**

Student Sample: Grade 11, Informative/Explanatory

The essay that follows was written in response to an extra credit assignment in an anatomy and physiology class. Students were asked to summarize key points about a topic from given information and from their own research on the Internet and to explain how the topic was relevant to their future. A list of sources was not required in the assignment.

Summary of Key Points

For many years, scientists and researchers weren't able to examine normal, healthy brains. They only got brain data from autopsies and surgeries. Even so, they were able to learn a lot about how the brain functioned because when people suffered brain damage to parts of the brain, they could see what functions were impaired and know the parts of the brain that were responsible for that function. MRI technology has changed that because now scientists can examine healthy brains at all stages of development, including getting functional results that show areas of the brain that "light up" while performing tasks. Therefore, scientists are now able to measure how the brain works.

95% of the brain has been formed by age 6, but through MRI studies researchers now know that changes in the brain structure continue to occur late in child development. The prefrontal cortex has a growth spurt just before puberty and then prunes back in adolescence. This part of the brain is responsible for reasoning, controlling impulses, and making judgments. The growth and pruning is a very important stage of brain development, so when this second wave is happening teen's activities can affect how their brain responds for the rest of their lives.

Researchers have found waves of growth and change in other parts of the brain as well, including the corpus callosum and the cerebellum. The corpus callosum influences language learning, and the cerebellum helps physical coordination and is also used to process mental tasks and higher thought such as math, philosophy, decision-making, etc.

This recent research has confirmed what scientists have known for many years . . . that different parts of the brain mature at different times. However, the brain is much more changeable than previously thought, with structural changes taking place into adolescence and beyond. Knowing more about the brain's structure is only one piece of the puzzle. Much more research is needed to draw conclusions about how the brain structure and function directly cause behavior.

Conclusion:

MRI technology has enabled researchers to learn much more about the brain's growth and development. They have learned that parts of the brain, such as the pre-frontal cortex, an area of the brain that controls reasoning and judgment, goes through a second growth spurt just before puberty, and that this helps to explain why teenagers begin to have more control over their impulses and are able to make better judgments. Additionally, scientists have been able to confirm that some brain characteristics are genetic, and others are affected by environmental factors. Confirming that different parts of the brain mature at different times and that the brain has structural changes through adolescence is very important, but there is a great deal more research that needs to be done to learn about how brain structure and function relate to behavior.

How is this article relevant to my future?

Knowing more about the brain and how it influences behavior will have a major impact on how children and teenagers are raised and educated. For example, one of the researchers, Giedd believed that the growth and pruning can happen at a time of brain development when the actions of teenagers can affect them the rest of their lives, his "use it or lose it principle." This is the time when music or academic development could be "hardwired." This theory puts more emphasis on parents to make sure their teens have the right focus and guidance. Most parents already believe in a basic approach to raising and educating their children, but this research could lead to a very specific timetable and a do and don't guide to child development, making sure that their child is exposed to the appropriate factors at the right time.

Annotation

The writer of this piece

- **introduces a topic.**
  - *For many years, scientists and researchers weren't able to examine normal, healthy brains. They only got brain data from autopsies and surgeries. Even so, they were able to learn a lot about how the brain functioned because when people suffered brain damage to parts of the brain, they could see what functions were impaired and know the parts of the brain that were responsible for that function. MRI technology has changed that because now scientists can examine healthy brains at all stages of development, including getting functional results that show areas of the brain that "light up" while performing tasks. Therefore, scientists are now able to measure how the brain works.*
- **organizes complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole.**
  - *95% of the brain has been formed by age 6, but through MRI studies researchers now know that changes in the brain structure continue to occur late in child development. The prefrontal cortex has a growth spurt just before puberty and then prunes back in adolescence . . . Researchers have found waves of growth and change in other parts of the brain as well, . . . This recent research has confirmed what scientists have known for many years . . . that different parts of the brain mature at different times.*
- **develops the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
  - Details: *95% of the brain has been formed by age 6 . . .*
  - Facts: *The corpus callosum influences language learning, and the cerebellum helps physical coordination and is also used to process mental tasks and higher thought . . .*
  - Examples: *They have learned that parts of the brain, such as the pre-frontal cortex, . . .*
- **uses appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
  - *For many years . . . Even so . . . Therefore . . . other parts of the brain as well . . . This recent research . . . However, . . . Knowing more about the brain's structure . . . Additionally, . . . Confirming that different parts of the brain mature at different times and that the brain has structural changes through adolescence is very important, but . . . .For example . . . This theory . . .*
- **uses precise language, domain-specific vocabulary (when appropriate), and techniques such as metaphor, simile, and analogy to manage the complexity of the topic (though sometimes important concepts, notably *pruning*, go undefined).**
  - *. . . data . . . autopsies . . . surgeries . . . MRI technology . . . prefrontal cortex . . . growth spurt . . . corpus callosum . . . cerebellum . . . puberty . . .*
  - *This is the time when music or academic development could be "hardwired."*
- **establishes and maintains a formal style and objective tone while attending to the norms and conventions of the discipline in which the student is writing.**
  - *For many years, scientists and researchers weren't able to examine normal, healthy brains . . . Most parents already believe in a basic approach to raising and educating their children, but this research could lead to a very specific timetable and a do and don't guide to child development, making sure that their child is exposed to the appropriate factors at the right time.*
- **provides a concluding section that follows from and supports the information or explanations presented (e.g., articulating implications or the signifigance of the topic).**
  - *Knowing more about the brain and how it influences behavior will have a major impact*

on how children and teenagers are raised and educated. For example, one of the researchers, Giedd believed that the growth and pruning can happen at a time of brain development when the actions of teenagers can affect them the rest of their lives, his "use it or lose it principle." This is the time when music or academic development could be "hardwired." This theory puts more emphasis on parents to make sure their teens have the right focus and guidance. Most parents already believe in a basic approach to raising and educating their children, but this research could lead to a very specific timetable and a do and don't guide to child development, making sure that their child is exposed to the appropriate factors at the right time.

- **demonstrates good command of the conventions of standard written English.**

Student Sample: Grade 12, Argument

This essay on dress codes was written for a university/college placement assessment. Two different perspectives on an issue (whether or not dress codes should be adopted in school) were provided in the prompt, and students were advised to either support one of the two points of view given or present a different point of view on the issue. The students were allowed thirty minutes to write.

I believe that it would be beneficial for our schools to adopt dress codes. Although some may argue that this action would restrict the individual student's freedom of expression, I do not agree. Our right to express ourselves is important, but in our society none of us has unrestricted freedom to do as we like at all times. We must all learn discipline, respect the feelings of others, and learn how to operate in the real world in order to be successful. Dress codes would not only create a better learning environment, but would also help prepare students for their futures.

Perhaps the most important benefit of adopting dress codes would be creating a better learning environment. Inappropriate clothing can be distracting to fellow students who are trying to concentrate. Short skirts, skimpy tops, and low pants are fine for after school, but not for the classroom. T-shirts with risky images or profanity may be offensive to certain groups. Students should espress themselves through art or creative writing, not clothing. With fewer distractions, students can concentrate on getting a good education which can help them later on.

Another benefit of having a dress code is that it will prepare students to dress properly for different places. When you go to a party you do not wear the same clothes you wear to church. Likewise, when you dress for work you do not wear the same clothes you wear at the beach. Many professions even require uniforms. Having a dress code in high school will help students adjust to the real world.

Lastly, with all the peer pressure in school, many students worry about fitting in. If a dress code (or even uniforms) were required, there would be less emphasis on how you look, and more emphasis on learning.

In conclusion, there are many important reasons our schools should adopt dress codes. Getting an education is hard enough without being distracted by inappropriate t-shirts or tight pants. Learning to dress for particular occasions prepares us for the real world. And teens have enough pressure already without having to worry about what they are wearing.

Annotation

The writer of this piece

- **introduces a precise, knowledgeable claim.**
    - *I believe that it would be beneficial for our schools to adopt dress codes.*
- **establishes the significance of the claim, distinguishing the claim from alternate or opposing claims.**
    - *Although some may argue that this action would restrict the individual student's freedom of expression, I do not agree. Our right to express ourselves is important, but in our society none of us has unrestricted freedom to do as we like at all times. We must all learn discipline, respect the feelings of others, and learn how to operate in the real world in order to be successful.*
- **creates an organization that logically sequences claim, counterclaims, reasons, and evidence.**
    - *I believe that it would be beneficial for our schools to adopt dress codes. Although some may argue . . . Perhaps the most important benefit . . . Another benefit . . . Lastly . . . In conclusion . . .*
- **develops the claim and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both (though the evidence provided is limited by the constraints of an on-demand assessment).**
    - *Perhaps the most important benefit of adopting dress codes would be creating a better learning environment. Inappropriate clothing can be distracting to fellow students who are trying to concentrate.*

- *Another benefit of having a dress code is that it will prepare students to dress properly for different places. When you go to a party you do not wear the same clothes you wear to church.*
- *If a dress code (or even uniforms) were required, there would be less emphasis on how you look, and more emphasis on learning.*

- **develops the claim in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.**
    - The writer addresses an unknown adult audience likely to appreciate values such as *discipline*, *respect* [for] *the feelings of others*, and *the creation of a better learning environment*.
- **uses words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim and reasons, between reasons and evidence, and between claim and counterclaims.**
    - *Although some may argue . . . Perhaps the most important benefit . . . With fewer distractions . . . Another benefit . . . When . . . Likewise . . . If a dress code (or even uniforms) were required . . . Lastly . . . In conclusion . . .*
- **establishes and maintains a formal style and objective tone.**
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 12, Argument

This essay was produced in a two-hour-long college placement exam. Students first read a passage of approximately a thousand words titled “In Praise of Boredom.” The passage was adapted from an essay published by Ellen Ruppel Shell in 2000. Students were then asked to respond to Shell’s views, drawing on anything else they had previously read, their observations, and/or their experiences.

Freedom From Structure

Children are blank slates that are subject to the environment around them. Allowing a child to interact with their surroundings is difficult for adults because it leaves each decision, and each consequence of that decision, up to them. Ellen Ruppel Shell believes that children miss out on experimenting and discovering aspects of the world that cannot be taught in a classroom or read about in a book. I agree that children can learn many important lessons about social interaction and the products of creativity by playing on their own, or with other children, in a free and open environment.

To relieve the inevitable boredom that every child eventually encounters, they can nourish their creative minds by playing alone. As a child, I was content to sometimes play by myself in a land of make-believe. If it was cold and rainy outside, I would pretend it was the middle of summer. Night became day, my bedroom became a kingdom, my bed was a castle, my floor was a mote, and I was a princess. Playing “let’s pretend” allowed me to imagine and create my own world when reality seemed too mundane. “Boredom leads to exploration, which leads to creativity,” and nothing is more creative than a world that exists in the mind of a child.

There are endless opportunities for parents to stimulate and teach their kids that come with instructions and rules and boundaries, but I agree with Shell when she declares that “the best play is spontaneous and unpredictable.” Plain and simple freedom is invaluable, and we are only so free as children. As we grow up, our minds become molded around society’s rules and we learn to conform to a certain way of thinking and creating. If adults see a soccer ball, they will only think of how to play soccer. If children see a soccer ball they will immediately create their own rules and proceed with an entirely different game. The ability to be spontaneous and imaginative is strongest in children because they know nothing else. Adults and parents that bombard their kids with structured activities are wasting the unique and innate ability of children to create; however, a parent’s reasoning for such structure is not unsupported.

There are many life lessons that can be difficult to learn on your own, so adults establish controlled environments for their children to learn about the world. For example, making new friends can be an awkward and terrifying process for kids, so parents will try to make friends for their children. What most adults don’t realize is that they are robbing their child of a chance to open up and reach out to another person. The kid they meet on the jungle gym will be more beneficial to them than the kid their parent forced them to play with. “We don’t believe that they can navigate the world, so we try to navigate it for them.” Shell believes that adults need to trust their kids to discover the world for themselves and that it’s just as important for them to fail as it is for them to succeed.

For children, it’s not about the final product, it’s how they get there. When forced to follow rules and obey boundaries, kids are not given the opportunity to use their imagination. I agree with Shell and I believe that it is more beneficial for children to make believe, be spontaneous, and discover as much as they can about the world for themselves.

Annotation

The writer of this piece

- **introduces a precise, knowledgeable claim.**
    - *I agree that children can learn many important lessons about social interaction and the products of creativity by playing on their own, or with other children, in a free and open environment.*

- **establishes the significance of the claim, distinguishing the claim from alternate or opposing claims.**
  - *Allowing a child to interact with their surroundings is difficult for adults because it leaves each decision, and each consequence of that decision, up to them.*
- **creates an organization that logically sequences claim, counterclaims, reasons, and evidence.**
  - *I agree that children . . . they can nourish their creative minds by playing alone. . . . As a child, I was . . . but I agree with Shell when she declares . . . As we grow up . . . There are many life lessons that can be difficult to learn on your own . . . What most adults don't realize . . . For children, it's not about the final product . . . I agree with Shell and I believe . . .*
- **develops the claim and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both.**
  - *Allowing a child to interact with their surroundings . . . leaves each decision, and each consequence of that decision, up to them.*
  - *Ellen Ruppel Shell believes that children miss out on experimenting and discovering aspects of the world that cannot be taught in a classroom or read about in a book.*
  - *. . . they can nourish their creative minds by playing alone.*
  - *There are many life lessons that can be difficult to learn on your own, so adults establish controlled environments for their children to learn about the world.*
  - *When forced to follow rules and obey boundaries, kids are not given the opportunity to use their imagination.*
- **develops the claim in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.**
  - *. . . making new friends can be an awkward and terrifying process for kids, so parents will try to make friends for their children. What most adults don't realize is that they are robbing their child of a chance to open up and reach out to another person.*
- **uses words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim and reasons, between reasons and evidence, and between claim and counterclaims.**
  - *As a child . . . As we grow up . . . For example . . .*
  - *To relieve the inevitable boredom that every child eventually encounters, they can nourish their creative minds by playing alone. As a child, I was content to sometimes play by myself in a land of make-believe. . . . "Boredom leads to exploration, which leads to creativity," and nothing is more creative than a world that exists in the mind of a child.*
  - *There are endless opportunities for parents to stimulate and teach their kids that come with instructions and rules and boundaries, but I agree with Shell when she declares that "the best play is spontaneous and unpredictable."*
- **provides a concluding statement that follows from and supports the argument presented.**
  - *I agree with Shell and I believe that it is more beneficial for children to make believe, be spontaneous, and discover as much as they can about the world for themselves.*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 12, Informative/Explanatory

The essay that follows was written for an Advanced Placement U.S. history class. The student had unlimited time to write and likely received feedback and instructional support while creating the essay.

In the Wake of the Spanish Lady:
American Economic Resilience in the Aftermath of the Influenza Epidemic of 1918

Whatever does not kill me makes me stronger.[1]
—Friedrich Nietzsche

America in the years leading up to 1918 was as confident in its medical ability as it had ever been. In only one century, it had seen the successful vaccination, containment, or cure for the notorious menaces of smallpox, anthrax, rabies, meningitis, typhoid, malaria, yellow fever, diphtheria, cholera, and tetanus.[2] Due to the new strides in bacteriology, germ theory, and sanitation, as well as new methods devised to control food-, water-, and insect-borne diseases, Americans were experiencing an era of unprecedented health. Whereas in all previous wars, more American soldiers were lost to disease than in action, American troops in World War I saw an all-time low in the number of deaths due to disease. Army camp inspections, carried out by William Henry Welch, the respected doctor and assistant to the Army Surgeon General, revealed that, though camps were overcrowded, "the health of the army proved to be as good as any reasonable doctor could expect."[3] Unfortunately, the new light that had been shed on disease control did not apply to air-borne viruses. Because neither antibiotics nor a way to control the spread of air-borne diseases had been invented yet, America was as vulnerable to the deadly grip of influenza that would befall it in 1918 as Medieval Europe had been to the Bubonic Plague of the 14th century.

More people died of the Spanish Flu in the 10 months that it devastated the world than had died of any other disease or war in history. A commonly cited estimate of deaths is 21 million worldwide, yet prominent demographer Kingsley Davis estimates that the disease killed approximately 20 million in the Indian subcontinent alone.[4] The actual number of deaths will never be known, but the modern estimate is somewhere between 50 and 100 million.[5] If an equal percentage of the world population died today, that would be close to 2 billion victims.[6] A bare minimum of 550,000 Americans, or .5 percent of the American population, died in the apocalyptic pandemic.[7] Yet, due to some historical and demographic particulars of the 1918 flu, the American economy—which nearly collapsed in some areas during the outbreak—was not crippled in any lasting way.

The flu is not generally thought of as a killer. Instead, it is perceived as a pesky annual virus, slightly more troublesome than the common cold, but nothing serious. In reality, the average yearly flu is an extremely virulent disease, infecting anywhere from 30 to 60 million Americans annually, of whom about 36,000 die (usually the very old or the very young.)[8] It mutates so frequently that humans are never fully immune to it, so a yearly vaccine must be produced to counteract it, whereas most viruses require only one vaccination in a lifetime.[9] The killer flu of 1918, dubbed the Spanish Flu or the Spanish Lady, was a particularly deadly mutation of this influenza virus.[10] In comparison to the .1 percent of infected who die of the annual flu, it killed 2.5 percent of those who contracted it.[11] This mutation had a propensity to cause pneumonia, untreatable at the time, and clogged its victims' lungs with bloody sputum until their faces turned dark purple and they died of suffocation.[12]

The origins of the Spanish Flu are uncertain, but most experts believe that the first wave in the U.S. emerged in Fort Riley, Kansas, on March 11, 1918, when one of the men came down with a milder form of the mysterious illness.[13] As of the next day, 414 soldiers had contracted the virus, and by the end of the week at least 500 were sick.[14] In total, 48 men died from the first influenza-pneumonia strain by the time it had run its course in the camp—too low a number to merit any concern in the medical community in 1918.[15] Even though the virus struck at least 13 other military camps, there was sparse evidence that civilians were similarly affected, and, besides, disease was a fact of life in any military camp.[16] So, little attention was directed to the budding pandemic. America instead focused on the new draft calls, the war in Europe, the suffragette movement, and the Bolshevik tumult in Russia, while ignoring the mild outbreak of a hard-to-identify flu.[17]

As expected, the flu subsided quickly with a forgettable number of casualties. Unforeseen, however, was the deadlier second wave that would emerge that August to explode in September with unprecedented virulence. Influenza viruses thrive in cold, dry weather, which is why flu season tends to be during the winter.[18] The fact that it exploded like it did in August, which is neither cold nor dry, makes this flu remarkable. The epidemic first struck Camp Devens, an overcrowded military camp thirty miles from Boston, on September 8 after brewing in Europe for about a month.[19] From there, it spread to the rest of the United States in an unsettlingly erratic manner, hitting most of the East coast, then some of the Midwest and the Gulf Coast region, then the West coast, and ultimately striking the interior.[20] Although at times slow in reaching certain regions, the Spanish Flu was horrifyingly thorough in its damages.

Nearly every city in the United States was affected economically by the flu in the short-term. In many places, the workforce was paralyzed because 21-to-29-year-olds suffered the greatest casualties.[21] So many people died at uncommonly young ages that the average life expectancy dropped 12 years, from 51 in 1917 to 39 in 1918.[22] Whether or not the infected had been young, healthy, and robust prior to contracting the flu was of little consequence. The military, which consisted of a particularly young, healthy, and robust demographic, was hit the hardest of any social group in America: 40 percent of the Navy and 36 percent of the Army developed the flu in 1918.[23] With victims' average age being 33, the volume of death claims by flu victims blind-sided the life insurance companies.[24] One life insurance company handled $24 million worth of unanticipated death claims for 68,000 deaths.[25] The fact that the majority of victims were in the prime of their lives defied actuarial projections, confusing insurance companies, destroying families, and disrupting the economy at large.

In the most severe stages of the flu, the "essential services" of cities verged on collapse as policemen, firemen, garbage collectors, telephone operators, and even the doctors, nurses, and social workers who were struggling to fight the flu, were absent from work.[26] The Bureau of Child Hygiene strove to handle an overwhelming population of orphans as the fathers and mothers of America, those in the most vulnerable age-range, were decimated by influenza.[27] Employment standards plummeted, the only requirement in some places being "two hands and willingness to work."[28] Worst off of any "essential service" were the processors of the dead. As morgues filled up, in some places with bodies stacked three and four high, corpses accumulated in the streets, spreading bacteria and the residual influenza virus.[29] In some situations, the dead were left untended, festering in their homes for days.[30] The primary emergency during the flu was in these "essential services," which could not have held out much longer than they did. While those services continued functioning, even at a minimal level, the rest of the economy was able to rebound to normal capacity within three years, the "Roaring Twenties" as evidence of this resilience. Despite the chaos, the nation persisted.

In *The Review of Economic Statistics* of December 1919, the year 1919 was deemed a "year of readjustment," one in which the United States was healing from the tensions of 1918.[31] According to the article, in 1918, "industries were straining their energies to meet the unusual demands occasioned by the war," yet it should be noted that the strain was also partially due to the Spanish Flu.[32] In one county in West Virginia, during the fall of 1918, the three months of flu had left 6,000 ill, of whom 500 died.[33] This sapped the county economy to near-collapse as 80 percent of the labor force fell ill.[34] Coupled with the large population overseas for the war, situations like this compromised cities across the nation, especially with Surgeon General of the Army William Crawford Gorgas shipping thousands of America's fittest young doctors and nurses to Europe, where he believed they were most necessary.[35] The doctors and nurses who continued to serve at home, like many of the civilians who remained, were generally too old, or too young, or too disabled to adequately respond to the Spanish Flu.[36]

When the epidemic reached cities with a deficient work force and incompetent, sparse medical care, the critical damage to the economy was compounded by restrictive public health ordinances. In an effort to restrict exposure to the virus, the Surgeon General had issued public health ordinances that prohibited most public gatherings and required gauze masks to be worn at all times.[37] In Philadelphia alone, it is estimated that theaters, cinemas, and hotels lost $2 million to the flu from the ordinances, while saloons lost $350,000.[38] These ordinances turned out to be fairly pointless: even in places that strictly adhered to the recommendations of the Surgeon General the case and death rates were no lower than those in lenient cities.[39] On a smaller scale, tobacco sales dropped off about 50 percent in places that strictly required cotton face masks because men could not smoke while wearing masks.[40] These masks turned out to be completely ineffective, because the weave of the gauze proved too porous to stop a virus, usually a tiny sphere with a diameter of about 1/10,000 of a millimeter.[41] The futile public health ordinances and gauze masks temporarily damaged business during the flu crisis, yet the economy rebounded.

When contagious diseases attack a society, it tends to hit the poorest sector of economy the hardest. One of the reasons for this is that they are more prone to infect people who have cramped living quarters, poor hygiene, inadequate water and food supplies, and exposure to parasites—some of the consequences of poverty.[42] Because the working class would be disproportionately affected by disease, the work force would be disproportionately affected by disease, the work force would be disproportionately diminished in the lowest-paying, most essential jobs during an epidemic. By contrast, the Spanish Flu, being an air-borne disease (and thus not preventable through good hygiene and health), affected all sectors of the economy equally. It killed vast numbers of people, but, as noted by historian Alfred W. Crosby, it "ignored the differences between rural and urban, patrician and peasant, capitalist and proletarian, and struck them all down in similar proportions."[43] Because it was so unbiased in its selection, no social hierarchies were overturned, nor were any particular divisions of employment gutted of laborers. Influenza's only prejudice was that it ravaged the young, healthy age-range—something fairly irrelevant to economic status—and thus the only long-term economic imbalance was proportional: there were fewer people to work and fewer people sharing in the wealth.

Although the Spanish Flu killed a lower percentage of the population than it affected and lasted for a shorter period of time, the economic benefits of the epidemic can be compared to those of the Black Death. One of the peculiar positive effects of the Black Death, according to historian Norman Davies, was that it marked "the decisive point in the decline of the feudal system in Western Europe."[44] Although social upheaval may have already been gaining momentum, the deadly epidemic that killed approximately one-third of Europe allowed formerly impoverished and powerless serfs to assert their independence.[45] With an absence of competition in the work force and a high demand for menial labor, serfs were able to gain comparative economic freedom with rising pay.[46] This escalation of the price of labor and goods during the plague is echoed in the aftermath of the Spanish Flu epidemic. *The Review of Economic Statistics* of December 1919 observes the post-influenza wage inflation, noting that the "efficiency of labor, unfortunately, has not materially improved and is still generally below the pre-war level," yet "rates of wages have remained high during 1919 and have continued to rise rather than decline."[47] *The Review* also remarks on the oddity that "unemployment has not developed, in spite of the demobilization of the army; and in many sections labor is still reported to be scarce."[48] The unusually high wages and low labor supply despite the re-absorption of troops into the work force could be attributed to the fact that so many people had succumbed to the pandemic on the home front that the re-entry of troops had normalized, rather than overwhelmed, the labor market.

In the years following 1918, the influenza pandemic, though surely seared in the memories of those it personally affected, quickly subsided from national consciousness.[49] Even during the epidemic, the flu was rarely mentioned in the papers or truly noticed on a national level. As noted by Crosby, "*The Reader's Guide to Periodical Literature*, 1919-1921 has 13 inches of column space devoted to citations of articles about baseball, 20 inches to Bolshevism, 47 to Prohibition, and 8 inches to the flu."[50] As the United States emerged victorious from the devastations of World War I, the brief but deadly nightmare of the Spanish Flu was lost to the national memory. The war had put pressure on Americans to sacrifice as much as possible: the government urging people to grow what food they could, eat less meat and fewer luxury foods, buy war bonds, and serve in the army as required by the draft. Wartime America was dealing with death on a regular basis as the war casualties continued to grow, ultimately reaching approximately 117,000 deaths—about 53,000 in battle, the remainder due to disease.[51] With such a high proportion of war losses due to disease and the influenza deaths accompanying the hardships on the home front, the flu must have seemed so intricately enmeshed in the reality of war that it became unremarkable.

After the war had ended and the flu had essentially run its course in most places, the thrifty attitudes about consumption enforced by the war effort and the strict public health ordinances were immediately discarded. Americans had a brief attention span for such restrictions—they were only heeded during the war for patriotic reasons or in the midst of a deadly, dramatic pandemic. *The Review of Economic Statistics* of December 1919 remarked that "extravagant expenditure, both public and private, is found on every hand."[52] San Franciscans—who endured the worst hit of the Spanish Flu on the West Coast—had complied with the October-November 1918 masking ordinance that had required gauze masks be worn at all times.[53] Yet, a mid-December masking recommendation of that same year met the fierce opposition of 90 percent of the city and was struck down by the San Francisco Board of Supervisors.[54] The intolerance for what were thought at the time to be potentially life-saving health measures reflects the prevalent mood at the time of impatience with inconvenience that trumped even fear of death.

Perhaps the Spanish Flu would have drawn more attention if only it had left the scar of a long depression in its wake. Yet, after the crippling 10 months of the flu, the American economy was not only undamaged, but booming. Following the "year of readjustment" of 1919, the United States experienced a sunny era of unprecedented prosperity.[55] The national income, which had remained stagnant from 1890 to 1918, rose more than $200 per capita and laborers enjoyed a workday diminished from 12 to eight hours, as well as a paid annual vacation.[56] With the advent of mass-production due to the innovations of the assembly line and expanded industrial exploitation of electricity, productivity soared to unheard-of levels.[57] In the mere 30 years between 1899 and 1929, industrial production expanded by 264 percent.[58] All of this was accomplished by a manufacturing labor pool that, according to historian William E. Leuchtenburg in his book *The Perils of Prosperity*, contained "precisely the same number of men in 1929 as it had in 1919."[59] The workforce to attain these new heights was the same workforce that been described in 1919 as generally sufficient, yet which was in many sectors "still reported to be scarce."[60] In the same way that the Renaissance thrived in the wake of the Black Plague by benefiting from capital redistribution to a greater demographic, the destruction of the Spanish Flu had opened up a decade of culture and materialism to a population that benefited from the resulting availability of jobs and higher wages.

With thousands of the fittest soldiers, doctors, and nurses overseas and the stress of coping with wartime and its strict economic regulations, a flu epidemic was the last thing that Americans of 1918 needed, or expected. It was especially traumatic when even the enormous strides that had been made in recent years in the medical community were insufficient to control this epidemic of a traditionally unobtrusive disease. Disturbingly, young, healthy adults were the most likely to succumb to the virus and die of a violent, delirious pneumonia. With the backbone of the economy debilitated and inept medical care, U.S. society could have collapsed. However, the flu lasted for a short enough time that it did not permanently disable the workforce. Also, because the primary target was an age-group rather than a class, the virus infected different socioeconomic sectors evenly. As a consequence, though in many places the workforce was reduced to the point of near-collapse, the population retained its socioeconomic balance. Finally, because the flu took place for 10 months during and after World War I, the most devastated demographic was replaced by the return of soldiers who could then be reabsorbed easily into society, thereby alleviating the labor-pool crisis. From the perspective of its victims and their loved ones, the 1918 influenza was a tragedy; however, viewed within an economic paradigm, the Spanish Lady smoothed the transition from the turbulence of the 19th and early 20th centuries into the prosperity of the 1920s.

Endnotes

[1] Friedrich Nietzsche Twilight of the Idols, or, How to Philosophize with a Hammer (Oxford: Oxford University Press, 1988) p. 5, http://books.google.com/books?id-oH4q25gwkOgC&pg=PR3&dq=twilight+of+the+idols&sig=6sr5p PhV2ST 4tHWj_CbRqJ-5Ty4#PPA5,M1

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[3] Crosby, p. 3

[4] Ibid., pp. 206, 207

[5] Svenn-Erik Mamelund, "Can the Spanish Influenza Pandemic of 1918 Explain the Baby Boom of 1920 in Neutral Norway? Population English Edition, 2002) Vol 59, No. 2 (March-April, 2004) p. 232, http://links.jstor.org/sici?sici=1634-2941%28200403%2F04%2959%3A2%3C229%3ACTSIPO %3E2.0.CO%3B2-Z

[6] John M. Barry, Great Influenza: The Epic Story of the Deadliest Plague in History (New York: Penguin Group, 2004) p. 238

[7] Ibid., p. 238

[8] Tim Appenzeller, "Tracking the Next Killer Flu," National Geographic (October 2005) p. 12

[9] Ibid., p. 12

[10] It is generally thought that the Spanish flu got its name because Spain, being a neutral country in the World War I, did not censor its newspapers, so the mortality rates were exposed to the world. It is certain that the flu did not originate in Spain, though it is not certain where it did originate. Most experts agree that it probably began in America. Ibid., p. 12

[11] Gina Kolata, Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus That Caused It (New York: Farrar, Straus and Giroux, 1999) p. 7

[12] Barry, p. 243

[13] Mary Ellen Snodgrass, World Epidemics: A Cultural Chronology of Disease from Prehistory to the Era of SARS (Jefferson, North Carolina: McFarland & Company, Incorporated, 2003) p. 272

[14] Ibid., p. 272

[15] Crosby, p. 19

[16] The flu was not made a reportable disease in many cities until the second wave of the epidemic was already in full swing because the medical community was reluctant to accept that influenza had reached such proportions. This partially accounts for the incomplete civilian records concerning the flu, in contrast to the records of controlled populations, like the military and prisons, which kept strict medical records of any and all diseases in the community. Kolata, Flu, p. 10

[17] Crosby, pp. 17, 18

[18] Gina Kolata, "Why winter for the flu? A virus has its reasons; [4 edition]," International Herald Tribune (December 6, 2007) p. 5 http://proquest.umi.com pqdweb?index=1&did=1393874091&SrchMode=1&sid=2&Fmt=3&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS =1197252984&clientId=14764

[19] Ibid., p. 4

[20] The American Experience: Influenza 1918, Maps, PBS, http://www.pbs.ory/wgbh/amex/influenza/maps/index.htm

[21] Crosby, p. 21

[22] Laura B. Shrestha, "CRS Report for Congress: Life Expectancy in the United States," (Domestic Social Policy Division, 2006) p. 31, http://www.ncseonline.org/NLE/CRSreports/06Sep/RL32792.pdf

[23] Kolata, Flu, pp. 6, 7

[24] Crosby, p. 312

[25] Ibid., p. 312

[26] Ibid., p. 75

[27] Ibid., p. 75

[28] Ibid., p. 75

[29] Ibid., p. 76

[30] Ibid., p. 76

[31] Joseph S. Davis, "Economic Conditions Since the Armistice," The Review of Economic Statistics Vol 1, Monthly Supplement (December 1919) p. 9, http://links.jstor.org/sici?sici=00346535%28191912%291%3C9% 3AIROTY %3E2.0.CO%3B2-0

[32] Ibid., p. 9

[33] Snodgrass, p. 276

[34] Ibid., p. 276

[35] Barry, pp. 142, 143

[36] Ibid., p. 143

[37] Crosby, p. 74

[38] Ibid., p. 87

[39] Ibid., p. 74

[40] Ibid., p. 104

[41] Barry, pp. 359, 103

[42] Kolata, Flu, p. 47

[43] Crosby, p. 323

[44] Norman Davies, Europe: A History (New York: Oxford University Press, 1996) p. 412

[45] Ibid., p. 412

[46] Ibid., p. 412

[47] Ibid., p. 412; Davis, p. 10

[48] Davis, p. 10

[49] Crosby, p. 314

[50] Ibid., p. 314

[51] The Great War: Resources, WWI Casualty and Death Tables, PBS, http://www.pbs.org/greatwar/resources/casdeath_pop.html

[52] Davis, p. 9

[53] Crosby, pp. 70, 108-110

[54] Ibid., pp. 70, 108-110

[55] Davis, p. 10; William E. Leuchtenburg, The Perils of Prosperity: 1914-32 (Chicago: The University of Chicago Press, 1958) p. 178

[56] Leuchtenburg, pp. 178-179

[57] Ibid., p. 179

[58] Ibid., p. 180

[59] Ibid., p. 179

[60] Davis, p. 10

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Annotation

The writer of this piece

- **introduces a topic.**
  - *More people died of the Spanish Flu in the 10 months that it devastated the world than had died of any other disease or war in history. . . . Yet, due to some historical and demographic particulars of the 1918 flu, the American economy—which nearly collapsed in some areas during the outbreak—was not crippled in any lasting way.*
- **organizes complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole.**
  - The information is organized logically (and, in places, chronologically). The introduction previews the content and then moves through several carefully sequenced categories of information, ending with a conclusion that summarizes the main points of the explanation.
- **develops the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
  - Details: *In only one century, it had seen the successful vaccination, containment, or cure for the notorious menaces of smallpox, anthrax, rabies, meningitis, typhoid, malaria, yellow fever, diphtheria, cholera, and tetanus.*[2] *. . . The war had put pressure on Americans to sacrifice as much as possible: the government urging people to grow what food they could, eat less meat and fewer luxury foods, buy war bonds, and serve in the army as required by the draft.*
  - Examples: *It mutates so frequently that humans are never fully immune to it . . . The killer flu of 1918, dubbed the Spanish Flu or the Spanish Lady, was a particularly deadly mutation of this influenza virus.*[10]
  - Facts: *Following the "year of readjustment" of 1919, the United States experienced a sunny era of unprecedented prosperity.*[55] *The national income, which had remained stagnant from 1890 to 1918, rose more than $200 per capita and laborers enjoyed a workday diminished from 12 to eight hours, as well as a paid annual vacation.* [56]
  - Quotations: *As noted by Crosby,* "The Reader's Guide to Periodical Literature, *1919-1921 has 13 inches of column space devoted to citations of articles about baseball, 20 inches to Bolshevism, 47 to Prohibition, and 8 inches to the flu."*[50] *. . . All of this was accomplished by a manufacturing labor pool that, according to historian William E. Leuchtenburg in his book* The Perils of Prosperity, *contained "precisely the same number of men in 1929 as it had in 1919."*[59]
- **uses appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
  - *Because neither antibiotics nor a way to control the spread of air-borne diseases . . . had been invented yet . . . Yet, due to . . . Instead, it . . . In reality . . . As of the next day . . . In total . . . Even though . . . So . . . As expected . . . However . . . From there . . . Although at times slow . . . Whether or not . . . In the most severe stages . . . As morgues filled up . . . In some situations . . . By contrast . . . But . . . Because it was so unbiased in its selection . . . This escalation . . . In the years following 1918 . . . As the United States emerged . . . After the war had ended . . . Yet . . . From the perspective of . . .*
  - *. . . there was sparse evidence that civilians were similarly affected, and, besides, disease was a fact of life in any military camp.*[16] *So, little attention was directed to the budding pandemic . . . With an absence of competition in the work force and a high demand for menial labor, serfs were able to gain comparative economic freedom with rising pay.*[46]
- **uses precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.**
  - *. . . bacteriology . . . diphtheria . . . sanitation . . . suffragette movement . . . pandemic . . . virulent disease . . . influenza viruses . . .*

  - *. . . as a killer . . . As a pesky annual virus, slightly more troublesome than the common cold . . . if only it had left the scar of a long depression . . . budding pandemic . . . In the same way that the Renaissance thrived in the wake of the Black Plague . . .*

- **establishes and maintains a formal style and objective tone while attending to the norms and conventions of the discipline in which the student is writing.**
  - *. . . there was sparse evidence that civilians were similarly affected, and, besides, disease was a fact of life in any military camp.*[16] *So, little attention was directed to the budding pandemic . . . With an absence of competition in the work force and a high demand for menial labor, serfs were able to gain comparative economic freedom with rising pay.*[45]
  - *When contagious diseases attack a society, it tends to hit the poorest sector of the economy the hardest. . . . By contrast, the Spanish Flu, being an air-borne disease (and thus not preventable through good hygiene and health) affected all sectors of the economy equally.*
- **provides a concluding section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).**
  - *From the perspective of its victims and their loved ones, the 1918 influenza was a tragedy; however, viewed within an economic paradigm, the Spanish Lady smoothed the transition from the turbulence of the 19th and early 20th centuries into the prosperity of the 1920s.*
- **demonstrates good command of the conventions of standard written English.**

Student Sample: Grade 12, Informative/Explanatory

This essay was one of a portfolio of four essays submitted by a high school student for placement in a college composition course sequence. The student had unlimited time to write and likely received feedback and instructional support while creating the portfolio.

Fact vs. Fiction and All the Grey Space in Between

The modern world is full of problems and issues—disagreements between peoples that stem from today's wide array of perceptions, ideas, and values. Issues that could never have been foreseen are often identified and made known today because of technology. Once, there were scatterings of people who had the same idea, yet never took any action because none knew of the others; now, given our complex forms of modern communication, there are millions who have been connected. Today, when a new and arguable idea surfaces, the debate spreads across the global community like wildfire. Topics that the general public might never have become aware of are instantly made into news that can be discussed at the evening dinner table. One such matter, which has sparked the curiosity of millions, is the recent interest in the classification of literature as fiction or nonfiction.

A number of questions have arisen: What sparked the booming interest? Where exactly is the line that separates fiction from nonfiction, and how far can the line be stretched until one becomes the other? Are there intermediaries between the two, or must we classify each piece of literature as one or the other? Do authors do this purposefully, or with no intent? The answers to these questions are often circular and simply lead to further dispute. In modern times, the line between the classification of literature as either fiction or nonfiction has become blurred and unclear; the outdated definitions and qualifications have sparked the development of new genres and challenged the world's idea on the differences between the two.

The Spark Which Lit the Fire

Though it had been a fairly relevant and known topic to members of the literary world, the idea that a book is not always completely fiction or nonfiction seemed to be an obscure and unnecessary subject for the public to ponder. However, the average Monday morning watercooler conversation was forever changed when what has become known as the "Million Little Lies Scandal" broke out in early 2006. It started on October 26, 2005 when author James Frey appeared on *The Oprah Winfrey Show*. He was the only guest of the day, there to promote and discuss his book entitled *A Million Little Pieces*. The book, a nonfiction memoir, recounts Frey's experience as an alcoholic, drug addict, and criminal, and the heroic story of his overcoming of every obstacle in his path to getting clean. After his appearance on the show and addition into Oprah's highly esteemed and publicized book club, the novel skyrocketed to the top of the charts, eventually becoming a number one best seller. But his success was short lived; in the months that followed, *The Smoking Gun*, a Web site that posts legal documents, arrest records, and investigates celebrity police dealings, unearthed some discrepancies between Frey's story and the police documents that should have supported his claims.

Though the Web site had originally only been searching for Frey's mugshot, one small inconsistency soon led to another, and after a six-week investigation, the site released its findings. Investigators had taken any parts of Frey's story that could be verified by a police record, matched it with his actual records, and were shocked by what they found; nearly all of Frey's memoir was either highly embellished or flat out fabricated. Huge discrepancies between the truth and what was stated in Frey's book became headline news; instances like Frey claiming to be in jail for eighty-seven days when in reality he was incarcerated for a mere four hours, or the serious drug charges that he claimed were filed against him that were never found on any record.

Frey was caught, and on January 8, 2006, *The Smoking Gun* published an article called "A Million Little Lies," which took an in-depth look at every provable inconsistency in the novel. By comparing direct quotes from the book to police records—or rather, the lack of police records—Frey's entire novel was pieced apart until there was nothing remaining. Completely discredited, yet still somehow maintaining the entire situation was a misunderstanding, Frey attempted to salvage his namesake by reappearing on *Oprah*; in the end, this proved to be more damaging than helpful. He had his reasons for what he'd done, he tried to explain.

Reasons that were valid and legitimate according to him, as he stated that he would not have been able to get the book signed unless he was willing to sell it as nonfiction. Details had been slightly exaggerated, he conceded, but this was only to allow the novel to fluctuate and flow in a way that would not have been possible had he stuck to the bare facts.

Regardless, in the end, it was proved beyond anyone's reasonable doubt that James Frey's novel landed dead center in the proverbial grey area between black and white—his novel was partially fiction and partially nonfiction. And so started the media frenzy; the scandal covered newsstands for weeks, people took sides with either Frey or his critics, and similarly themed novels were called into question. Suddenly the world *cared* about a novel's validity; they no longer assumed that the words fiction and nonfiction could themselves define the amount of fact that stood behind a piece of literature. People also realized, simultaneously, that they might not exactly know what defined and separated fiction and nonfiction, or if, in more modern times, the two might mesh together a bit more than in the literature of old.

With Difficulty, the Line is Drawn

Fiction and nonfiction: they're two words that are surprisingly hard to define. It's difficult to ascertain what the words have meant in the past, what they each encompass today, and how past and present definitions have been molded and shaped by the literature of the time. Traditionally, fiction is 'a tale drawn from the imagination' and nonfiction is 'a statement of fact'; however, the two are so much more complex than that. For many, the word 'fiction' is associable with the word 'story,' as if the two are equal or interchangeable. Subgenres of fiction often contribute to this perception; novels, short stories, fairy tales, comics, films, animation, and even video games help the mind classify fiction as a substance completely fabricated in the mind. Fiction is largely assumed to be a form of art or entertainment, and in many cases this is true—science fiction and romance novels are two examples of how we are entertained by a good book. But frequently, stories are told to educate—to raise awareness regarding a certain topic about which the author is concerned.

Stories like Cormac McCarthy's *The Road*, George Orwell's *1984*, and Ayn Rand's *Anthem* all warn us about terrible futures that may arise as the result of the choices of humanity. Uzodinma Iweala's *Beasts of No Nation* is a short work of fiction based entirely around fact; while it tells the tale of a fictional little African boy thrown into a bloody civil uprising, his story of being a recruited child soldier is happening to hundreds of similar boys to this very day. Fables and parables are other, more subliminal examples of educational, moral-based fiction.

In the same way, nonfiction is surrounded by many presumptions; people assume that anything read in a nonfiction book is true, otherwise the literature would be labeled as fiction. Nonfiction literature *is* factual literature, but there is one important note to make. Nonfiction is literature that is *presented* as fact. This presentation may be accurate or inaccurate; in other words, the author is presumed to be writing what he or she believes to be the truth, or what he or she has been led to believe is the truth. Examples of nonfiction include essays, documentaries, scientific papers, textbooks, and journals. Nonfiction differs from fiction, however, in the areas regarding how the literature is presented and used. Directness, simplicity, and clarity are all aims of nonfiction literature.

Providing straight, accessible, understandable information to the reader is the purpose of nonfiction, and the ability to communicate well to the audience is what defines a skilled writer of the field. And despite the truth behind nonfiction writing, it is often necessary to persuade the reader to agree with the ideas being presented; therefore, a balanced, coherent and informed argument is also vital.

More Than Simply Black or White

The line between fiction and nonfiction starts to blur, however, when one considers genres that seem to mesh the two; historical fiction, new journalism, and biographies/autobiographies. These are only three of the defined new genres encompassed by what has become the intermediary between fiction and nonfiction— literary nonfiction. When one explores these three genres, it becomes blaringly obvious how easily fiction and nonfiction can blur into one.

Historical fiction is the product when an author takes real people and real events and tells the story of what actually happened to them, but inserts characters of their own creation and a plot line that they invent in order to tie the entire novel together. This idea is perfectly exampled in Ann Rinaldi's *An Acquaintance with Darkness*. This novel takes real historical aspects (the assassination of President

Lincoln; the trial of the only woman associated with his murder; the society of Washington, D.C., at the time of his death; the history behind the practice of grave robbing) and inserts the character of a young girl and her dying mother who, between the two of them, manage to tell the historical side of the story along with their own imagined one. All the pieces of history are told completely as they happened; so on some level, this novel *is* nonfiction. Yet it is also blatantly fiction—it has *characters*.

New journalism, biographies, and autobiographies, however, blur the lines in a slightly different way; they call into question people's ability to relay information truthfully and with no bias. New journalism is the term coined in the 1960s to describe the then unconventional journalism techniques that brought the reader inside the life and mind of the story. It's a practice very common today; just watch any network investigation series. The journalist attempts to get inside the mind of whomever is being investigated; he or she digs up information regarding that person's past, present, and potential future. The author then takes all the factual background information they've collected and pairs it with the emotions, memories, and feelings described to them by the person, and writes the complete story. If the complete work is to be published as a book rather than a news article or made into a television script, it often ends up being sold as a fiction novel. Yet is this the correct classification, given that all the information is true?

One excellent example of new journalism is Truman Capote's *In Cold Blood*. When asked about it, Capote himself even called it "unclassifiable." Capote traveled to Kansas to investigate the murder of a family of four; he ended up staying there for years, befriending the people of the town, discovering what he could about the murders from them, and piecing together his book from interviews and information he gained during his stay. When it was published, the novel became a best seller and also one of the first highly noted pieces of literature to border the line between fiction and nonfiction; it was the first of its kind to bring the idea of the blurring line to households across the United States.

Biographies and autobiographies are often questioned in the same way. Though not always thought of as controversial and previously considered nonfiction, biographies and autobiographies don't appear to fit into today's definition of fiction or nonfiction. The authors of both are simply telling the story of their own life or of someone else's life, but that begs an obvious question; is a highly detailed, written record of a person's feelings and perceptions able to be considered nonfiction? How can we classify people's emotions and memories as fact? An outstanding example of an autobiographical piece that cannot be defined is Tim O'Brien's *The Things They Carried*. His self-proclaimed 'nonfiction novel' is a collection of stories stemming from both his imagination and his personal experience in Vietnam during the war. O'Brien feels that the idea of creating a story that is technically false yet truthfully portrays a situation—as opposed to just stating the facts and stirring no emotion within the reader—is the correct way to educate the public in a meaningful, everlasting way. He, like many others, believes that biographies and autobiographies should be left as their own separate being; a genre where the reader may classify for himself or herself what truth and what fiction might lie within the literature. All of the issues mentioned above are shrouded in debate; there are no straightforward answers.

Fiction and nonfiction are two polar opposites on a scale that today offers little to no gradient. In years past, these two words have been definition enough and have managed to encompass all types of written word. Times change, however, and in the modern day, authors have begun to push the boundaries and discover the furthest extent of where literature can take us. Since they feel as if their literature does not fit into the classifications of fiction or nonfiction, authors are creating *new* genres where their novels and books can be properly sorted and defined. An update is long overdue—both an update to the definitions currently used to classify books, and an update in which we create new areas into which books can be classified.

Annotation

The writer of this piece

- **introduces a topic.**
    - *In modern times, the line between the classification of literature as either fiction or nonfiction has become blurred and unclear; the outdated definitions and qualifications have sparked the development of new genres and challenged the world's idea on the differences between the two.*

- **organizes complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole, and includes formatting when useful to aiding comprehension.**
    - The writer uses headers to help organize sections and uses cohesion devices to link sentences (*The Spark Which Lit the Fire; With Difficulty, the Line is Drawn; More Than Simply Black or White*).
    - *However, the average Monday morning watercooler conversation was forever changed when what has become known as the "Million Little Lies Scandal" broke out in early 2006.*
    - *Regardless, in the end, it was proved beyond anyone's reasonable doubt that James Frey's novel landed dead center in the proverbial grey area between black and white—his novel was partially fiction and partially nonfiction.*
    - *Fiction and nonfiction: they're two words that are surprisingly hard to define. It's difficult to ascertain what the words have meant in the past, what they each encompass today, and how past and present definitions have been molded and shaped by the literature of the time.*
    - *Fiction and nonfiction are two polar opposites on a scale that today offers little to no gradient.*
- **develops the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
    - *Frey was caught, and on January 8, 2006,* The Smoking Gun *published an article called "A Million Little Lies," which took an in-depth look at every provable inconsistency in the novel. By comparing direct quotes from the book to police records—or rather, the lack of police records—Frey's entire novel was pieced apart until there was nothing remaining.*
    - *Stories like Cormac McCarthy's* The Road*, George Orwell's* 1984*, and Ayn Rand's* Anthem *all warn us about terrible futures that may arise as the result of the choices of humanity.*
- **uses appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
    - *. . . the debate spreads across the global community like wildfire.*
    - *Where exactly is the line that separates fiction from nonfiction, and how far can the line be stretched until one becomes the other? Are there intermediaries between the two, or must we classify each piece of literature as one or the other?*
    - *All the pieces of history are told completely as they happened; so on some level, this novel* is *nonfiction. Yet it is also blatantly fiction—it has* characters*.*
- **uses precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.**
    - *Uzodinma Iweala's* Beasts of No Nation *is a short work of fiction based entirely around fact . . .*
    - *The line between fiction and nonfiction starts to blur, however, when one considers genres that seem to mesh the two; historical fiction, new journalism, and biographies/autobiographies.*
- **establishes and maintains a formal style and objective tone while attending to the norms and conventions of the specific discipline in which the student is writing.**
    - *One such matter . . .*
    - *Though it had been a fairly relevant and known topic to members of the literary world, the idea that a book is not always completely fiction or nonfiction seemed to be an obscure and unnecessary subject for the public to ponder.*
    - *Historical fiction is the product when . . .*

- **provides a concluding section that follows from and supports the information or explanation explanation presented (e.g., articulating implications or the significance of the topic).**
  - *Since they feel as if their literature does not fit into the classifications of fiction or nonfiction, authors are creating new genres where their novels and books can be properly sorted and defined.*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 12, Informative/Explanatory

The essay that follows was one of a portfolio of four essays submitted by a high school student for placement in a college composition course sequence. The student had unlimited time to write and likely received feedback and instructional support while creating the portfolio.

The Making of a Human Voice and How to Use It

The violin is arguably the most cherished and well-known orchestral instrument in the world. Many are moved by its unique quality of sound; it is known as the only instrument close to the sound of a human voice. Maybe the violin is so revered because "humans in all times and places are powerfully moved, or threatened, by the possibility that with our hands and minds we can create something that is perfect" (Ebert). But the sound of this instrument was not magically created overnight; the creation of the very first violin took many years and has been a product of much experimentation. This is the reason that every beginning violinist should learn to appreciate the art of making a violin and the process of holding and bowing his instrument so that he will have the knowledge to play it well.

The process of constructing a violin is an age-old tradition that has been developed and refined for centuries. Each step is crucial to the quality of the instrument's sound. The violin's body consists of a rib structure, which is made from six thin maple ribs that are bent to shape by applying dry heat. The ribs are reinforced at the joints by wood blocks that are located in each of the four outward curving corners, one at the top rib, and one at the lower rib. To reinforce the glue-joints between the ribs and the table and back of the violin, strips of willow or pine are glued along the inside edges of the ribs to create the lining. The back plate of the violin is made from either one or two matched pieces of maple. The wood chosen for these pieces is very important and affects the sound production of the violin. The outline of the plate is drawn onto the maple and sawn out, and the arching (the outward bulge) is then painstakingly carved to a thickness of about five millimeters. The front plate of the violin, or table, has two soundholes carved from it on either side of the bridge. These soundholes are [shaped like the letter f] and are made to project the sound. Purfling is done by inlaying thin strips of wood around the top and back of the violin a short distance from the rim. Purfling strengthens the delicate edgework and produces a beautiful frame around the instrument's outline (Gusset).

The bridge is cut from a thin sliver of maple. Intricate shapes are carved from it, known as the "heart," "ears," and the two "feet" that allow it to stand on the violin table. The bridge is placed directly between the small nicks cut in the middle of each [soundhole]. The top of the bridge is curved to conform to the arch of the violin table, which allows the player to play each string individually (Skinner). The bridge is held onto the instrument by as much as seventeen pounds of pressure exerted from the four strings, which makes it a very delicate piece that must be checked periodically for leaning or warping. A bass-bar is fitted to the underside of the table underneath the left foot of the bridge. Underneath the right foot of the bridge, a soundpost is wedged between the front and back panel. The soundpost is made of spruce or pine and resists the downward pressure of the strings and improves the sound.

A neck is fitted to the top rib and is made to hold the fingerboard above the table. The fingerboard is a piece of ebony that extends beyond the neck and gradually widens towards the bridge. At the top of the neck is a pegbox that has holes drilled into each side in which the pegs are held. The pegs are used for a wide range of tuning. The pegbox slopes slightly backwards, which tensions the strings across the ebony nut at the top of the fingerboard and keeps them raised above the fingerboard. At the top of the pegbox is a scroll, added during the baroque period as an artistic flourish to provide an aesthetic touch to its already pleasing appearance (Vienna Online Magazine). The strings are wrapped around the pegs, stretched across the bridge, and held by an ebony or boxwood tailpiece. Anywhere from one to four fine tuners can be attached to the tailpiece; these are used to tighten or loosen the string to change its pitch for fine-tuning. The tailpiece is held into place by a loop of gut or nylon that is wrapped around an ebony end button located in the middle of the bottom rib.

After gluing is done, the violin must be exposed to air and sun for several days to a few weeks to darken the wood through the process of oxidation (Gusset). A protective varnish is brushed onto the surface of the violin, which has a slight dampening effect to the sound, but it is primarily used to protect the wood from perspiration, dust, dirt, and humidity (Kolneder 21). "The classical Italian makers appear to have used different formulations for the ground coat, which seals and protects the wood and does much to bring out its natural beauty, and the top coats, which were tinted with rich red, yellow and golden-brown colours . . . Recent research suggests that walnut or linseed oil may have been an important constituent of the finest old Italian varnish, later supplanted by recipes based on shellac and alcohol" (Stowell 5).

Both the construction of the violin and the way it is played are equally important to its sound production. This is very critical to learn early so that a bad habit does not need correcting later on. The modern violin is held between the chin and the left shoulder, with the scroll angling towards the left. Violin teachers will have varying ideas of the correct position to hold a violin, but many great violinists have held their instruments in different ways and have been successful. Some will hold a violin directly under the chin, and others believe that the highest position on the shoulder is best. A chinrest is usually attached to the left side of the tailpiece to make it more comfortable for the violinist to hold. Sometimes a shoulder rest can be attached to the back of the violin which can be taken off after playing. The shoulder rest can be made of various materials and provides height and padding to the violinist's shoulder.

The left hand gently moves along the neck and fingerboard of the violin. The left fingers press down upon the string, shortening its length, which creates a higher pitch. The right hand holds the bow, which consists of a long stick of wood and a gathering of horsehair stretched from one end of the bow to the other. "In the bowing area, two C-shaped indentations (the waist) accommodate the bow's motion across the strings" (Kolneder 13). The four strings can be bowed with the horsehair, plucked, or bounced with the stick of the bow to produce vastly different colors of sound. "Bowing across the string is the normal manner of tone production, but the process is actually extremely complicated and in its most minute details not yet entirely understood . . . The strings' basic pitch depends on its length, thickness, material . . . and tension. These factors determine the frequency, that is, the number of vibrations . . . per second" (Kolneder 16). The bow must be rosined frequently to allow the strings to vibrate to create the fullest sound.

Even if a luthier, or stringed instrument maker, takes years to complete a violin, it can only produce its best sound if every step of its construction and every piece is made with is of the best quality. The same is true of the time needed for a musician to play the violin well. A player must learn that what counts is not how much time is spent practicing, but the quality of practice. A private teacher is also required, so proper instruction will be given. A musician must also fully understand and appreciate the skill required for constructing a violin. Not until then will a violinist be able to use his knowledge to bring forth their instrument's fullest and most beautiful sound.

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Annotation

The writer of this piece

- **introduces a topic.**
    - *The violin is arguably the most cherished and well-known orchestral instrument in the world. Many are moved by its unique quality of sound; it is known as the only instrument*

close to the sound of a human voice. . . . the sound of this instrument was not magically created overnight; the creation of the very first violin took many years and has been a product of much experimentation. This is the reason that every beginning violinist should learn to appreciate the art of making a violin and the process of holding and bowing his instrument so that he will have the knowledge to play it well.

- **organizes complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole.**
    - The information is sequenced logically. The writer provides a carefully sequenced explanation of how a violin is made through detailed descriptions of the various parts of a violin and their purposes and steps in the process of building a violin.
- **develops the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
    - Facts: *. . . the creation of the very first violin took many years and has been a product of much experimentation.*
    - Examples: *. . . many great violinists have held their instruments in different ways and have been successful. Some will hold a violin directly under the chin, and others believe that the highest position on the shoulder is best.*
    - Details: *The four strings can be bowed with the horsehair, plucked, or bounced with the stick of the bow to produce vastly different colors of sound.*
    - Quotations: *"Bowing across the string is the normal manner of tone production, but the process is actually extremely complicated and in its most minute details not yet entirely understood . . . The strings' basic pitch depends on its length, thickness, material . . . and tension. These factors determine the frequency, that is, the number of vibrations . . . per second" (Kolneder 16).*
- **integrates information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation**.
    - *At the top of the pegbox is a scroll, added during the baroque period as an artistic flourish to provide an aesthetic touch to its already pleasing appearance (Vienna Online Magazine).*
    - *"The classical Italian makers appear to have used different formulations for the ground coat, which seals and protects the wood and does much to bring out its natural beauty, and the top coats, which were tinted with rich red, yellow and golden-brown colours . . . Recent research suggests that walnut or linseed oil may have been an important constituent of the finest old Italian varnish, later supplanted by recipes based on shellac and alcohol" (Stowell 5).*
    - *Stowell, Robin, ed.* The Cambridge Companion to the Violin*. New York: Press Syndicate of the University of Cambridge, 1992.*
- **uses appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
    - *But the sound of this instrument . . . This is the reason . . . To reinforce the glue joints . . .*
    - *These soundholes . . . The top of the bridge . . . Underneath the right foot . . . At the top of the pegbox . . . After gluing is done . . .*
    - *Both the construction of the violin and the way it is played are equally important to its sound production. This is very critical to learn early so that a bad habit does not need correcting later on. . . . Even if a luthier, or stringed instrument maker, takes years to complete a violin, it can only produce its best sound if every step of its construction and every piece is made with is of the best quality.*

- **uses precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.**
    - *. . . a rib structure . . . glue-joints . . . back plate . . . soundholes . . . tuning . . .*
    - *. . . known as the only instrument close to the sound of a human voice . . .*
    - *Purfling is done by inlaying thin strips of wood around the top and back of the violin a short distance from the rim. . . . a luthier, or stringed instrument maker . . .*
- **establishes and maintains a formal style and objective tone while attending to the norms and conventions of the discipline in which the student is writing.**
    - *The violin is arguably the most cherished and well-known orchestral instrument in the world. . . . A musician must also fully understand and appreciate the skill required for constructing a violin. Not until then will a violinist be able to use his knowledge to bring forth their instrument's fullest and most beautiful sound.*
- **provides a concluding section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).**
    - *Even if a luthier, or stringed instrument maker, takes years to complete a violin, it can only produce its best sound if every step of its construction and every piece is made with is of the best quality. The same is true of the time needed for a musician to play the violin well. A player must learn that what counts is not how much time is spent practicing, but the quality of practice. A private teacher is also required, so proper instruction will be given. A musician must also fully understand and appreciate the skill required for constructing a violin. Not until then will a violinist be able to use his knowledge to bring forth their instrument's fullest and most beautiful sound.*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 12, Informative/Explanatory

A high school senior wrote the essay that follows for a career and technical class. The student had unlimited time to research and write this paper.

Wood Joints

Have you ever wondered how to design complex wood joinery? The types of wood joinery have been around for thousands of years. There are only twelve different main types of joints but there are many that combine more than one for aesthetics or strength. The first step in designing joints is understanding the different types and what their uses are. After you understand the strengths and weaknesses of the different joints you can compare and contrast the joints for aesthetics. This and a lot of practice are what make excellent wood joinery.

The first step in designing joints is to figure out what way the wood will move so it won't destroy the joint. Then figure in the stresses that will be put on the joint. The three types of stresses on joints are compression, tension, and shear. Compression is the weight pushing down on another piece and making it crush down. Tension is things being pulled apart. Shear is when a piece breaks off when overloaded.

There are two categories of joints there are sawed joints and shaped joints. A sawed joint is one that can be cut in one pass with a saw. The shaped joints can be complicated and take multiple cuts. Joints are either made to lock together which are the shaped ones or to make glue surfaces to glue together which are the sawed ones. The twelve types of joints are the butt joints, miter joints, rebate joints, dado joints, groove joints, and lap joints are sawed joints. Scarf joints, finger joints, dovetails, mortise and tenon, dowel joints, and spline joints are shaped joints.

To lay out good joints there are a few tools necessary. You need a good square that is accurate, a steel ruler for measuring, a miter square, a sliding bevel, a protractor, and a caliper. The square is to draw perfect ninety-degree lines. The miter square is so you can check your miters for accuracy. The sliding bevel and protractor is to draw angles other than forty-five degrees. The caliper is to make sure the pieces getting joined are the right thickness.

For a good joint the fit should be tight. But if it is too tight it is not good because the wood joint could crack or break. It should be tight enough that you can either push it together or give it a light tap with a hammer to seat it. Another reason it can't be too tight is because when the glue is applied the wood will expand. Then it may not fit. The reason the wood expands is because putting the glue on is like putting water on it.

The way to make a tight joint is in the layout. A marking knife is a lot more accurate than a pencil. Also make sure you use the same ruler throughout the project because there could be slight variations in different ones. Always mark the waste side of the line and make sure you follow on the right side of the line. If you cut on the wrong side of the line it will not be tight enough.

Now that you know what tools to use the next thing in tight joinery is to make sure all the pieces are the same thickness or the thickness needed. Boards should be cut to a rough length so they are easier to run through the machines. This will leave less room for error because the pieces won't be so bulky. Also make sure that the plywood is the thickness it's claimed to be because it could be off 1/64 of an inch. Whenever possible trace the mate for the joint to ensure a good fit.

If the joint is cut too small there are four different repairs. You can fill small gaps with a mixture of sawdust of the same species of wood and glue. For loose parts you can add shims and sand or file to fit. You could also make a design feature for loose parts. A slot cut in the end of a loose tenon with a wedge put in it makes a nice design feature. But if it is real noticeable you should just replace it. When buying lumber, always make sure you buy a couple of extra boards for mistakes or defects you didn't notice when you bought it.

Out of the twelve different joints, I'll start with the ones easiest to make. Butt joints are the easiest joints to make. A butt joint is wood joined face to edge or edge to end. There are several ways to attach the two pieces. They can be nailed or screwed together but should have a pilot hole drilled or the pieces may split. Corrugated or metal fasteners can be used. Also you can make wooden triangles or blocks to strengthen up corners. The pieces can also be doweled together, which is one of the stronger ways to attach the two pieces. The two pieces can also be biscuit jointed together which is another fairly strong way to attach them.

Another fairly simple joint is the lap joint. The lap joint is where the two pieces of wood to be joined are cut so only half the thickness of each piece is left. They are then glued, nailed, or screwed together. The lap joint is mostly used for frames that will have plywood on them. The joint is also used in latticework, which is used for decoration in different pieces of furniture. The downside to this joint is that it isn't very strong but it does look nice in some applications.

The next joint is a little more complicated but still fairly simple. The only thing complicated about the miter joint is figuring out the angles for different shapes. A square is simple but you have to make sure the saw is exactly square or the joints won't fit tight. But as you get into different sided shapes the angles are harder to figure out, especially if they have to be a compound miter. That is where it is cut on an angle in two different directions. The miter joint looks good because there is no end grain but it isn't very strong. But biscuits can be added for some extra strength.

The next joint is the dado joint. Dados are slots cut across the grain. They are cut using a dado blade in the table saw, on a router, or hand chiseled. The uses of a dado are for putting shelves in the sideboards of a bookcase or other piece of furniture. The dado can be stopped short of the edge of the board to form a stopped dado. This is useful when you don't want the joint to be seen.

A joint similar to the dado is a groove. A groove runs with the grain instead of against it. There are several ways to cut a groove. You can use a dado blade, router, molder, or shaper. A groove is usually used in making raised panels. It is what holds the pane in between the rails and stiles.

A joint similar to a groove is the spline. The spline joint can either be a solid spline like tongue and groove. That is where one board has a groove and another one has a piece with both edges are cut off leaving the middle. A loose spline is a board with two grooves cut and then apiece of wood inserted in the tow grooves and glued. The uses good for the spline is siding and paneling. It also works fairly well in making large panels because the tongue helps to keep the boards aligned. You can dress up the spline joint by putting a chamfer or bead on the edge of the boards.

A good joint for joining backs to furniture is the rebate joint. It also works well for joining the tops and bottoms of furniture. A rebate joint is a dado at the end or edge of a board and usually has a piece of wood in it the same thickness as the dado. The wood is usually nailed or screwed into place. Another version of the rebate joint is one that is stopped. The stopped rebates are used when you don't want the joint to show.

A joint that can be quite complicated is the scarf joint. The scarf joint is used to make two boards into a a longer one. This joint is mostly used in timber frames. The joint came around in Europe when they had cut all the long big trees down and had to find a way to make the long beams needed for their buildings (Ramuz, 279). Then when the settlers came to America, they didn't need it for another hundred years or so until they did the same thing over here. The joint is usually about eight times longer than the width of the board or beam. It is made to have a lot of glue surface to make it a fairly strong joint. But it is not as strong as a full-length board or beam.

Another joint that can be quite complicated until you have the jig made for it is the finger joint. The finger joint is easy once the jig is made you just have to stand at the table saw and keep running the boards over the dado bade. The finger joint is several grooves on the end of a board with the other board cut to mate. They are very strong because it really increases the glue surface. The joint can also be used as a hinge if the corners are rounded and a dowel put all the way through the joint.

The last two joints left are some of the most complicated ones to design and cut. These joints are the real give away of quality joinery. If these joints are done properly they can last for hundreds of years and will really make your work look professional. The two joints are the mortise and tenon and dovetails. You can either cut these by hand or machine. If cut by machine, they aren't as complicated to make as they are when you cut them by hand. The joints aren't cut by hand as much anymore, but when they are you can take more pride in your work.

I will start with the mortise and tenon. The mortise and tenon has been around for hundreds and hundreds of years. There are many uses including timber frame, attaching aprons to the legs on tables, and attaching rails and stiles on doorframes. Mortise and tenon are very strong joints. The timber frame barns and buildings are still standing after hundreds of years. The only reason they fall is because of decay and neglect. The mortise is a square hold cut to a certain depth and size. A through mortise is a square hole that is cut all the way through the board or beam. The tenon is the mate to a mortise. It is a square cut on the end of a board or beam. They are usually in the center of the board but can be offset if there is going to be more than one joint in the same spot. It also could be offset if it was going to be close to the edge of the other post or leg. A through tenon can look good with a wedge, or you can peg the tenon for strength. Mortises can be cut with a mortise, router, or drilled out and squared up with a chisel. Tenons can be cut by router, table saw, or by hand. But whatever way you do it they still mean good quality work.

The other hallmark of quality wood joinery is the dovetail. Dovetails can either be cut by a router and template or by hand with a lot of practice. A dovetail is similar to a finger joint except that it has angles. The dovetail has been around for thousands of years and there is a reason why. It is very aesthetically pleasing and strong enough to last for a very long time. Dovetails are very strong because it is made to pull apart in only one direction so from any other direction it can handle extreme loads.

Now to make dovetails by hand you need to take your time and be patient. They aren't as hard as you may think but does take practice. When the joint is completely cut it should fit together with a light push and should be very stiff. Dovetails are used in making drawer frames and the main box in cabinets. There are two types of dovetails and they are through dovetails and half-blind dovetails. Through dovetails are the ones where both boards go all the way through each other leaving the joint exposed. Half-blind dovetails are usually used to attach drawer fronts to the rest of the frame. On those, only half of the joint is visible because the other half ends short by 1/8 inch or more.

Now that you know the basics, here are a few more things you should know to make strong dovetails. If creating dovetails out of softwood, you should have a slope of 1 to 6 on the dovetails. If making them out of hardwood, the angle should be 1 to 8 (AM-wood.com). The reason for this is because softwood splits easier, this way the dovetail won't spread the wood as much when pulled on. If you are making multiple joints it is better to make a pattern so they are all the same. Plus it won't take as long because you won't have to lay them out every time. Dovetails are made up of two parts and they are pins and tails. It doesn't matter which ones you choose to cut first but you should always trace its mate to get a perfect fit.

That is all twelve woodworking joints. Now lets talk about beefing them up a little. Sure there are nails, screws, and other mechanical fasteners, but I'm talking about shop made ones. Dowels and biscuits are excellent ways to strengthen joints unnoticeably. But wedges, pegs, and wooden blocks are good ways and could even add some decoration. On through tenons, you can cut slots in the end of the tenon and add some wedges as a design and a way to keep it from pulling out. On mortise and tenons you can drill a hole and insert a peg for strength and looks.

To sum it all up there is a lot of information on the twelve different wood joints. Some of them can be quite complicated but with practice you could become an amateur woodworker. I have learned a lot about the different joints and techniques behind them. This research helped a lot in deciding what joints to use and how to construct them for my tech project. My tech project is designing and building a gun cabinet. In my gun cabinet I'm going to use rebates, grooves, dados, lock miters, dovetails, mortise and tenon and lap joints. I hope you have learned as much as I have about choosing and creating joints in wood. There is still more to be learned but this is a very good start in becoming a professional woodworker.

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Annotation

The writer of this piece

- **introduces a topic.**
  - *Have you ever wondered how to design complex wood joinery?*
- **organizes complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole.**
  - *The first step in designing joints is to figure out what way the wood will move so it won't destroy the joint.*
  - *There are two categories of joints . . .*
  - *To lay out good joints there are a few tools necessary.*
  - *The way to make a tight joint is in the layout . . .*
- **develops the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
  - *If the joint is cut too small, there are four different repairs. You can fill small gaps with a mixture of sawdust of the same species of wood and glue. For loose parts, you can add shims and sand or file to fit. You could also make a design feature for loose parts. A slot cut in the end of a loose tenon with a wedge put in it makes a nice design feature. But if it is real noticeable you should jut replace it.*
- **uses appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
  - *Out of the twelve different joints, I'll start with the ons easiest to make.*
  - *Another fairly simple joint is the lap joint.*
  - *A joint similar to a groove is the spline.*
  - *To sum it all up . . .*
- **uses precise language and domain-specific vocabulary to manage the complexity of the topic.**
  - *Dados are slots cut across the grain.*
  - *A groove runs with the grain instead of against it.*
  - *A rebate joint is a dado at the end or edge of a board and usually has a piece of wood in it the same thickness as the dado.*

- **establishes and maintains a formal style and objective tone while attending to the norms and conventions of the specific discipline in which the student is writing.**
    - *The other hallmark of quality wood joinery is the dovetail.*
    - *My tech project is designing and building a gun cabinet. In my gun cabinet I'm going to use rebates, grooves, dados, lock miters, dovetails, mortise and tenon and lap joints.*
- **provides a concluding section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).**
    - *To sum it all up . . . with practice you could become an amateur woodworker . . . There is still more to be learned but this is a very good start in becoming a professional woodworker.*
- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Student Sample: Grade 12, Informative/Explanatory

A high school senior wrote the essay that follows for a career and technical class. The student had unlimited time to research and write this paper.

TIG/GTAW Welding

Welding is a highly demanded trade across the US. There are many types of welding such as wire feed, stick, TIG (Tungsten Inert Gas), and oxy acetylene welding. I will explain the most perfected and efficient welding process of them all, TIG welding. I will take you through shielding gases, tungsten materials, tungsten shapes and shaping, heat and warp age, welding flaws, and some recommendations to prevent welding flaws.

There are many purposes for shielding gases in the welding industry. In general, shielding gases are one of the many variables throughout the TIG welding processes. There are four types of gases and they all have their own characteristics. Shielding gases protect the molten metal and the tungsten from the impurities in the air during welding. Shielding gases also have an effect on the temperature the arc produces and the physical appearance of the weld bead. Flow rates in the TIG welding processes can also affect the shielding aspects of your weld.

The four types of shielding gases throughout the TIG welding processes are: argon (Ar), helium (He), hydrogen (H), and nitrogen (N). Any of those four gases can be mixed together.

Argon is a by-product of oxygen and nitrogen. Before it was produced on a huge scale, argon was a rare gas. Since argon is denser than air, argon can shield welds in deep grooves and tight places. But since argon is denser than air, when overhead welding is necessary, flow rates need to be increased because the argon will fall from the weld. Argon is fairly easy to ionize so it makes it convenient for AC (Alternating Current) welding.

Helium is a by-product of natural gas. Helium increases your weld penetration. Helium is great for welding aged aluminum and is also great for tube mills since helium allows you to weld at higher speeds. Helium is usually mixed with argon to help the shielding aspects since helium is lighter than air. Helium is not used with the AC since it doesn’t have the cleaning aspects that argon has.

Hydrogen is not used so much as a shielding gas as much as an additive to other shielding gases. Hydrogen is used when weld penetration and speed is needed. Hydrogen is not used when welding stainless steel since hydrogen is the number one cause of porosity and cracking in mild and stainless steel.

Similar to hydrogen, nitrogen is used as an additive to argon. It also can cause porosity in some ferritic steels. Ferritic steels are defined as a group of stainless steels with a chromium content range of 12-18o. Such steels do not respond well to heat treatment or temperament.

Nitrogen is used to increase penetration when welding copper alloys. Nitrogen is also a stabilizer when welding alloys. When it comes to shielding gases it makes a big difference in your welds. There are many characteristics to consider when you weld different materials.

Tungsten is a base material the electrode is made of. The electrode is the part of the welding torch that transfers the electrical arc to the weld material. Tungsten materials are another huge variable when it comes to TIG welding. Tungsten materials can affect your weld in similar ways as shielding gases. There are many characteristics of each material and depending upon what you are welding you may have to make some choices. Each tungsten is labeled by a color to make choosing easier.

There are five common types of tungstens including: pure tungsten (green), 1 % thorium (yellow) and 2 % thorium (red), 1/4to 1/2 % zirconium (brown), 2 % cerium (orange), 1 % lanthanum (black).

Pure tungsten has limited use for AC welding, and has the poorest heat resistance and electron flow, since there is no other material mixed with pure tungsten, it doesn’t have any of there characteristics including electron flow rates or heat resistance. Pure tungsten is mostly used for aluminum and magnesium.

Thoriated tungsten improves current flow, but to maintain an arc with thoriated tungsten requires more voltage. Thorium increases service life of the tungsten and makes arc starting easier. Thoriated tungstens do not work well with AC welding since it is hard to maintain a ball end shape, which is required for AC welding.

Zirconium tungstens help emit electrons more freely and can be used with AC and DC (Direct Current) welding processes, unlike thoriated tungstens. Unlike thoriated tungstens zirconium tungstens are not radioactive. So they have less contamination aspects than thoriated tungstens.

Cerium tungstens have many of the same characteristics as thoriated tungstens, they were actually made to replace thoriated tungstens since they are not radioactive, which makes them safer. Lithium tungstens are also non-radioactive like cerium. They are similar to thoriated tungstens, except they have a higher arc voltage.

Tungsten shaping and heat penetration are directly related to each other. When you change the thickness of the materials you are welding, you need to maybe consider changing shielding gases or tungeten types but you also need to think about the shape on the end of the tungsten especially since it changes weld penetration.

There are three basic shapes to choose from You can modify each as you learn more about all the variables you can choose from The three basic shapes are: pointed end, rounded end, and tapered with ball end (FIGURE 1).

There are special ways to grind and shape your tungstens. When you grind your tungsten, you need to make sure you use a grinding wheel that you have never grinded with before. If you use a used grinding wheel, the tungsten may become contaminated, and eventually contaminate the metal you are welding. You also need to make sure when you grind a point on your tungsten, to grind the tungsten parallel to the grinding wheel. Grinding your tungsten parallel to the grinding wheel allows electrons to flow easier, and prevents further contamination to the tungsten. You need to make sure when grinding a pointed end tungsten that the length of the tapered part of the tungsten is twice as long as the diameter of the tungsten. Tungsten shape and shaping is another large element of TIG welding that needs to be considered to make your welds most efficient.

(figure not reprinted here)

Heat is the main reason for warpage in the welding industry. Warpage needs to be considered when welding since the shape of the material will change after applying heat. There are different ways metals warp depending on where the heat is applied and how much heat is applied. Many professional welders know through experience how much a project will warp with different settings on the welder. They can also predict and correct warpage before it happens. Warpage can also depend on tungsten shape, tungsten material, amperage, shielding gases, weld angles and weld distances. There are also different ways metal warps depending on the weld joint.

(figure not reprinted here)

As shown in FIGURE 2, once the heat from the welding process is applied to the objects, the two arrows show which way the metal is warped. The two dots represent the weld. There are many different ways metal can warp and this shows just an idea of how the weld warps the metal.

There are many TIG welding flaws you can run into when you are not fully experienced. These flaws must be looked at, especially when people's lives depend on it, such as in constructing bridges and buildings.

Many common welding failures are caused by welding flaws such as porosity, inclusions, inadequate penetration, and cracks, just to name a few. All of these problems can cause your weld to be weaker than you intended.

Porosity is caused when gases are dissolved in the weld, forming air bubbles in and on the weld. The result of porosity is caused by improper shielding gases or pressure settings. The shielding gases are what protect the molten metal when welding and eliminates porosity.

Inclusions are when non-metallic metals such as slag enters the molten metal. This can be caused by multiple weld starts. It can be fixed by welding one continuous bead.

Inadequate penetration can weaken the weld severely along with inclusions and porosity. When you don't get the right amount of penetration you don't allow the full amount of materials to fuse together. The main cause of improper penetration are a misdirected arc and not enough amperage. Simply, the weld bead is too small for the job.

Cracks are another flaw that can have drastic effects. Cracks are caused during the solidifying stages of welding. When the metals drastically drop temperature, the weld materials are vulnerable to cracking. Slowing your weld speed is one of the main corrections to cracking. When welding it is most important to ask questions if you need to since someone's life could depend on it.

TIG welding processes can weld many more materials than wire feed of stick welding. TIG welding processes are capable of welding many types of materials such as: copper, aluminum, mild and low carbon steels, stainless steel, and magnesium. This is what makes TIG welding so different than any other welding process. You can weld so many different materials. This is where TIG welding becomes the most perfected welding process in the welding industry. The TIG welding process can weld the most materials of all the welding processes.

Some recommendations will help you perform better welds, these fall into categories like welding angles, arc distance control, tungsten types, and shielding gas considerations. TIG welding can be a lot to take in when it comes to an essay, but if you can remember different recommendations such as these you will increase your abilities to weld with a TIG welder. The first recommendation is to consider all your variables throughout the whole process, ask questions when needed and take your time. Speed will eventually come as time goes on. To clear up how the TIG welding process works check out the illustration below.

(illustration from online source not reprinted here)

Now that you know about some recommendations on how to improve your weld abilities, I will explain how to protect yourself during welding. Safety is a huge deal when it comes to welding in general. You need the proper protective equipment to make your job or experience as safe as it can be. You need to protect your eyes, skin, and lungs. You need a proper welding helmet to protect your eyes and face from the bright arc and spatter. You will also need thick gloves and a long sleeve cotton shirt to protect your skin from burning from the bright light. You should leave no skin uncovered or unprotected. Burns can lead to blindness and skin cancer. You should also have pants and steel toe boots to protect against further burns or falling objects. A respirator should be used when welding specific metals to protect your respiratory system from cancer and other damage.

Learning about TIG welding has been a very helpful experience for me since it will help me in my college career, and in my job after school. I am going to be a certified welder. This learning experience has helped me greatly. TIG welding is something that needs to be learned not only by textbook or paper but also by hands on learning. And thankfully, I have gotten that experience to weld hands on. It makes learning so much easier

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Annotation

The writer of this piece

- **introduces a topic.**
    - *There are many types of welding . . . I will explain . . . I will take you through . . .*
- **organizes ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; includes graphics when useful to aiding comprehension.**
    - *I will explain the most perfected and efficient welding process of them all, TIG welding. I will take you through shielding gases, tungsten materials, tungsten shapes and shaping, heat and warp age, welding flaws, and some recommendations to prevent welding flaws.*
    - *There are many purposes for shielding gases in the welding industry.*
    - *The four types of shielding gases throughout the TIG welding process are: argon (Ar) . . .*
    - *Argon is a by-product of oxygen and nitrogen.*
- **develops the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.**
    - *Hydrogen is not used so much as a shielding gas as much as an additive to other shielding gases. Hydrogen is used when weld penetration and speed is needed. Hydrogen is not used when welding stainless steel since hydrogen is the number one cause of porosity and cracking in mild and stainless steel.*
    - *If you use a used grinding wheel, the tungsten may become contaminated, and eventually contaminate the metal you are welding.*
    - *When welding it is most important to ask questions if you need to since someone's life could depend on it.*
- **uses appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.**
    - *There are special ways to grind and shape your tungstens. When you grind your tungsten, you need to make sure . . .*
    - *As shown in FIGURE 2, once the heat from the welding process is applied to the objects . . .*
    - *Inadequate penetration can weaken the weld severely along with inclusions and porosity. . . . Cracks are another flaw that can have drastic effects.*
- **uses precise language and domain-specific vocabulary to manage the complexity of the topic.**
    - *Similar to hydrogen, nitrogen is used as an additive to argon. It also can cause porosity in some ferritic steels. Ferritic steels are defined as a group of stainless steels with a chromium content range of 12-180.*
    - *Zirconium tungstens help emit electrons more freely and can be used with AC and DC (Direct Current) welding processes, unlike thoriated tungstens.*
- **establishes and maintains a formal style and objective tone while attending to the norms and conventions of the discipline in which the student is writing.**
    - *Now that you know about some recommendations on how to improve your weld abilities, I will explain how to protect yourself during welding.*
    - *Learning about TIG welding has been a very helpful experience for me since it will help me in my college career, and in my job after school. I am going to be a certified welder.*
- **provides a concluding section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).**
    - *Learning about TIG welding has been a very helpful experience . . . I am going to be a certified welder. . . . TIG welding is something that needs to be learned not only by*

textbook or paper but also by hands on learning. And thankfully, I have gotten that experience to weld hands on. It makes learning so much easier.

- **demonstrates good command of the conventions of standard written English (with occasional errors that do not interfere materially with the underlying message).**

Common Core State Standards
for
English Language Arts
&
Literacy in History/Social Studies, Science,
&
Technical Subjects

COMMON CORE STATE STANDARDS FOR

English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

COMMON CORE
STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

Table of Contents

Introduction

The Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects ("the Standards") are the culmination of an extended, broad-based effort to fulfill the charge issued by the states to create the next generation of K–12 standards in order to help ensure that all students are college and career ready in literacy no later than the end of high school.

The present work, led by the Council of Chief State School Officers (CCSSO) and the National Governors Association (NGA), builds on the foundation laid by states in their decades-long work on crafting high-quality education standards. The Standards also draw on the most important international models as well as research and input from numerous sources, including state departments of education, scholars, assessment developers, professional organizations, educators from kindergarten through college, and parents, students, and other members of the public. In their design and content, refined through successive drafts and numerous rounds of feedback, the Standards represent a synthesis of the best elements of standards-related work to date and an important advance over that previous work.

As specified by CCSSO and NGA, the Standards are (1) research and evidence based, (2) aligned with college and work expectations, (3) rigorous, and (4) internationally benchmarked. A particular standard was included in the document only when the best available evidence indicated that its mastery was essential for college and career readiness in a twenty-first-century, globally competitive society. The Standards are intended to be a living work: as new and better evidence emerges, the Standards will be revised accordingly.

The Standards are an extension of a prior initiative led by CCSSO and NGA to develop College and Career Readiness (CCR) standards in reading, writing, speaking, listening, and language as well as in mathematics. The CCR Reading, Writing, and Speaking and Listening Standards, released in draft form in September 2009, serve, in revised form, as the backbone for the present document. Grade-specific K–12 standards in reading, writing, speaking, listening, and language translate the broad (and, for the earliest grades, seemingly distant) aims of the CCR standards into age- and attainment-appropriate terms.

The Standards set requirements not only for English language arts (ELA) but also for literacy in history/social studies, science, and technical subjects. Just as students must learn to read, write, speak, listen, and use language effectively in a variety of content areas, so too must the Standards specify the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grade 6 and above are predicated on teachers of ELA, history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the 6–12 literacy standards in history/social studies, science, and technical subjects are not meant to replace content standards in those areas but rather to supplement them. States may incorporate these standards into their standards for those subjects or adopt them as content area literacy standards.

As a natural outgrowth of meeting the charge to define college and career readiness, the Standards also lay out a vision of what it means to be a literate person in the twenty-first century. Indeed, the skills and understandings students are expected to demonstrate have wide applicability outside the classroom or workplace. Students who meet the Standards readily undertake the close, attentive reading that is at the heart of understanding and enjoying complex works of literature. They habitually perform the critical reading necessary to pick carefully through the staggering amount of information available today in print and digitally. They actively seek the wide, deep, and thoughtful engagement with high-quality literary and informational texts that builds knowledge, enlarges experience, and broadens worldviews. They reflexively demonstrate the cogent reasoning and use of evidence that is essential to both private deliberation and responsible citizenship in a democratic republic. In short, students who meet the Standards develop the skills in reading, writing, speaking, and listening that are the foundation for any creative and purposeful expression in language.

June 2, 2010

Key Design Considerations

CCR and grade-specific standards

The CCR standards anchor the document and define general, cross-disciplinary literacy expectations that must be met for students to be prepared to enter college and workforce training programs ready to succeed. The K–12 grade-specific standards define end-of-year expectations and a cumulative progression designed to enable students to meet college and career readiness expectations no later than the end of high school. The CCR and high school (grades 9–12) standards work in tandem to define the college and career readiness line—the former providing broad standards, the latter providing additional specificity. Hence, both should be considered when developing college and career readiness assessments.

Students advancing through the grades are expected to meet each year's grade-specific standards, retain or further develop skills and understandings mastered in preceding grades, and work steadily toward meeting the more general expectations described by the CCR standards.

Grade levels for K–8; grade bands for 9–10 and 11–12

The Standards use individual grade levels in kindergarten through grade 8 to provide useful specificity; the Standards use two-year bands in grades 9–12 to allow schools, districts, and states flexibility in high school course design.

A focus on results rather than means

By emphasizing required achievements, the Standards leave room for teachers, curriculum developers, and states to determine how those goals should be reached and what additional topics should be addressed. Thus, the Standards do not mandate such things as a particular writing process or the full range of metacognitive strategies that students may need to monitor and direct their thinking and learning. Teachers are thus free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards.

An integrated model of literacy

Although the Standards are divided into Reading, Writing, Speaking and Listening, and Language strands for conceptual clarity, the processes of communication are closely connected, as reflected throughout this document. For example, Writing standard 9 requires that students be able to write about what they read. Likewise, Speaking and Listening standard 4 sets the expectation that students will share findings from their research.

Research and media skills blended into the Standards as a whole

To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in a separate section.

Shared responsibility for students' literacy development

The Standards insist that instruction in reading, writing, speaking, listening, and language be a shared responsibility within the school. The K–5 standards include expectations for reading, writing, speaking, listening, and language applicable to a range of subjects, including but not limited to ELA. The grades 6–12 standards are divided into two sections, one for ELA and the other for history/social studies, science, and technical subjects. This division reflects the unique, time-honored place of ELA teachers in developing students' literacy skills while at the same time recognizing that teachers in other areas must have a role in this development as well.

Part of the motivation behind the interdisciplinary approach to literacy promulgated by the Standards is extensive research establishing the need for college and career ready students to be proficient in reading complex informational text independently in a variety of content areas. Most of the required reading in college and workforce training programs is informational in structure and challenging in content; postsecondary education programs typically provide students with both a higher volume of such reading than is generally required in K–12 schools and comparatively little scaffolding.

The Standards are not alone in calling for a special emphasis on informational text. The 2009 reading framework of the National Assessment of Educational Progress (NAEP) requires a high and increasing proportion of informational text on its assessment as students advance through the grades.

Distribution of Literary and Informational Passages by Grade in the 2009 NAEP Reading Framework

Grade	Literary	Informational
4	50%	50%
8	45%	55%
12	30%	70%

Source: National Assessment Governing Board. (2008). *Reading framework for the 2009 National Assessment of Educational Progress.* Washington, DC: U.S. Government Printing Office.

The Standards aim to align instruction with this framework so that many more students than at present can meet the requirements of college and career readiness. In K–5, the Standards follow NAEP's lead in balancing the reading of literature with the reading of informational texts, including texts in history/social studies, science, and technical subjects. In accord with NAEP's growing emphasis on informational texts in the higher grades, the Standards demand that a significant amount of reading of informational texts take place in and outside the ELA classroom. Fulfilling the Standards for 6–12 ELA requires much greater attention to a specific category of informational text—literary nonfiction—than has been traditional. Because the ELA classroom must focus on literature (stories, drama, and poetry) as well as literary nonfiction, a great deal of informational reading in grades 6–12 must take place in other classes if the NAEP assessment framework is to be matched instructionally.[1] To measure students' growth toward college and career readiness, assessments aligned with the Standards should adhere to the distribution of texts across grades cited in the NAEP framework.

NAEP likewise outlines a distribution across the grades of the core purposes and types of student writing. The 2011 NAEP framework, like the Standards, cultivates the development of three mutually reinforcing writing capacities: writing to persuade, to explain, and to convey real or imagined experience. Evidence concerning the demands of college and career readiness gathered during development of the Standards concurs with NAEP's shifting emphases: standards for grades 9–12 describe writing in all three forms, but, consistent with NAEP, the overwhelming focus of writing throughout high school should be on arguments and informative/explanatory texts.[2]

Distribution of Communicative Purposes by Grade in the 2011 NAEP Writing Framework

Grade	To Persuade	To Explain	To Convey Experience
4	30%	35%	35%
8	35%	35%	30%
12	40%	40%	20%

Source: National Assessment Governing Board. (2007). *Writing framework for the 2011 National Assessment of Educational Progress, pre-publication edition.* Iowa City, IA: ACT, Inc.

It follows that writing assessments aligned with the Standards should adhere to the distribution of writing purposes across grades outlined by NAEP.

Focus and coherence in instruction and assessment

While the Standards delineate specific expectations in reading, writing, speaking, listening, and language, each standard need not be a separate focus for instruction and assessment. Often, several standards can be addressed by a single rich task. For example, when editing writing, students address Writing standard 5 ("Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach") as well as Language standards 1–3 (which deal with conventions of standard English and knowledge of language). When drawing evidence from literary and informational texts per Writing standard 9, students are also demonstrating their comprehension skill in relation to specific standards in Reading. When discussing something they have read or written, students are also demonstrating their speaking and listening skills. The CCR anchor standards themselves provide another source of focus and coherence.

The same ten CCR anchor standards for Reading apply to both literary and informational texts, including texts in history/social studies, science, and technical subjects. The ten CCR anchor standards for Writing cover numerous text types and subject areas. This means that students can develop mutually reinforcing skills and exhibit mastery of standards for reading and writing across a range of texts and classrooms.

[1]The percentages on the table reflect the sum of student reading, not just reading in ELA settings. Teachers of senior English classes, for example, are not required to devote 70 percent of reading to informational texts. Rather, 70 percent of student reading across the grade should be informational.
[2]As with reading, the percentages in the table reflect the sum of student writing, not just writing in ELA settings.

What is Not Covered by the Standards

The Standards should be recognized for what they are not as well as what they are. The most important intentional design limitations are as follows:

1. The Standards define what all students are expected to know and be able to do, not how teachers should teach. For instance, the use of play with young children is not specified by the Standards, but it is welcome as a valuable activity in its own right and as a way to help students meet the expectations in this document. Furthermore, while the Standards make references to some particular forms of content, including mythology, foundational U.S. documents, and Shakespeare, they do not—indeed, cannot—enumerate all or even most of the content that students should learn. The Standards must therefore be complemented by a well-developed, content-rich curriculum consistent with the expectations laid out in this document.

2. While the Standards focus on what is most essential, they do not describe all that can or should be taught. A great deal is left to the discretion of teachers and curriculum developers. The aim of the Standards is to articulate the fundamentals, not to set out an exhaustive list or a set of restrictions that limits what can be taught beyond what is specified herein.

3. The Standards do not define the nature of advanced work for students who meet the Standards prior to the end of high school. For those students, advanced work in such areas as literature, composition, language, and journalism should be available. This work should provide the next logical step up from the college and career readiness baseline established here.

4. The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.

5. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post–high school lives.

   Each grade will include students who are still acquiring English. For those students, it is possible to meet the standards in reading, writing, speaking, and listening without displaying native-like control of conventions and vocabulary.

   The Standards should also be read as allowing for the widest possible range of students to participate fully from the outset and as permitting appropriate accommodations to ensure maximum participation of students with special education needs. For example, for students with disabilities *reading* should allow for the use of Braille, screen-reader technology, or other assistive devices, while *writing* should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, *speaking* and *listening* should be interpreted broadly to include sign language.

6. While the ELA and content area literacy components described herein are critical to college and career readiness, they do not define the whole of such readiness. Students require a wide-ranging, rigorous academic preparation and, particularly in the early grades, attention to such matters as social, emotional, and physical development and approaches to learning. Similarly, the Standards define literacy expectations in history/social studies, science, and technical subjects, but literacy standards in other areas, such as mathematics and health education, modeled on those in this document are strongly encouraged to facilitate a comprehensive, schoolwide literacy program.

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, and Language

The descriptions that follow are not standards themselves but instead offer a portrait of students who meet the standards set out in this document. As students advance through the grades and master the standards in reading, writing, speaking, listening, and language, they are able to exhibit with increasing fullness and regularity these capacities of the literate individual.

They demonstrate independence.

Students can, without significant scaffolding, comprehend and evaluate complex texts across a range of types and disciplines, and they can construct effective arguments and convey intricate or multifaceted information. Likewise, students are able independently to discern a speaker's key points, request clarification, and ask relevant questions. They build on others' ideas, articulate their own ideas, and confirm they have been understood. Without prompting, they demonstrate command of standard English and acquire and use a wide-ranging vocabulary. More broadly, they become self-directed learners, effectively seeking out and using resources to assist them, including teachers, peers, and print and digital reference materials.

They build strong content knowledge.

Students establish a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and discipline-specific expertise. They refine and share their knowledge through writing and speaking.

They respond to the varying demands of audience, task, purpose, and discipline.

Students adapt their communication in relation to audience, task, purpose, and discipline. They set and adjust purpose for reading, writing, speaking, listening, and language use as warranted by the task. They appreciate nuances, such as how the composition of an audience should affect tone when speaking and how the connotations of words affect meaning. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in science).

They comprehend as well as critique.

Students are engaged and open-minded—but discerning—readers and listeners. They work diligently to understand precisely what an author or speaker is saying, but they also question an author's or speaker's assumptions and premises and assess the veracity of claims and the soundness of reasoning.

They value evidence.

Students cite specific evidence when offering an oral or written interpretation of a text. They use relevant evidence when supporting their own points in writing and speaking, making their reasoning clear to the reader or listener, and they constructively evaluate others' use of evidence.

They use technology and digital media strategically and capably.

Students employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.

They come to understand other perspectives and cultures.

Students appreciate that the twenty-first-century classroom and workplace are settings in which people from often widely divergent cultures and who represent diverse experiences and perspectives must learn and work together. Students actively seek to understand other perspectives and cultures through reading and listening, and they are able to communicate effectively with people of varied backgrounds. They evaluate other points of view critically and constructively. Through reading great classic and contemporary works of literature representative of a variety of periods, cultures, and worldviews, students can vicariously inhabit worlds and have experiences much different than their own.

How to Read This Document

Overall Document Organization

The Standards comprise three main sections: a comprehensive K–5 section and two content area–specific sections for grades 6–12, one for ELA and one for history/social studies, science, and technical subjects. Three appendices accompany the main document.

Each section is divided into strands. K–5 and 6–12 ELA have Reading, Writing, Speaking and Listening, and Language strands; the 6–12 history/ social studies, science, and technical subjects section focuses on Reading and Writing. Each strand is headed by a strand-specific set of College and Career Readiness Anchor Standards that is identical across all grades and content areas.

Standards for each grade within K–8 and for grades 9–10 and 11–12 follow the CCR anchor standards in each strand. Each grade-specific standard (as these standards are collectively referred to) corresponds to the same-numbered CCR anchor standard. Put another way, each CCR anchor standard has an accompanying grade-specific standard translating the broader CCR statement into grade-appropriate end-of-year expectations.

Individual CCR anchor standards can be identified by their strand, CCR status, and number (R.CCR.6, for example). Individual grade-specific standards can be identified by their strand, grade, and number (or number and letter, where applicable), so that RI.4.3, for example, stands for Reading, Informational Text, grade 4, standard 3 and W.5.1a stands for Writing, grade 5, standard 1a. Strand designations can be found in brackets alongside the full strand title.

Who is responsible for which portion of the Standards

A single K–5 section lists standards for reading, writing, speaking, listening, and language across the curriculum, reflecting the fact that most or all of the instruction students in these grades receive comes from one teacher. Grades 6–12 are covered in two content area–specific sections, the first for the English language arts teacher and the second for teachers of history/social studies, science, and technical subjects. Each section uses the same CCR anchor standards but also includes grade-specific standards tuned to the literacy requirements of the particular discipline(s).

Key Features of the Standards

Reading: Text complexity and the growth of comprehension

The Reading standards place equal emphasis on the sophistication of what students read and the skill with which they read. Standard 10 defines a grade-by-grade “staircase” of increasing text complexity that rises from beginning reading to the college and career readiness level. Whatever they are reading, students must also show a steadily growing ability to discern more from and make fuller use of text, including making an increasing number of connections among ideas and between texts, considering a wider range of textual evidence, and becoming more sensitive to inconsistencies, ambiguities, and poor reasoning in texts.

Writing: Text types, responding to reading, and research

The Standards acknowledge the fact that whereas some writing skills, such as the ability to plan, revise, edit, and publish, are applicable to many types of writing, other skills are more properly defined in terms of specific writing types: arguments, informative/explanatory texts, and narratives. Standard 9 stresses the importance of the writing-reading connection by requiring students to draw upon and write about evidence from literary and informational texts. Because of the centrality of writing to most forms of inquiry, research standards are prominently included in this strand, though skills important to research are infused throughout the document.

Speaking and Listening: Flexible communication and collaboration

Including but not limited to skills necessary for formal presentations, the Speaking and Listening standards require students to develop a range of broadly useful oral communication and interpersonal skills. Students must learn to work together, express and listen carefully to ideas, integrate information from oral, visual, quantitative, and media sources, evaluate what they hear, use media and visual displays strategically to help achieve communicative purposes, and adapt speech to context and task.

Language: Conventions, effective use, and vocabulary

The Language standards include the essential “rules” of standard written and spoken English, but they also approach language as a matter of craft and informed choice among alternatives. The vocabulary standards focus on understanding words and phrases, their relationships, and their nuances and on acquiring new vocabulary, particularly general academic and domain-specific words and phrases.

Appendices A, B, and C

Appendix A contains supplementary material on reading, writing, speaking and listening, and language as well as a glossary of key terms. Appendix B consists of text exemplars illustrating the complexity, quality, and range of reading appropriate for various grade levels with accompanying sample performance tasks. Appendix C includes annotated samples demonstrating at least adequate performance in student writing at various grade levels.

STANDARDS FOR

English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

K–5

College and Career Readiness Anchor Standards for Reading

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see “Research to Build and Present Knowledge” in Writing and “Comprehension and Collaboration” in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Note on range and content of student reading

To build a foundation for college and career readiness, students must read widely and deeply from among a broad range of high-quality, increasingly challenging literary and informational texts. Through extensive reading of stories, dramas, poems, and myths from diverse cultures and different time periods, students gain literary and cultural knowledge as well as familiarity with various text structures and elements. By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success.

Reading Standards for Literature K–5

RL

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Kindergartners:	Grade 1 students:	Grade 2 students:
Key Ideas and Details		
1. With prompting and support, ask and answer questions about key details in a text.	1. Ask and answer questions about key details in a text.	1. Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
2. With prompting and support, retell familiar stories, including key details.	2. Retell stories, including key details, and demonstrate understanding of their central message or lesson.	2. Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.
3. With prompting and support, identify characters, settings, and major events in a story.	3. Describe characters, settings, and major events in a story, using key details.	3. Describe how characters in a story respond to major events and challenges.
Craft and Structure		
4. Ask and answer questions about unknown words in a text.	4. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.	4. Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.
5. Recognize common types of texts (e.g., storybooks, poems).	5. Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.	5. Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.
6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.	6. Identify who is telling the story at various points in a text.	6. Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.
Integration of Knowledge and Ideas		
7. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).	7. Use illustrations and details in a story to describe its characters, setting, or events.	7. Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.
8. (Not applicable to literature)	8. (Not applicable to literature)	8. (Not applicable to literature)
9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.	9. Compare and contrast the adventures and experiences of characters in stories.	9. Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.
Range of Reading and Level of Text Complexity		
10. Actively engage in group reading activities with purpose and understanding.	10. With prompting and support, read prose and poetry of appropriate complexity for grade 1.	10. By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading Standards for Literature K–5

RL

Grade 3 students:	Grade 4 students:	Grade 5 students:
Key Ideas and Details		
1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.	2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.	2. Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.
3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.	3. Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).	3. Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.	4. Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).	4. Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
5. Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.	5. Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.	5. Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.
6. Distinguish their own point of view from that of the narrator or those of the characters.	6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.	6. Describe how a narrator's or speaker's point of view influences how events are described.
Integration of Knowledge and Ideas		
7. Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).	7. Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.	7. Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).
8. (Not applicable to literature)	8. (Not applicable to literature)	8. (Not applicable to literature)
9. Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).	9. Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.	9. Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.
Range of Reading and Level of Text Complexity		
10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2–3 text complexity band independently and proficiently.	10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.	10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4–5 text complexity band independently and proficiently.

Reading Standards for Informational Text K–5

RI

Kindergartners:		Grade 1 students:		Grade 2 students:	
Key Ideas and Details					
1.	With prompting and support, ask and answer questions about key details in a text.	1.	Ask and answer questions about key details in a text.	1.	Ask and answer such questions as *who, what, where, when, why,* and *how* to demonstrate understanding of key details in a text.
2.	With prompting and support, identify the main topic and retell key details of a text.	2.	Identify the main topic and retell key details of a text.	2.	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
3.	With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	3.	Describe the connection between two individuals, events, ideas, or pieces of information in a text.	3.	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
Craft and Structure					
4.	With prompting and support, ask and answer questions about unknown words in a text.	4.	Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.	4.	Determine the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area*.
5.	Identify the front cover, back cover, and title page of a book.	5.	Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.	5.	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
6.	Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.	6.	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.	6.	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
Integration of Knowledge and Ideas					
7.	With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).	7.	Use the illustrations and details in a text to describe its key ideas.	7.	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
8.	With prompting and support, identify the reasons an author gives to support points in a text.	8.	Identify the reasons an author gives to support points in a text.	8.	Describe how reasons support specific points the author makes in a text.
9.	With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	9.	Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	9.	Compare and contrast the most important points presented by two texts on the same topic.
Range of Reading and Level of Text Complexity					
10.	Actively engage in group reading activities with purpose and understanding.	10.	With prompting and support, read informational texts appropriately complex for grade 1.	10.	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading Standards for Informational Text K–5

RI

Grade 3 students:	Grade 4 students:	Grade 5 students:
Key Ideas and Details		
1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine the main idea of a text; recount the key details and explain how they support the main idea.	2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.	2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.	3. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.	3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
Craft and Structure		
4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 3 topic or subject area*.	4. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.	4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.
5. Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.	5. Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.	5. Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.
6. Distinguish their own point of view from that of the author of a text.	6. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.	6. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.
Integration of Knowledge and Ideas		
7. Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).	7. Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.	7. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
8. Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).	8. Explain how an author uses reasons and evidence to support particular points in a text.	8. Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).
9. Compare and contrast the most important points and key details presented in two texts on the same topic.	9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.	9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
Range of Reading and Level of Text Complexity		
10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.	10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.	10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.

Reading Standards: Foundational Skills (K–5)

RF

These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: good readers will need much less practice with these concepts than struggling readers will. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.

Note: In kindergarten, children are expected to demonstrate increasing awareness and competence in the areas that follow.

Kindergartners:	Grade 1 students:
Print Concepts	
1. Demonstrate understanding of the organization and basic features of print. a. Follow words from left to right, top to bottom, and page by page. b. Recognize that spoken words are represented in written language by specific sequences of letters. c. Understand that words are separated by spaces in print. d. Recognize and name all upper- and lowercase letters of the alphabet.	1. Demonstrate understanding of the organization and basic features of print. a. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).
Phonological Awareness	
2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Recognize and produce rhyming words. b. Count, pronounce, blend, and segment syllables in spoken words. c. Blend and segment onsets and rimes of single-syllable spoken words. d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.* (This does not include CVCs ending with /l/, /r/, or /x/.) e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.	2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Distinguish long from short vowel sounds in spoken single-syllable words. b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends. c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

*Words, syllables, or phonemes written in /slashes/refer to their pronunciation or phonology. Thus, /CVC/ is a word with three phonemes regardless of the number of letters in the spelling of the word.

Reading Standards: Foundational Skills (K–5)

RF

Note: In kindergarten children are expected to demonstrate increasing awareness and competence in the areas that follow.

Kindergartners:	Grade 1 students:	Grade 2 students:
Phonics and Word Recognition		
3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant. b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. c. Read common high-frequency words by sight (e.g., *the*, *of*, *to*, *you*, *she*, *my*, *is*, *are*, *do*, *does*). d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.	3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Know the spelling-sound correspondences for common consonant digraphs. b. Decode regularly spelled one-syllable words. c. Know final -e and common vowel team conventions for representing long vowel sounds. d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. e. Decode two-syllable words following basic patterns by breaking the words into syllables. f. Read words with inflectional endings. g. Recognize and read grade-appropriate irregularly spelled words.	3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Distinguish long and short vowels when reading regularly spelled one-syllable words. b. Know spelling-sound correspondences for additional common vowel teams. c. Decode regularly spelled two-syllable words with long vowels. d. Decode words with common prefixes and suffixes. e. Identify words with inconsistent but common spelling-sound correspondences. f. Recognize and read grade-appropriate irregularly spelled words.
Fluency		
4. Read emergent-reader texts with purpose and understanding.	4. Read with sufficient accuracy and fluency to support comprehension. a. Read grade-level text with purpose and understanding. b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	4. Read with sufficient accuracy and fluency to support comprehension. a. Read grade-level text with purpose and understanding. b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Reading Standards: Foundational Skills (K–5)

RF

Grade 3 students:	Grade 4 students:	Grade 5 students:
Phonics and Word Recognition		
3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Identify and know the meaning of the most common prefixes and derivational suffixes. b. Decode words with common Latin suffixes. c. Decode multisyllable words. d. Read grade-appropriate irregularly spelled words.	3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.	3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
Fluency		
4. Read with sufficient accuracy and fluency to support comprehension. a. Read grade-level text with purpose and understanding. b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	4. Read with sufficient accuracy and fluency to support comprehension. a. Read grade-level text with purpose and understanding. b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	4. Read with sufficient accuracy and fluency to support comprehension. a. Read grade-level text with purpose and understanding. b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

College and Career Readiness Anchor Standards for Writing

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

*These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

Note on range and content of student writing

To build a foundation for college and career readiness, students need to learn to use writing as a way of offering and supporting opinions, demonstrating understanding of the subjects they are studying, and conveying real and imagined experiences and events. They learn to appreciate that a key purpose of writing is to communicate clearly to an external, sometimes unfamiliar audience, and they begin to adapt the form and content of their writing to accomplish a particular task and purpose. They develop the capacity to build knowledge on a subject through research projects and to respond analytically to literary and informational sources. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and extended time frames throughout the year.

Writing Standards K–5

W

The following standards for K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

Kindergartners:	Grade 1 students:	Grade 2 students:
Text Types and Purposes		
1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., *My favorite book is . . .*).	1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.	1. Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., *because*, *and*, *also*) to connect opinion and reasons, and provide a concluding statement or section.
2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.	2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.	2. Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.
3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.	3. Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.	3. Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.
Production and Distribution of Writing		
4. (Begins in grade 3)	4. (Begins in grade 3)	4. (Begins in grade 3)
5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.	5. With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.	5. With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.
6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.	6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.	6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
Research to Build and Present Knowledge		
7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).	7. Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).	7. Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.	8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.	8. Recall information from experiences or gather information from provided sources to answer a question.
9. (Begins in grade 4)	9. (Begins in grade 4)	9. (Begins in grade 4)
Range of Writing		
10. (Begins in grade 3)	10. (Begins in grade 3)	10. (Begins in grade 3)

Writing Standards K–5

W

Grade 3 students:	Grade 4 students:	Grade 5 students:
Text Types and Purposes		
1. Write opinion pieces on topics or texts, supporting a point of view with reasons. a. Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons. b. Provide reasons that support the opinion. c. Use linking words and phrases (e.g., *because*, *therefore*, *since*, *for example*) to connect opinion and reasons. d. Provide a concluding statement or section.	1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information. a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. b. Provide reasons that are supported by facts and details. c. Link opinion and reasons using words and phrases (e.g., *for instance*, *in order to*, *in addition*). d. Provide a concluding statement or section related to the opinion presented.	1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information. a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. b. Provide logically ordered reasons that are supported by facts and details. c. Link opinion and reasons using words, phrases, and clauses (e.g., *consequently*, *specifically*). d. Provide a concluding statement or section related to the opinion presented.
2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. b. Develop the topic with facts, definitions, and details. c. Use linking words and phrases (e.g., *also*, *another*, *and*, *more*, *but*) to connect ideas within categories of information. d. Provide a concluding statement or section.	2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within categories of information using words and phrases (e.g., *another*, *for example*, *also*, *because*). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.	2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast*, *especially*). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.
3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. c. Use temporal words and phrases to signal event order. d. Provide a sense of closure.	3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Orient the reader by establishing a situationand introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. c. Use a variety of transitional words and phrases to manage the sequence of events. d. Use concrete words and phrases and sensory details to convey experiences and events precisely. e. Provide a conclusion that follows from the narrated experiences or events.	3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. d. Use concrete words and phrases and sensory details to convey experiences and events precisely. e. Provide a conclusion that follows from the narrated experiences or events.

Writing Standards K–5

W

Grade 3 students:	Grade 4 students:	Grade 5 students:
Production and Distribution of Writing		
4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 3 on page 29.)	5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 4 on page 29.)	5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 5 on page 29.)
6. With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.	6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.	6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.
Research to Build and Present Knowledge		
7. Conduct short research projects that build knowledge about a topic.	7. Conduct short research projects that build knowledge through investigation of different aspects of a topic.	7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
8. Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.	8. Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.	8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
9. (Begins in grade 4)	9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 4 Reading standards* to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions]."). b. Apply *grade 4 Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text").	9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 5 Reading standards* to literature (e.g., "Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]"). b. Apply *grade 5 Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]").
Range of Writing		
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Note on range and content of student speaking and listening

To build a foundation for college and career readiness, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner. Being productive members of these conversations requires that students contribute accurate, relevant information; respond to and develop what others have said; make comparisons and contrasts; and analyze and synthesize a multitude of ideas in various domains.

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. Digital texts confront students with the potential for continually updated content and dynamically changing combinations of words, graphics, images, hyperlinks, and embedded video and audio.

Speaking and Listening Standards K–5

SL

The following standards for K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Kindergartners:	Grade 1 students:	Grade 2 students:
Comprehension and Collaboration		
1. Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges.	1. Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion.	1. Participate in collaborative conversations with diverse partners about *grade 2 topics and texts* with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by linking their comments to the remarks of others. c. Ask for clarification and further explanation as needed about the topics and texts under discussion.
2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.	2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.	2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.	3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.	3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
Presentation of Knowledge and Ideas		
4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.	4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.	4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.
5. Add drawings or other visual displays to descriptions as desired to provide additional detail.	5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.	5. Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
6. Speak audibly and express thoughts, feelings, and ideas clearly.	6. Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 on page 26 for specific expectations.)	6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 on page 26 for specific expectations.)

Speaking and Listening Standards K–5

SL

Grade 3 students:	Grade 4 students:	Grade 5 students:
Comprehension and Collaboration		
1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion.	1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.	1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
2. Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.	2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.	2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.	3. Identify the reasons and evidence a speaker provides to support particular points.	3. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
Presentation of Knowledge and Ideas		
4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.	4. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
5. Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.	5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.	5. Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 3 Language standards 1 and 3 on page 28 for specific expectations.)	6. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 on page 28 for specific expectations.)	6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3 on page 28 for specific expectations.)

College and Career Readiness Anchor Standards for Language

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Note on range and content of student language use

To build a foundation for college and career readiness in language, students must gain control over many conventions of standard English grammar, usage, and mechanics as well as learn other ways to use language to convey meaning effectively. They must also be able to determine or clarify the meaning of grade-appropriate words encountered through listening, reading, and media use; come to appreciate that words have nonliteral meanings, shadings of meaning, and relationships to other words; and expand their vocabulary in the course of studying content. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Language Standards K–5

L

The following standards for grades K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 30 for a complete list and Appendix A for an example of how these skills develop in sophistication.

Kindergartners:	Grade 1 students:	Grade 2 students:
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Print many upper- and lowercase letters. b. Use frequently occurring nouns and verbs. c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., *dog, dogs*; *wish, wishes*). d. Understand and use question words (interrogatives) (e.g., *who, what, where, when, why, how*). e. Use the most frequently occurring prepositions (e.g., *to, from, in, out, on, off, for, of, by, with*). f. Produce and expand complete sentences in shared language activities.	1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Print all upper- and lowercase letters. b. Use common, proper, and possessive nouns. c. Use singular and plural nouns with matching verbs in basic sentences (e.g., *He hops*; *We hop*). d. Use personal, possessive, and indefinite pronouns (e.g., *I, me, my; they, them, their; anyone, everything*). e. Use verbs to convey a sense of past, present, and future (e.g., *Yesterday I walked home; Today I walk home; Tomorrow I will walk home*). f. Use frequently occurring adjectives. g. Use frequently occurring conjunctions (e.g., *and, but, or, so, because*). h. Use determiners (e.g., articles, demonstratives). i. Use frequently occurring prepositions (e.g., *during, beyond, toward*). j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts.	1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use collective nouns (e.g., *group*). b. Form and use frequently occurring irregular plural nouns (e.g., *feet, children, teeth, mice, fish*). c. Use reflexive pronouns (e.g., *myself, ourselves*). d. Form and use the past tense of frequently occurring irregular verbs (e.g., *sat, hid, told*). e. Use adjectives and adverbs, and choose between them depending on what is to be modified. f. Produce, expand, and rearrange complete simple and compound sentences (e.g., *The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy*).
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Capitalize the first word in a sentence and the pronoun *I*. b. Recognize and name end punctuation. c. Write a letter or letters for most consonant and short-vowel sounds (phonemes). d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships.	2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Capitalize dates and names of people. b. Use end punctuation for sentences. c. Use commas in dates and to separate single words in a series. d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.	2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Capitalize holidays, product names, and geographic names. b. Use commas in greetings and closings of letters. c. Use an apostrophe to form contractions and frequently occurring possessives. d. Generalize learned spelling patterns when writing words (e.g., cage → badge; boy → boil). e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.

Language Standards K–5

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Kindergartners:	Grade 1 students:	Grade 2 students:
Knowledge of Language		
3. (Begins in grade 2)	3. (Begins in grade 2)	3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Compare formal and informal uses of English.
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *kindergarten reading and content.* a. Identify new meanings for familiar words and apply them accurately (e.g., knowing *duck* is a bird and learning the verb *to duck*). b. Use the most frequently occurring inflections and affixes (e.g., *-ed*, *-s*, *re-*, *un-*, *pre-*, *-ful*, *-less*) as a clue to the meaning of an unknown word.	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 1 reading and content*, choosing flexibly from an array of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Use frequently occurring affixes as a clue to the meaning of a word. c. Identify frequently occurring root words (e.g., *look*) and their inflectional forms (e.g., *looks*, *looked*, *looking*).	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 2 reading and content*, choosing flexibly from an array of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., *happy/unhappy*, *tell/retell*). c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *addition*, *additional*). d. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *birdhouse, lighthouse, housefly; bookshelf, notebook, bookmark*). e. Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases.
5. With guidance and support from adults, explore word relationships and nuances in word meanings. a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. b. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms). c. Identify real-life connections between words and their use (e.g., note places at school that are *colorful*). d. Distinguish shades of meaning among verbs describing the same general action (e.g., *walk, march, strut, prance*) by acting out the meanings.	5. With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. b. Define words by category and by one or more key attributes (e.g., a *duck* is a bird that swims; a *tiger* is a large cat with stripes). c. Identify real-life connections between words and their use (e.g., note places at home that are *cozy*). d. Distinguish shades of meaning among verbs differing in manner (e.g., *look, peek, glance, stare, glare, scowl*) and adjectives differing in intensity (e.g., *large, gigantic*) by defining or choosing them or by acting out the meanings.	5. Demonstrate understanding of word relationships and nuances in word meanings. a. Identify real-life connections between words and their use (e.g., describe foods that are *spicy* or *juicy*). b. Distinguish shades of meaning among closely related verbs (e.g., *toss, throw, hurl*) and closely related adjectives (e.g., *thin, slender, skinny, scrawny*).
6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.	6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., *because*).	6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., *When other kids are happy that makes me happy*).

Language Standards K–5

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Grade 3 students:	Grade 4 students:	Grade 5 students:
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences. b. Form and use regular and irregular plural nouns. c. Use abstract nouns (e.g., *childhood*). d. Form and use regular and irregular verbs. e. Form and use the simple (e.g., *I walked; I walk; I will walk*) verb tenses. f. Ensure subject-verb and pronoun-antecedent agreement.* g. Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified. h. Use coordinating and subordinating conjunctions. i. Produce simple, compound, and complex sentences.	1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use relative pronouns (*who, whose, whom, which, that*) and relative adverbs (*where, when, why*). b. Form and use the progressive (e.g., *I was walking; I am walking; I will be walking*) verb tenses. c. Use modal auxiliaries (e.g., *can, may, must*) to convey various conditions. d. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*). e. Form and use prepositional phrases. f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.* g. Correctly use frequently confused words (e.g., *to, too, two; there, their*).*	1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. b. Form and use the perfect (e.g., *I had walked; I have walked; I will have walked*) verb tenses. c. Use verb tense to convey various times, sequences, states, and conditions. d. Recognize and correct inappropriate shifts in verb tense.* e. Use correlative conjunctions (e.g., *either/or, neither/nor*).
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Capitalize appropriate words in titles. b. Use commas in addresses. c. Use commas and quotation marks in dialogue. d. Form and use possessives. e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*). f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.	2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use correct capitalization. b. Use commas and quotation marks to mark direct speech and quotations from a text. c. Use a comma before a coordinating conjunction in a compound sentence. d. Spell grade-appropriate words correctly, consulting references as needed.	2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation to separate items in a series.* b. Use a comma to separate an introductory element from the rest of the sentence. c. Use a comma to set off the words *yes* and *no* (e.g., *Yes, thank you*), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*). d. Use underlining, quotation marks, or italics to indicate titles of works. e. Spell grade-appropriate words correctly, consulting references as needed.

Language Standards K–5

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Grade 3 students:	Grade 4 students:	Grade 5 students:
Knowledge of Language		
3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Choose words and phrases for effect.* b. Recognize and observe differences between the conventions of spoken and written standard English.	3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Choose words and phrases to convey ideas precisely.* b. Choose punctuation for effect.* c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).	3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style. b. Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems.
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on *grade 3 reading and content,* choosing flexibly from a range of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., *agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat*). c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company, companion*). d. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 4 reading and content,* choosing flexibly from a range of strategies. a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 5 reading and content,* choosing flexibly from a range of strategies. a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.
5. Demonstrate understanding of word relationships and nuances in word meanings. a. Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., *take steps*). b. Identify real-life connections between words and their use (e.g., describe people who are *friendly* or *helpful*). c. Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., *knew, believed, suspected, heard, wondered*).	5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Explain the meaning of simple similes and metaphors (e.g., *as pretty as a picture*) in context. b. Recognize and explain the meaning of common idioms, adages, and proverbs. c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).	5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figurative language, including similes and metaphors, in context. b. Recognize and explain the meaning of common idioms, adages, and proverbs. c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.
6. Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., *After dinner that night we went looking for them*).	6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., *quizzed, whined, stammered*) and that are basic to a particular topic (e.g., *wildlife, conservation,* and *endangered* when discussing animal preservation).	6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).

Language Progressive Skills, by Grade

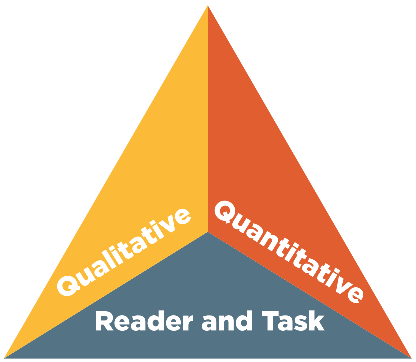
The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standard	Grade(s)							
	3	4	5	6	7	8	9–10	11–12
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.								
L.3.3a. Choose words and phrases for effect.								
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.								
L.4.1g. Correctly use frequently confused words (e.g., *to/too/two; there/their*).								
L.4.3a. Choose words and phrases to convey ideas precisely.*								
L.4.3b. Choose punctuation for effect.								
L.5.1d. Recognize and correct inappropriate shifts in verb tense.								
L.5.2a. Use punctuation to separate items in a series.†								
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.								
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).								
L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.								
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.								
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.‡								
L.6.3b. Maintain consistency in style and tone.								
L.7.1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.								
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.								
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.								
L.9–10.1a. Use parallel structure.								

*Subsumed by L.7.3a
†Subsumed by L.9–10.1a
‡Subsumed by L.11–12.3a

Standard 10: Range, Quality, and Complexity of Student Reading K–5

Measuring Text Complexity: Three Factors



Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader variables (such as motivation, knowledge, and experiences) and task variables (such as purpose and the complexity generated by the task assigned and the questions posed)

Note: More detailed information on text complexity and how it is measured is contained in Appendix A.

Range of Text Types for K–5

Students in K–5 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature			Informational Text
Stories	**Dramas**	**Poetry**	**Literary Nonfiction and Historical, Scientific, and Technical Texts**
Includes children's adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth	Includes staged dialogue and brief familiar scenes	Includes nursery rhymes and the subgenres of the narrative poem, limerick, and free verse poem	Includes biographies and autobiographies; books about history, social studies, science, and the arts; technical texts, including directions, forms, and information displayed in graphs, charts, or maps; and digital sources on a range of topics

* Read-aloud
** Read-along

Texts Illustrating the Complexity, Quality, and Range of Student Reading K–5

	Literature: Stories, Drama, Poetry	Informational Texts: Literary Nonfiction and Historical, Scientific, and Technical Texts
K*	▪ *Over in the Meadow* by John Langstaff (traditional) (c1800)* ▪ *A Boy, a Dog, and a Frog* by Mercer Mayer (1967) ▪ *Pancakes for Breakfast* by Tomie DePaola (1978) ▪ *A Story, A Story* by Gail E. Haley (1970)* ▪ *Kitten's First Full Moon* by Kevin Henkes (2004)*	▪ *My Five Senses* by Aliki (1962)** ▪ *Truck* by Donald Crews (1980) ▪ *I Read Signs* by Tana Hoban (1987) ▪ *What Do You Do With a Tail Like This?* by Steve Jenkins and Robin Page (2003)* ▪ *Amazing Whales!* by Sarah L. Thomson (2005)*
1*	▪ "Mix a Pancake" by Christina G. Rossetti (1893)** ▪ *Mr. Popper's Penguins* by Richard Atwater (1938)* ▪ *Little Bear* by Else Holmelund Minarik, illustrated by Maurice Sendak (1957)** ▪ *Frog and Toad Together* by Arnold Lobel (1971)** ▪ *Hi! Fly Guy* by Tedd Arnold (2006)	▪ *A Tree Is a Plant* by Clyde Robert Bulla, illustrated by Stacey Schuett (1960)** ▪ *Starfish* by Edith Thacher Hurd (1962) ▪ *Follow the Water from Brook to Ocean* by Arthur Dorros (1991)** ▪ *From Seed to Pumpkin* by Wendy Pfeffer, illustrated by James Graham Hale (2004)* ▪ *How People Learned to Fly* by Fran Hodgkins and True Kelley (2007)*
2–3	▪ "Who Has Seen the Wind?" by Christina G. Rossetti (1893) ▪ *Charlotte's Web* by E. B. White (1952)* ▪ *Sarah, Plain and Tall* by Patricia MacLachlan (1985) ▪ *Tops and Bottoms* by Janet Stevens (1995) ▪ *Poppleton in Winter* by Cynthia Rylant, illustrated by Mark Teague (2001)	▪ *A Medieval Feast* by Aliki (1983) ▪ *From Seed to Plant* by Gail Gibbons (1991) ▪ *The Story of Ruby Bridges* by Robert Coles (1995)* ▪ *A Drop of Water: A Book of Science and Wonder* by Walter Wick (1997) ▪ *Moonshot: The Flight of Apollo 11* by Brian Floca (2009)
4–5	▪ *Alice's Adventures in Wonderland* by Lewis Carroll (1865) ▪ "Casey at the Bat" by Ernest Lawrence Thayer (1888) ▪ *The Black Stallion* by Walter Farley (1941) ▪ "Zlateh the Goat" by Isaac Bashevis Singer (1984) ▪ *Where the Mountain Meets the Moon* by Grace Lin (2009)	▪ *Discovering Mars: The Amazing Story of the Red Planet* by Melvin Berger (1992) ▪ *Hurricanes: Earth's Mightiest Storms* by Patricia Lauber (1996) ▪ *A History of US* by Joy Hakim (2005) ▪ *Horses* by Seymour Simon (2006) ▪ *Quest for the Tree Kangaroo: An Expedition to the Cloud Forest of New Guinea* by Sy Montgomery (2006)

Note: Given space limitations, the illustrative texts listed above are meant only to show individual titles that are representative of a wide range of topics and genres. (See Appendix B for excerpts of these and other texts illustrative of K–5 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth. On the next page is an example of progressions of texts building knowledge across grade levels.

*Children at the kindergarten and grade 1 levels should be expected to read texts independently that have been specifically written to correlate to their reading level and their word knowledge. Many of the titles listed above are meant to supplement carefully structured independent reading with books to read along with a teacher or that are read aloud to students to build knowledge and cultivate a joy in reading.

Staying on Topic Within a Grade and Across Grades: How to Build Knowledge Systematically in English Language Arts K–5

Building knowledge systematically in English language arts is like giving children various pieces of a puzzle in each grade that, over time, will form one big picture. At a curricular or instructional level, texts—within and across grade levels—need to be selected around topics or themes that systematically develop the knowledge base of students. Within a grade level, there should be an adequate number of titles on a single topic that would allow children to study that topic for a sustained period. The knowledge children have learned about particular topics in early grade levels should then be expanded and developed in subsequent grade levels to ensure an increasingly deeper understanding of these topics. Children in the upper elementary grades will generally be expected to read these texts independently and reflect on them in writing. However, children in the early grades (particularly K–2) should participate in rich, structured conversations with an adult in response to the written texts that are read aloud, orally comparing and contrasting as well as analyzing and synthesizing, in the manner called for by the *Standards*.

Preparation for reading complex informational texts should begin at the very earliest elementary school grades. What follows is one example that uses domain-specific nonfiction titles across grade levels to illustrate how curriculum designers and classroom teachers can infuse the English language arts block with rich, age-appropriate content knowledge and vocabulary in history/social studies, science, and the arts. Having students listen to informational read-alouds in the early grades helps lay the necessary foundation for students' reading and understanding of increasingly complex texts on their own in subsequent grades.

Exemplar Texts on a Topic Across Grades	K	1	2–3	4–5
The Human Body **Students can begin learning about the human body starting in kindergarten and then review and extend their learning during each subsequent grade.**	**The five senses and associated body parts** • *My Five Senses* by Aliki (1989) • *Hearing* by Maria Rius (1985) • *Sight* by Maria Rius (1985) • *Smell* by Maria Rius (1985) • *Taste* by Maria Rius (1985) • *Touch* by Maria Rius (1985) **Taking care of your body: Overview (hygiene, diet, exercise, rest)** • *My Amazing Body: A First Look at Health & Fitness* by Pat Thomas (2001) • *Get Up and Go!* by Nancy Carlson (2008) • *Go Wash Up* by Doering Tourville (2008) • *Sleep* by Paul Showers (1997) • *Fuel the Body* by Doering Tourville (2008)	**Introduction to the systems of the human body and associated body parts** • *Under Your Skin: Your Amazing Body* by Mick Manning (2007) • *Me and My Amazing Body* by Joan Sweeney (1999) • *The Human Body* by Gallimard Jeunesse (2007) • *The Busy Body Book* by Lizzy Rockwell (2008) • *First Encyclopedia of the Human Body* by Fiona Chandler (2004) **Taking care of your body: Germs, diseases, and preventing illness** • *Germs Make Me Sick* by Marilyn Berger (1995) • *Tiny Life on Your Body* by Christine Taylor-Butler (2005) • *Germ Stories* by Arthur Kornberg (2007) • *All About Scabs* by GenichiroYagu (1998)	**Digestive and excretory systems** • *What Happens to a Hamburger* by Paul Showers (1985) • *The Digestive System* by Christine Taylor-Butler (2008) • *The Digestive System* by Rebecca L. Johnson (2006) • *The Digestive System* by Kristin Petrie (2007) **Taking care of your body: Healthy eating and nutrition** • *Good Enough to Eat* by Lizzy Rockwell (1999) • *Showdown at the Food Pyramid* by Rex Barron (2004) **Muscular, skeletal, and nervous systems** • *The Mighty Muscular and Skeletal Systems* Crabtree Publishing (2009) • *Muscles* by Seymour Simon (1998) • *Bones* by Seymour Simon (1998) • *The Astounding Nervous System* Crabtree Publishing (2009) • *The Nervous System* by Joelle Riley (2004)	**Circulatory system** • *The Heart* by Seymour Simon (2006) • *The Heart and Circulation* by Carol Ballard (2005) • *The Circulatory System* by Kristin Petrie (2007) • *The Amazing Circulatory System* by John Burstein (2009) **Respiratory system** • *The Lungs* by Seymour Simon (2007) • *The Respiratory System* by Susan Glass (2004) • *The Respiratory System* by Kristin Petrie (2007) • *The Remarkable Respiratory System* by John Burstein (2009) **Endocrine system** • *The Endocrine System* by Rebecca Olien (2006) • *The Exciting Endocrine System* by John Burstein (2009)

STANDARDS FOR

English Language Arts

6–12

College and Career Readiness Anchor Standards for Reading

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see "Research to Build Knowledge" in Writing and "Comprehension and Collaboration" in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Note on range and content of student reading

To become college and career ready, students must grapple with works of exceptional craft and thought whose range extends across genres, cultures, and centuries. Such works offer profound insights into the human condition and serve as models for students' own thinking and writing. Along with high-quality contemporary works, these texts should be chosen from among seminal U.S. documents, the classics of American literature, and the timeless dramas of Shakespeare. Through wide and deep reading of literature and literary nonfiction of steadily increasing sophistication, students gain a reservoir of literary and cultural knowledge, references, and images; the ability to evaluate intricate arguments; and the capacity to surmount the challenges posed by complex texts.

Reading Standards for Literature 6–12

RL

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Grade 6 students:	Grade 7 students:	Grade 8 students:
Key Ideas and Details		
1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.	2. Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.	2. Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.
3. Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.	3. Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).	3. Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.	4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.	4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.
5. Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.	5. Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning.	5. Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.
6. Explain how an author develops the point of view of the narrator or speaker in a text.	6. Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.	6. Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.

Reading Standards for Literature 6–12

RL

Grade 6 students:	Grade 7 students:	Grade 8 students:
Integration of Knowledge and Ideas		
7. Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they "see" and "hear" when reading the text to what they perceive when they listen or watch.	7. Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).	7. Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.
8. (Not applicable to literature)	8. (Not applicable to literature)	8. (Not applicable to literature)
9. Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.	9. Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.	9. Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.
Range of Reading and Level of Text Complexity		
10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6–8 text complexity band independently and proficiently.

Reading Standards for Literature 6–12

RL

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details	
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
3. Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	3. Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).
Craft and Structure	
4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
5. Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.	5. Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.
6. Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.	6. Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).
Integration of Knowledge and Ideas	
7. Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's *Landscape with the Fall of Icarus*).	7. Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)
8. (Not applicable to literature)	8. (Not applicable to literature)
9. Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).	9. Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.
Range of Reading and Level of Text Complexity	
10. By the end of grade 9, read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 9–10 text complexity band independently and proficiently.	10. By the end of grade 11, read and comprehend literature, including stories, dramas, and poems, in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11–CCR text complexity band independently and proficiently.

Reading Standards for Informational Text 6–12

RI

Grade 6 students:	Grade 7 students:	Grade 8 students:
Key Ideas and Details		
1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.	2. Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.	2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.
3. Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).	3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).	3. Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.	4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.	4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.
5. Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.	5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.	5. Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.
6. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.	6. Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.	6. Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.
Integration of Knowledge and Ideas		
7. Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.	7. Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).	7. Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.
8. Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.	8. Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.	8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.
9. Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).	9. Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.	9. Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.
Range of Reading and Level of Text Complexity		
10. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	10. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	10. By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.

Reading Standards for Informational Text 6–12

RI

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details	
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
3. Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.	3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
Craft and Structure	
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).	4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
5. Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).	5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
6. Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.	6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text.
Integration of Knowledge and Ideas	
7. Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.	7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.	8. Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., *The Federalist,* presidential addresses).
9. Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts.	9. Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln's Second Inaugural Address) for their themes, purposes, and rhetorical features.
Range of Reading and Level of Text Complexity	
10. By the end of grade 9, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9–10 text complexity band independently and proficiently.	10. By the end of grade 11, read and comprehend literary nonfiction in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11–CCR text complexity band independently and proficiently.

College and Career Readiness Anchor Standards for Writing

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

*These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college- and career-ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to know how to combine elements of different kinds of writing—for example, to use narrative strategies within argument and explanation within narrative—to produce complex and nuanced writing. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline as well as the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it.

Writing Standards 6–12

W

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Text Types and Purposes		
1. Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s) and organize the reasons and evidence clearly. b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from the argument presented.	1. Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.	1. Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from the information or explanation presented.	2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.	2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

Writing Standards 6–12

W

Grade 6 students:	Grade 7 students:	Grade 8 students:
Text Types and Purposes (continued)		
3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events. e. Provide a conclusion that follows from the narrated experiences or events.	3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. e. Provide a conclusion that follows from and reflects on the narrated experiences or events.	3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. e. Provide a conclusion that follows from and reflects on the narrated experiences or events.
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 6 on page 53.)	5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 7 on page 53.)	5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 8 on page 53.)
6. Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.	6. Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.	6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

Writing Standards 6–12

W

Grade 6 students:	Grade 7 students:	Grade 8 students:
Research to Build and Present Knowledge		
7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.	7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.	7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
8. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.	8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 6 Reading standards* to literature (e.g., "Compare and contrast texts in different forms or genres [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and topics"). b. Apply *grade 6 Reading standards* to literary nonfiction (e.g., "Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not").	9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 7 Reading standards* to literature (e.g., "Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history"). b. Apply *grade 7 Reading standards* to literary nonfiction (e.g. "Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims").	9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 8 Reading standards* to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new"). b. Apply *grade 8 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced").
Range of Writing		
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Writing Standards 6–12

W

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes	
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.	1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.
2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).	2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Writing Standards 6–12

W

Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes (continued)	
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole. d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.	3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution). d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.
Production and Distribution of Writing	
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 9–10 on page 55.)	5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 11–12 on page 55.)
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.	6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Research to Build and Present Knowledge	
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Writing Standards 6–12

W

Grades 9–10 students:	Grades 11–12 students:
Research to Build and Present Knowledge (continued)	
9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grades 9–10 Reading standards* to literature (e.g., "Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]"). b. Apply *grades 9–10 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning").	9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grades 11–12 Reading standards* to literature (e.g., "Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics"). b. Apply *grades 11–12 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., *The Federalist*, presidential addresses]").
Range of Writing	
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.	10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Note on range and content of student speaking and listening

To become college and career ready, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner—built around important content in various domains. They must be able to contribute appropriately to these conversations, to make comparisons and contrasts, and to analyze and synthesize a multitude of ideas in accordance with the standards of evidence appropriate to a particular discipline. Whatever their intended major or profession, high school graduates will depend heavily on their ability to listen attentively to others so that they are able to build on others' meritorious ideas while expressing their own clearly and persuasively.

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. The Internet has accelerated the speed at which connections between speaking, listening, reading, and writing can be made, requiring that students be ready to use these modalities nearly simultaneously. Technology itself is changing quickly, creating a new urgency for students to be adaptable in response to change.

Speaking and Listening Standards 6–12

SL

The following standards for grades 6–12 offer a focus for instruction in each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Grade 6 students:	Grade 7 students:	Grade 8 students:
Comprehension and Collaboration		
1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 6 topics, texts, and issues*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.	1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 7 topics, texts, and issues,* building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.	1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 8 topics, texts, and issues,* building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.	2. Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.	2. Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
3. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.	3. Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.	3. Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
Presentation of Knowledge and Ideas		
4. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.	4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.	4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.	5. Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.	5. Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 6 Language standards 1 and 3 on page 53 for specific expectations.)	6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 on page 53 for specific expectations.)	6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 on page 53 for specific expectations.)

Speaking and Listening Standards 6–12

SL

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 9–10 students:	Grades 11–12 students:
Comprehension and Collaboration	
1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 9–10 topics, texts, and issues,* building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.	1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 11–12 topics, texts, and issues,* building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
2. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.	2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.	3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
Presentation of Knowledge and Ideas	
4. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.	4. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grades 9–10 Language standards 1 and 3 on page 54 for specific expectations.)	6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See grades 11–12 Language standards 1 and 3 on page 54 for specific expectations.)

College and Career Readiness Anchor Standards for Language

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Note on range and content of student language use

To be college and career ready in language, students must have firm control over the conventions of standard English. At the same time, they must come to appreciate that language is as at least as much a matter of craft as of rules and be able to choose words, syntax, and punctuation to express themselves and achieve particular functions and rhetorical effects. They must also have extensive vocabularies, built through reading and study, enabling them to comprehend complex texts and engage in purposeful writing about and conversations around content. They need to become skilled in determining or clarifying the meaning of words and phrases they encounter, choosing flexibly from an array of strategies to aid them. They must learn to see an individual word as part of a network of other words—words, for example, that have similar denotations but different connotations. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Language Standards 6–12

L

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 56 for a complete listing and Appendix A for an example of how these skills develop in sophistication.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Ensure that pronouns are in the proper case (subjective, objective, possessive). b. Use intensive pronouns (e.g., *myself, ourselves*). c. Recognize and correct inappropriate shifts in pronoun number and person.* d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).* e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.*	1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of phrases and clauses in general and their function in specific sentences. b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.*	1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences. b. Form and use verbs in the active and passive voice. c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. d. Recognize and correct inappropriate shifts in verb voice and mood.*
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.* b. Spell correctly.	2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore an old[,] green shirt*). b. Spell correctly.	2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break. b. Use an ellipsis to indicate an omission. c. Spell correctly.
Knowledge of Language		
3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Vary sentence patterns for meaning, reader/listener interest, and style.* b. Maintain consistency in style and tone.*	3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.*	3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).

Language Standards 6–12

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Grade 6 students:	Grade 7 students:	Grade 8 students:
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 6 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *audience, auditory, audible*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent, bellicose, rebel*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on *grade 8 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *precede, recede, secede*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., personification) in context. b. Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *stingy, scrimping, economical, unwasteful, thrifty*).	5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context. b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *refined, respectful, polite, diplomatic, condescending*).	5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g. verbal irony, puns) in context. b. Use the relationship between particular words to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *bullheaded, willful, firm, persistent, resolute*).
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Language Standards 6–12

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The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 9–10 students:	Grades 11–12 students:
Conventions of Standard English	
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure.* b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.	1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested. b. Resolve issues of complex or contested usage, consulting references (e.g., *Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage*) as needed.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. b. Use a colon to introduce a list or quotation. c. Spell correctly.	2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Observe hyphenation conventions. b. Spell correctly.
Knowledge of Language	
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. a. Write and edit work so that it conforms to the guidelines in a style manual (e.g., *MLA Handbook*, Turabian's *Manual for Writers*) appropriate for the discipline and writing type.	3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. a. Vary syntax for effect, consulting references (e.g., Tufte's *Artful Sentences*) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.

Language Standards 6–12

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Grades 9–10 students:	Grades 11–12 students:
Vocabulary Acquisition and Use	
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical; advocate, advocacy*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *conceive, conception, conceivable*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., euphemism, oxymoron) in context and analyze their role in the text. b. Analyze nuances in the meaning of words with similar denotations.	5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text. b. Analyze nuances in the meaning of words with similar denotations.
6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Language Progressive Skills, by Grade

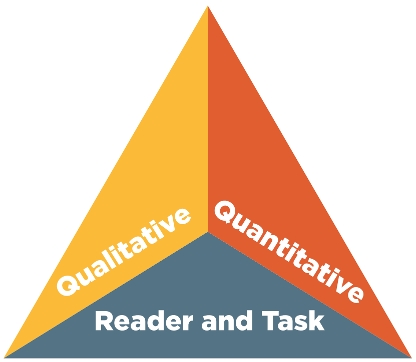
The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standard	Grade(s)							
	3	4	5	6	7	8	9–10	11–12
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.	■	■	■	■	■	■	■	■
L.3.3a. Choose words and phrases for effect.	■	■	■	■	■	■	■	■
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.		■	■	■	■	■	■	■
L.4.1g. Correctly use frequently confused words (e.g., *to/too/two; there/their*).		■	■	■	■	■	■	■
L.4.3a. Choose words and phrases to convey ideas precisely.[*]		■	■	■				
L.4.3b. Choose punctuation for effect.		■	■	■	■	■	■	■
L.5.1d. Recognize and correct inappropriate shifts in verb tense.			■	■	■	■	■	■
L.5.2a. Use punctuation to separate items in a series.[†]			■	■	■	■		
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.				■	■	■	■	■
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).				■	■	■	■	■
L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.				■	■	■	■	■
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.				■	■	■	■	■
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.[‡]				■	■	■	■	
L.6.3b. Maintain consistency in style and tone.				■	■	■	■	■
L.7.1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.					■	■	■	■
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.					■	■	■	■
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.						■	■	■
L.9–10.1a. Use parallel structure.							■	■

[*] Subsumed by L.7.3a
[†] Subsumed by L.9–10.1a
[‡] Subsumed by L.11–12.3a

Standard 10: Range, Quality, and Complexity of Student Reading 6–12

Measuring Text Complexity: Three Factors



Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader variables (such as motivation, knowledge, and experiences) and task variables (such as purpose and the complexity generated by the task assigned and the questions posed)

Note: More detailed information on text complexity and how it is measured is contained in Appendix A.

Range of Text Types for 6–12

Students in grades 6–12 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature			Informational Text
Stories	**Drama**	**Poetry**	**Literary Nonfiction**
Includes the subgenres of adventure stories, historical fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels	Includes one-act and multi-act plays, both in written form and on film	Includes the subgenres of narrative poems, lyrical poems, free verse poems, sonnets, odes, ballads, and epics	Includes the subgenres of exposition, argument, and functional text in the form of personal essays, speeches, opinion pieces, essays about art or literature, biographies, memoirs, journalism, and historical, scientific, technical, or economic accounts (including digital sources) written for a broad audience

Texts Illustrating the Complexity, Quality, and Range of Student Reading 6–12

	Literature: Stories, Dramas, Poetry	Informational Texts: Literary Nonfiction
6–8	▪ *Little Women* by Louisa May Alcott (1869) ▪ *The Adventures of Tom Sawyer* by Mark Twain (1876) ▪ "The Road Not Taken" by Robert Frost (1915) ▪ *The Dark Is Rising* by Susan Cooper (1973) ▪ *Dragonwings* by Laurence Yep (1975) ▪ *Roll of Thunder, Hear My Cry* by Mildred Taylor (1976)	▪ "Letter on Thomas Jefferson" by John Adams (1776) ▪ *Narrative of the Life of Frederick Douglass, an American Slave* by Frederick Douglass (1845) ▪ "Blood, Toil, Tears and Sweat: Address to Parliament on May 13th, 1940" by Winston Churchill (1940) ▪ *Harriet Tubman: Conductor on the Underground Railroad* by Ann Petry (1955) ▪ *Travels with Charley: In Search of America* by John Steinbeck (1962)
9–10	▪ *The Tragedy of Macbeth* by William Shakespeare (1592) ▪ "Ozymandias" by Percy Bysshe Shelley (1817) ▪ "The Raven" by Edgar Allan Poe (1845) ▪ "The Gift of the Magi" by O. Henry (1906) ▪ *The Grapes of Wrath* by John Steinbeck (1939) ▪ *Fahrenheit 451* by Ray Bradbury (1953) ▪ *The Killer Angels* by Michael Shaara (1975)	▪ "Speech to the Second Virginia Convention" by Patrick Henry (1775) ▪ "Farewell Address" by George Washington (1796) ▪ "Gettysburg Address" by Abraham Lincoln (1863) ▪ "State of the Union Address" by Franklin Delano Roosevelt (1941) ▪ "Letter from Birmingham Jail" by Martin Luther King, Jr. (1964) ▪ "Hope, Despair and Memory" by Elie Wiesel (1997)
11–CCR	▪ "Ode on a Grecian Urn" by John Keats (1820) ▪ *Jane Eyre* by Charlotte Brontë (1848) ▪ "Because I Could Not Stop for Death" by Emily Dickinson (1890) ▪ *The Great Gatsby* by F. Scott Fitzgerald (1925) ▪ *Their Eyes Were Watching God* by Zora Neale Hurston (1937) ▪ *A Raisin in the Sun* by Lorraine Hansberry (1959) ▪ *The Namesake* by Jhumpa Lahiri (2003)	▪ *Common Sense* by Thomas Paine (1776) ▪ *Walden* by Henry David Thoreau (1854) ▪ "Society and Solitude" by Ralph Waldo Emerson (1857) ▪ "The Fallacy of Success" by G. K. Chesterton (1909) ▪ *Black Boy* by Richard Wright (1945) ▪ "Politics and the English Language" by George Orwell (1946) ▪ "Take the Tortillas Out of Your Poetry" by Rudolfo Anaya (1995)

Note: Given space limitations, the illustrative texts listed above are meant only to show individual titles that are representative of a range of topics and genres. (See Appendix B for excerpts of these and other texts illustrative of grades 6–12 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth.

STANDARDS FOR

Literacy in History/Social Studies, Science, and Technical Subjects

6–12

College and Career Readiness Anchor Standards for Reading

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade span. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see "Research to Build and Present Knowledge" in Writing for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Note on range and content of student reading

Reading is critical to building knowledge in history/social studies as well as in science and technical subjects. College and career ready reading in these fields requires an appreciation of the norms and conventions of each discipline, such as the kinds of evidence used in history and science; an understanding of domain-specific words and phrases; an attention to precise details; and the capacity to evaluate intricate arguments, synthesize complex information, and follow detailed descriptions of events and concepts. In history/social studies, for example, students need to be able to analyze, evaluate, and differentiate primary and secondary sources. When reading scientific and technical texts, students need to be able to gain knowledge from challenging texts that often make extensive use of elaborate diagrams and data to convey information and illustrate concepts. Students must be able to read complex informational texts in these fields with independence and confidence because the vast majority of reading in college and workforce training programs will be sophisticated nonfiction. It is important to note that these Reading standards are meant to complement the specific content demands of the disciplines, not replace them.

Reading Standards for Literacy in History/Social Studies 6–12

RH

The standards below begin at grade 6; standards for K–5 reading in history/social studies, science, and technical subjects are integrated into the K–5 Reading standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of primary and secondary sources.	1. Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.	1. Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.	2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.	2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).	3. Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.	3. Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.	4. Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social studies.	4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
5. Describe how a text presents information (e.g., sequentially, comparatively, causally).	5. Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.	5. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
6. Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).	6. Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.	6. Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
Integration of Knowledge and Ideas		
7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.	7. Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.	7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
8. Distinguish among fact, opinion, and reasoned judgment in a text.	8. Assess the extent to which the reasoning and evidence in a text support the author's claims.	8. Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
9. Analyze the relationship between a primary and secondary source on the same topic.	9. Compare and contrast treatments of the same topic in several primary and secondary sources.	9. Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6–8 text complexity band independently and proficiently.	10. By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.	10. By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.

Reading Standards for Literacy in Science and Technical Subjects 6–12

RST

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of science and technical texts.	1. Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	2. Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.	2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.	3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
Craft and Structure		
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics.*	4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9–10 texts and topics*.	4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11–12 texts and topics*.
5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.	5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., *force, friction, reaction force, energy*).	5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.	6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
Integration of Knowledge and Ideas		
7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	7. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.	7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.	8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	9. Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.	9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.	10. By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.	10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently.

College and Career Readiness Anchor Standards for Writing

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade span. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

*These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college and career ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline and the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and long time frames throughout the year.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12

WHST

The standards below begin at grade 6; standards for K–5 writing in history/social studies, science, and technical subjects are integrated into the K–5 Writing standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes		
1. Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.	1. Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.	1. Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12

WHST

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes (continued)		
2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.	2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).	2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
3. (See note; not applicable as a separate requirement)	3. (See note; not applicable as a separate requirement)	3. (See note; not applicable as a separate requirement)

Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12

WHST

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.	6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Research to Build and Present Knowledge		
7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
9. Draw evidence from informational texts to support analysis reflection, and research.	9. Draw evidence from informational texts to support analysis, reflection, and research.	9. Draw evidence from informational texts to support analysis, reflection, and research.
Range of Writing		
10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Mathematics

Appendix A:

Designing High School Mathematics Courses based on the Common Core State Standards

COMMON CORE STATE STANDARDS FOR

Mathematics

Appendix A:

Designing High School Mathematics Courses Based on the Common Core State Standards

Overview

The Common Core State Standards (CCSS) for Mathematics are organized by grade level in Grades K–8. At the high school level, the standards are organized by conceptual category (number and quantity, algebra, functions, geometry, modeling and probability and statistics), showing the body of knowledge students should learn in each category to be college and career ready, and to be prepared to study more advanced mathematics. As states consider how to implement the high school standards, an important consideration is how the high school CCSS might be organized into courses that provide a strong foundation for post-secondary success. To address this need, Achieve (in partnership with the Common Core writing team) has convened a group of experts, including state mathematics experts, teachers, mathematics faculty from two and four year institutions, mathematics teacher educators, and workforce representatives to develop Model Course Pathways in Mathematics based on the Common Core State Standards.

In considering this document, there are four things important to note:

1. The pathways and courses are models, not mandates. They illustrate possible approaches to organizing the content of the CCSS into coherent and rigorous courses that lead to college and career readiness. States and districts are not expected to adopt these courses as is; rather, they are encouraged to use these pathways and courses as a starting point for developing their own.

2. All college and career ready standards (those without a +) are found in each pathway. A few (+) standards are included to increase coherence but are not necessarily expected to be addressed on high stakes assessments.

3. The course descriptions delineate the mathematics standards to be covered in a course; they are not prescriptions for curriculum or pedagogy. Additional work will be needed to create coherent instructional programs that help students achieve these standards.

4. Units within each course are intended to suggest a possible grouping of the standards into coherent blocks; in this way, units may also be considered "critical areas" or "big ideas", and these terms are used interchangeably throughout the document. The ordering of the clusters within a unit follows the order of the standards document in most cases, not the order in which they might be taught. Attention to ordering content within a unit will be needed as instructional programs are developed.

5. While courses are given names for organizational purposes, states and districts are encouraged to carefully consider the content in each course and use names that they feel are most appropriate. Similarly, unit titles may be adjusted by states and districts.

While the focus of this document is on organizing the Standards for Mathematical Content into model pathways to college and career readiness, the content standards must also be connected to the Standards for Mathematical Practice to ensure that the skills needed for later success are developed. In particular, Modeling (defined by a * in the CCSS) is defined as both a *conceptual category* for high school mathematics and a *mathematical practice* and is an important avenue for motivating students to study mathematics, for building their understanding of mathematics, and for preparing them for future success. Development of the pathways into instructional programs will require careful attention to modeling and the mathematical practices. Assessments based on these pathways should reflect both the content and mathematical practices standards.

The Pathways

Four model course pathways are included:

1. An approach typically seen in the U.S. (Traditional) that consists of two algebra courses and a geometry course, with some data, probability and statistics included in each course;

2. An approach typically seen internationally (Integrated) that consists of a sequence of three courses, each of which includes number, algebra, geometry, probability and statistics;

3. A "compacted" version of the Traditional pathway where no content is omitted, in which students would complete the content of 7th grade, 8th grade, and the High School Algebra I course in grades 7 (Compacted 7th Grade) and 8 (8th Grade Algebra I), which will enable them to reach Calculus or other college level courses by their senior year. While the K-7 CCSS effectively prepare students for algebra in 8th grade, some standards from 8th grade have been placed in the Accelerated 7th Grade course to make the 8th Grade Algebra I course more manageable;

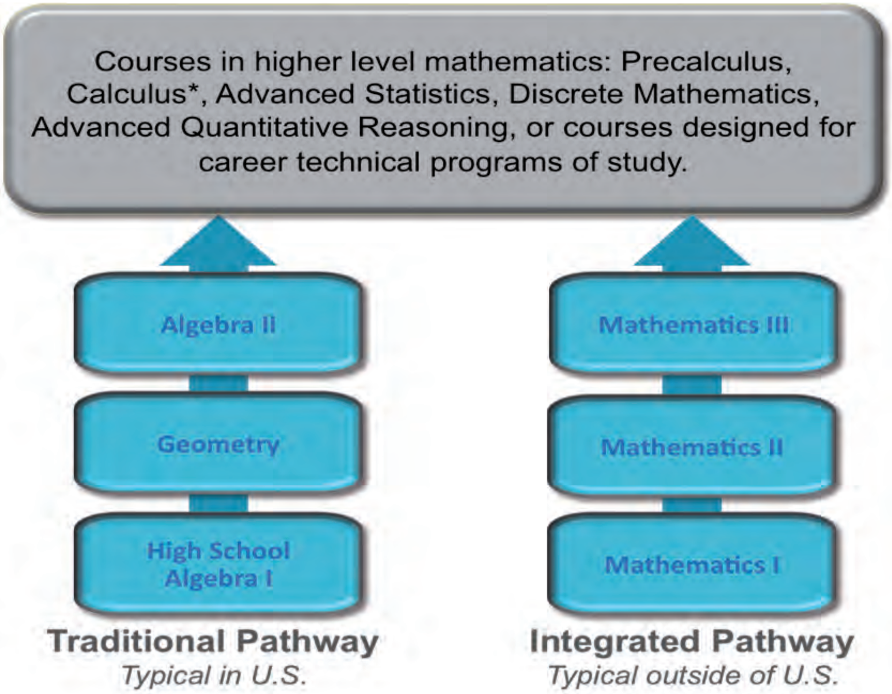
4. A "compacted" version of the Integrated pathway where no content is omitted, in which students would complete the content of 7th grade, 8th grade, and the Mathematics I course in grades 7 (Compacted 7th Grade) and 8 (8th Grade Mathematics I), which will enable them to reach Calculus or other college level courses by their senior year. While the K-7 CCSS effectively prepare students for algebra in 8th grade, some standards from 8th grade have been placed in the Accelerated 7th Grade course to make the 8th Grade Mathematics I course more manageable;

5. Ultimately, all of these pathways are intended to significantly increase the coherence of high school mathematics.

The non-compacted, or regular, pathways assume mathematics in each year of high school and lead directly to preparedness for college and career readiness. In addition to the three years of study described in the Traditional and Integrated pathways, students should continue to take mathematics courses throughout their high school career to keep their mathematical understanding and skills fresh for use in training or course work after high school. A variety of courses should be available to students reflecting a range of possible interests; possible options are listed in the following chart. Based on a variety of inputs and factors, some students may decide at an early age that they want to take Calculus or other college level courses in high school. These students would need to begin the study of high school content in the middle school, which would lead to Precalculus or Advanced Statistics as a junior and Calculus, Advanced Statistics or other college level options as a senior.

Strategic use of technology is expected in all work. This may include employing technological tools to assist students in forming and testing conjectures, creating graphs and data displays and determining and assessing lines of fit for data. Geometric constructions may also be performed using geometric software as well as classical tools and technology may aid three-dimensional visualization. Testing with and without technological tools is recommended.

As has often occurred in schools and districts across the states, greater resources have been allocated to accelerated pathways, such as more experienced teachers and newer materials. The Achieve Pathways Group members strongly believe that each pathway should get the same attention to quality and resources including class sizes, teacher assignments, professional development, and materials. Indeed, these and other pathways should be avenues for students to pursue interests and aspirations. The following flow chart shows how the courses in the two regular pathways are sequenced (the * in the chart on the following page means that Calculus follows Precalculus and is a fifth course, in most cases). More information about the compacted pathways can be found later in this appendix.



Some teachers and schools are effectively getting students to be college and career ready. We can look to these teachers and schools to see what kinds of courses are getting results, and to compare pathways courses to the mathematics taught in effective classrooms.

A study done by ACT and The Education Trust gives evidence to support these pathways. The study looked at high-poverty schools where a high percentage of students were reaching and exceeding ACT's college-readiness benchmarks. From these schools, the most effective teachers described their courses and opened up their classrooms for observation. The commonality of mathematics topics in their courses gives a picture of what it takes to get students to succeed, and also provides a grounding for the pathways. (There were other commonalities. For more detailed information about this study, search for the report On Course for Success at www.act.org.)[1]

Implementation Considerations:

As states, districts and schools take on the work of implementing the Common Core State Standards, the Model Course Pathways in Mathematics can be a useful foundation for discussing how best to organize the high school standards into courses. The Pathways have been designed to be modular in nature, where the modules or critical areas (units) are identical in nearly every manner between the two pathways, but are arranged in different orders to accommodate different organizational offerings. Assessment developers may consider the creation of assessment modules in a similar fashion. Curriculum designers may create alternative model pathways with altogether different organizations of the standards. Some of this work is already underway. In short, this document is intended to contribute to the conversations around assessment and curriculum design, rather than end them. Effectively implementing these standards will require a long-term commitment to understanding what best supports student learning and attainment of college and career readiness skills by the end of high school, as well as regular revision of pathways as student learning data becomes available.

Supporting Students

One of the hallmarks of the Common Core State Standards for Mathematics is the specification of content that all students must study in order to be college and career ready. This "college and career ready line" is a minimum for all students. However, this does not mean that all students should progress uniformly to that goal. Some students progress

[1]The study provides evidence that the pathways' High School Algebra I, Geometry, Algebra II sequence is a reasonable and rigorous option for preparing students for college and career. Topics aligned almost completely between the CCSS topics and topics taught in the study classrooms. The starting point for the pathways' High School Algebra I course is slightly beyond the starting point for the study Algebra I courses due to the existence of many typical Algebra I topics in the 8th grade CCSS, therefore some of the study Algebra II topics are a part of the pathways' High School Algebra I course, specifically, using the quadratic formula; a bit more with exponential functions including comparing and contrasting linear and exponential growth; and the inclusion of the spread of data sets. The pathways' Geometry course is very similar to what was done in the study Geometry courses, with the addition of the laws of sines and cosines and the work with conditional probability, plus applications involving completing the square because that topic was part of the pathways' High School Algebra I course. The pathways' Algebra II course then matches well with what was done in the study Algebra II courses and continues a bit into what was done in the study Precalculus classrooms, including inverse functions, the behavior of logarithmic and trigonometric functions, and in statistics with the normal distribution, margin of error, and the differences among sample surveys, experiments, and observational studies. All in all, the topics and the order of topics is very comparable between the pathways' High School Algebra I, Geometry, Algebra II sequence and the sequence found in the study courses.

more slowly than others. These students will require additional support, and the following strategies, consistent with Response to Intervention practices, may be helpful:

- Creating a school-wide community of support for students;
- Providing students a "math support" class during the school day;
- After-school tutoring;
- Extended class time (or blocking of classes) in mathematics; and
- Additional instruction during the summer.

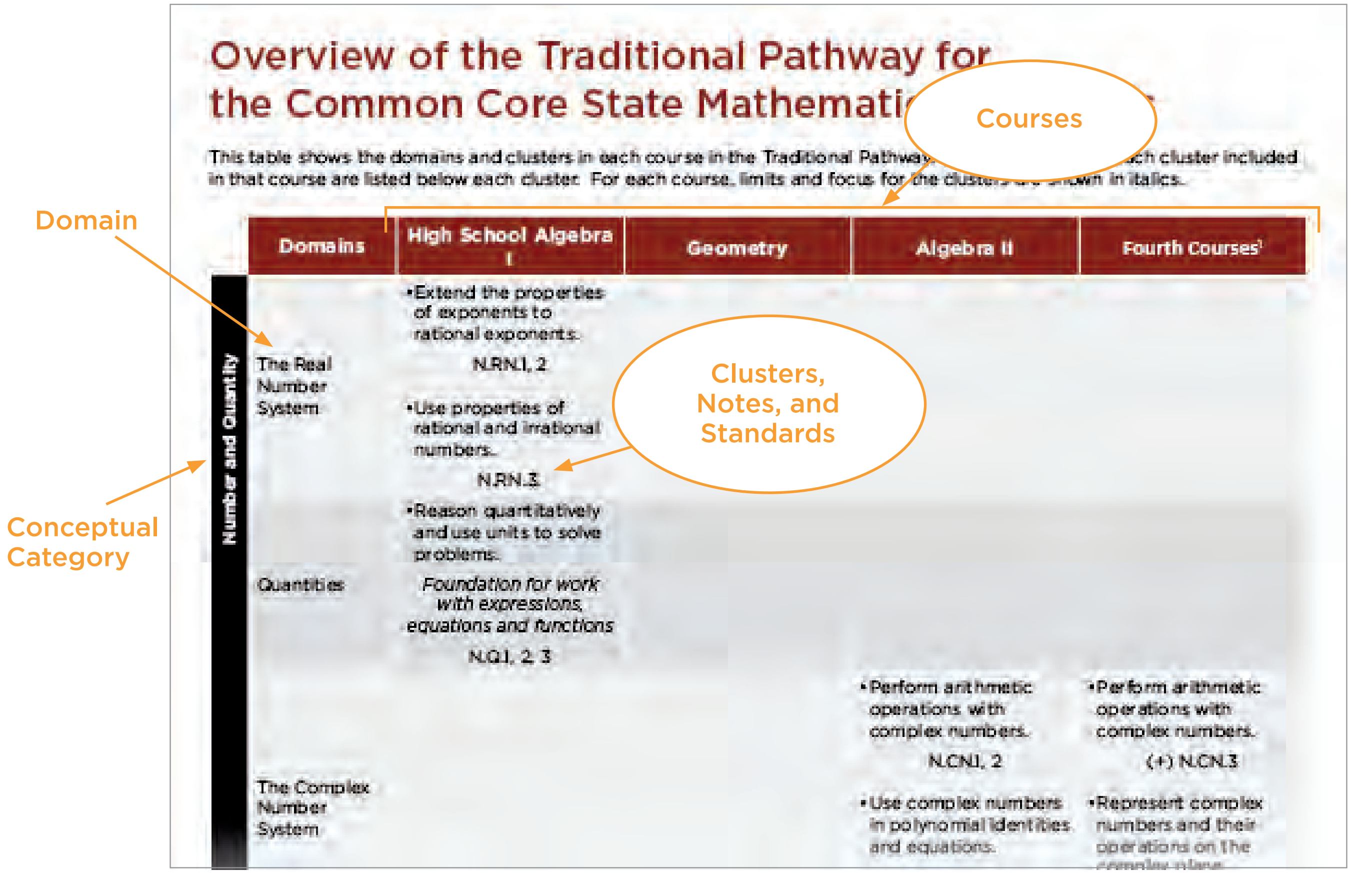
Watered-down courses which leave students uninspired to learn, unable to catch up to their peers and unready for success in postsecondary courses or for entry into many skilled professions upon graduation from high school are neither necessary nor desirable. The results of not providing students the necessary supports they need to succeed in high school are well-documented. Too often, after graduation, such students attempt to continue their education at 2- or 4-year postsecondary institutions only to find they must take remedial courses, spending time and money mastering high school level skills that they should have already acquired. This, in turn, has been documented to indicate a greater chance of these students not meeting their postsecondary goals, whether a certificate program, two- or four-year degree. As a result, in the workplace, many career pathways and advancement may be denied to them. To ensure students graduate fully prepared, those who enter high school underprepared for high school mathematics courses must receive the support they need to get back on course and graduate ready for life after high school.

Furthermore, research shows that allowing low-achieving students to take low-level courses is not a recipe for academic success (Kifer, 1993). The research strongly suggests that the goal for districts should not be to stretch the high school mathematics standards over all four years. Rather, the goal should be to provide support so that all students can reach the college and career ready line by the end of the eleventh grade, ending their high school career with one of several high-quality mathematical courses that allows students the opportunity to deepen their understanding of the college- and career-ready standards.

With the Common Core State Standards Initiative comes an unprecedented ability for schools, districts, and states to collaborate. While this is certainly the case with respect to assessments and professional development programs, it is also true for strategies to support struggling and accelerated students. The Model Course Pathways in Mathematics are intended to launch the conversation, and give encouragement to all educators to collaborate for the benefit of our states' children.

How to Read the Pathways:

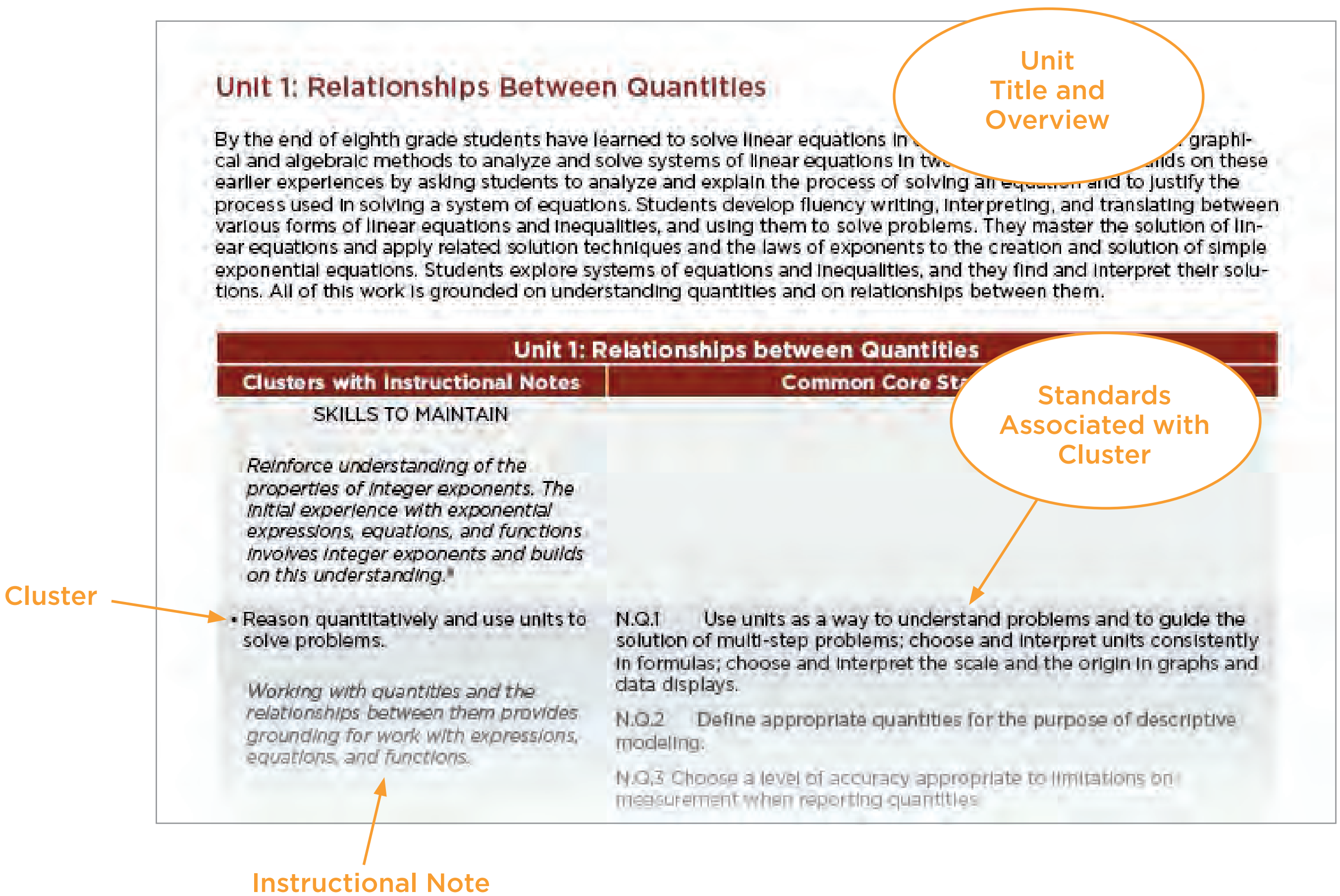
Each pathway consists of two parts. The first is a chart that shows an overview of the pathway. Organized by course and by conceptual category (algebra, functions, geometry, etc…), these charts show which clusters and standards appear in which course (see page 5 of the CCSS for definitions of clusters and standards). For example, in the chart below, the three standards (N.Q.1, 2, 3) associated with the cluster "Reason quantitatively and use units to solve problems," are found in Course 1. This cluster is found under the domain "Quantities" in the "Number and Quantity" conceptual category. All high school standards in the CCSS are located in at least one of the courses in this chart.



The second part of the pathways shows the clusters and standards as they appear in the courses. Each course contains the following components:

- An introduction to the course and a list of the units in the course
- Unit titles and unit overviews (see below)
- Units that show the cluster titles, associated standards, and instructional notes (below)

It is important to note that the units (or critical areas) are intended to convey coherent groupings of content. The clusters and standards within units are ordered as they are in the Common Core State Standards, and are not intended to convey an instructional order. Considerations regarding constraints, extensions, and connections are found in the instructional notes. The instructional notes are a critical attribute of the courses and should not be overlooked. For example, one will see that standards such as A.CED.1 and A.CED.2 are repeated in multiple courses, yet their emphases change from one course to the next. These changes are seen only in the instructional notes, making the notes an indispensable component of the pathways.



Unit 1: Relationships Between Quantities

By the end of eighth grade students have learned to solve linear equations in … graphical and algebraic methods to analyze and solve systems of linear equations in tw… …ilds on these earlier experiences by asking students to analyze and explain the process of solving an equation and to justify the process used in solving a system of equations. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations. Students explore systems of equations and inequalities, and they find and interpret their solutions. All of this work is grounded on understanding quantities and on relationships between them.

Unit 1: Relationships between Quantities	
Clusters with Instructional Notes	Common Core St…
SKILLS TO MAINTAIN *Reinforce understanding of the properties of integer exponents. The initial experience with exponential expressions, equations, and functions involves integer exponents and builds on this understanding.**	
• Reason quantitatively and use units to solve problems. *Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.*	N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. N.Q.2 Define appropriate quantities for the purpose of descriptive modeling. N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Overview of the Traditional Pathway for the Common Core State Mathematics Standards

This table shows the domains and clusters in each course in the Traditional Pathway. The standards from each cluster included in that course are listed below each cluster. For each course, limits and focus for the clusters are shown in italics.

	Domains	High School Algebra I	Geometry	Algebra II	Fourth Courses*
Number and Quantity	The Real Number System	• Extend the properties of exponents to rational exponents. N.RN.1, 2 • Use properties of rational and irrational numbers. N.RN.3			
	Quantities	• Reason quantitatively and use units to solve problems. *Foundation for work with expressions, equations and functions* N.Q.1, 2, 3			
	The Complex Number System			• Perform arithmetic operations with complex numbers. N.CN.1, 2 • Use complex numbers in polynomial identities and equations. *Polynomials with real coefficients* N.CN.7, (+) 8, (+) 9	• Perform arithmetic operations with complex numbers. (+) N.CN.3 • Represent complex numbers and their operations on the complex plane. (+) N.CN.4, 5, 6
	Vector Quantities and Matrices				• Represent and model with vector quantities. (+) N.VM.1, 2, 3 • Perform operations on vectors. (+) N.VM.4a, 4b, 4c, 5a, 5b • Perform operations on matrices and use matrices in applications. (+) N.VM.6, 7, 8, 9, 10, 11, 12

*The (+) standards in this column are those in the Common Core State Standards that are not included in any of the Traditional Pathway courses. They would be used in additional courses developed to follow Algebra II.

	Domains	High School Algebra I	Geometry	Algebra II	Fourth Courses
Algebra	Seeing Structure in Expressions	• Interpret the structure of expressions. *Linear, exponential, quadratic* A.SSE.1a, 1b, 2 • Write expressions in equivalent forms to solve problems. *Quadratic and exponential* A.SSE.3a, 3b, 3c		• Interpret the structure of expressions. *Polynomial and rational* *A.SSE.1a, 1b, 2* • Write expressions in equivalent forms to solve problems. A.SSE.4	
Algebra	Arithmetic with Polynomials and Rational Expressions	• Perform arithmetic operations on polynomials. *Linear and quadratic* A.APR.1		• Perform arithmetic operations on polynomials. *Beyond quadratic* A.APR.1 • Understand the relationship between zeros and factors of polynomials. A.APR.2, 3 • Use polynomial identities to solve problems. A.APR.4, (+) 5 • Rewrite rational expressions. *Linear and quadratic denominators* A.APR.6, (+) 7	
Algebra	Creating Equations	• Create equations that describe numbers or relationships. *Linear, quadratic, and exponential (integer inputs only); for A.CED.3 linear only* A.CED.1, 2, 3, 4		• Create equations that describe numbers or relationships. *Equations using all available types of expressions, including simple root functions* A.CED.1, 2, 3, 4	

	Domains	High School Algebra I	Geometry	Algebra II	Fourth Courses
Algebra	Reasoning with Equations and Inequalities	• Understand solving equations as a process of reasoning and explain the reasoning. *Master linear; learn as general principle* A.REI.1 • Solve equations and inequalities in one variable. *Linear inequalities; literal that are linear in the variables being solved for; quadratics with real solutions* A.REI.3, 4a, 4b • Solve systems of equations. *Linear-linear and linear-quadratic* A.REI.5, 6, 7 • Represent and solve equations and inequalities graphically. *Linear and exponential; learn as general principle* A.REI.10, 11, 12		• Understand solving equations as a process of reasoning and explain the reasoning. *Simple radical and rational* A.REI.2 • Represent and solve equations and inequalities graphically. *Combine polynomial, rational, radical, absolute value, and exponential functions* A.REI.11	• Solve systems of equations. (+) A.REI.8, 9
Functions	Interpreting Functions	• Understand the concept of a function and use function notation. *Learn as general principle; focus on linear and exponential and on arithmetic and geometric sequences* F.IF.1, 2, 3 • Interpret functions that arise in applications in terms of a context. *Linear, exponential, and quadratic* F.IF.4, 5, 6 • Analyze functions using different representations. *Linear, exponential, quadratic, absolute value, step, piecewise-defined* F.IF.7a, 7b, 7e, 8a, 8b, 9		• Interpret functions that arise in applications in terms of a context. *Emphasize selection of appropriate models* F.IF.4, 5, 6 • Analyze functions using different representations. *Focus on using key features to guide selection of appropriate type of model function* F.IF.7b, 7c, 7e, 8, 9	• Analyze functions using different representations. *Logarithmic and trigonometric functions* (+) F.IF.7d

	Domains	High School Algebra I	Geometry	Algebra II	Fourth Courses
Functions	Building Functions	• Build a function that models a relationship between two quantities. *For F.BF.1, 2, linear, exponential, and quadratic* F.BF.1a, 1b, 2 • Build new functions from existing functions. *Linear, exponential, quadratic, and absolute value; for F.BF.4a, linear only* F.BF.3, 4a		• Build a function that models a relationship between two quantities. *Include all types of functions studied* F.BF.1b • Build new functions from existing functions. *Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types* F.BF.3, 4a	• Build a function that models a relationship between two quantities. (+) F.BF.1c • Build new functions from existing functions. (+) F.BF.4b, 4c, 4d, 5
	Linear, Quadratic, and Exponential Models	• Construct and compare linear, quadratic, and exponential models and solve problems. F.LE.1a, 1b, 1c, 2, 3 • Interpret expressions for functions in terms of the situation they model. *Linear and exponential of form $f(x)=b^x+k$* F.LE.5		• Construct and compare linear, quadratic, and exponential models and solve problems. *Logarithms as solutions for exponentials* F.LE.4	
	Trigonometric Functions			• Extend the domain of trigonometric functions using the unit circle. F.TF.1, 2 • Model periodic phenomena with trigonometric functions. F.TF.5 • Prove and apply trigonometric identities. F.TF.8	• Extend the domain of trigonometric functions using the unit circle. (+) F.TF.3, 4 • Model periodic phenomena with trigonometric functions. (+) F.TF. 6, 7 • Prove and apply trigonometric identities. (+) F.TF. 9

	Domains	High School Algebra I	Geometry	Algebra II	Fourth Courses
Geometry	Congruence		• Experiment with transformations in the plane. G.CO.1, 2, 3, 4, 5 • Understand congruence in terms of rigid motions. *Build on rigid motions as a familiar starting point for development of concept of geometric proof* G.CO.6, 7, 8 • Prove geometric theorems. *Focus on validity of underlying reasoning while using variety of ways of writing proofs* G.CO.9, 10, 11 • Make geometric constructions. *Formalize and explain processes* G.CO.12, 13		
	Similarity, Right Triangles, and Trigonometry		• Understand similarity in terms of similarity transformations. G.SRT.1a, 1b, 2, 3 • Prove theorems involving similarity. G.SRT.4, 5 • Define trigonometric ratios and solve problems involving right triangles. G.SRT.6, 7, 8 • Apply trigonometry to general triangles. G.SRT.9. 10, 11		

	Domains	High School Algebra I	Geometry	Algebra II	Fourth Courses
Geometry	Circles		• Understand and apply theorems about circles. G.C.1, 2, 3, (+) 4 • Find arc lengths and areas of sectors of circles. *Radian introduced only as unit of measure* G.C.5		
Geometry	Expressing Geometric Properties with Equations		• Translate between the geometric description and the equation for a conic section. G.GPE.1, 2 • Use coordinates to prove simple geometric theorems algebraically. *Include distance formula; relate to Pythagorean theorem* G.GPE. 4, 5, 6, 7		• Translate between the geometric description and the equation for a conic section. (+) G.GPE.3
Geometry	Geometric Measurement and Dimension		• Explain volume formulas and use them to solve problems. G.GMD.1, 3 • Visualize the relation between two-dimensional and three-dimensional objects. G.GMD.4		• Explain volume formulas and use them to solve problems. (+) G.GMD.2
Geometry	Modeling with Geometry		• Apply geometric concepts in modeling situations. G.MG.1, 2, 3		
Statistics and Probability	Interpreting Categorical and Quantitative Data	• Summarize, represent, and interpret data on a single count or measurement variable. S.ID.1, 2, 3 • Summarize, represent, and interpret data on two categorical and quantitative variables. *Linear focus, discuss general principle* S.ID.5, 6a, 6b, 6c • Interpret linear models S.ID.7, 8, 9		• Summarize, represent, and interpret data on a single count or measurement variable. S.ID.4	

	Domains	High School Algebra I	Geometry	Algebra II	Fourth Courses
Statistics and Probability	Making Inferences and Justifying Conclusions			• Understand and evaluate random processes underlying statistical experiments. S.IC.1, 2 • Make inferences and justify conclusions from sample surveys, experiments and observational studies. S.IC.3, 4, 5, 6	
	Conditional Probability and the Rules of Probability		• Understand independence and conditional probability and use them to interpret data. *Link to data from simulations or experiments* S.CP.1, 2, 3, 4, 5 • Use the rules of probability to compute probabilities of compound events in a uniform probability model. S.CP.6, 7, (+) 8, (+) 9		
	Using Probability to Make Decisions		• Use probability to evaluate outcomes of decisions. *Introductory; apply counting rules* (+) S.MD.6, 7	• Use probability to evaluate outcomes of decisions. *Include more complex situations* (+) S.MD.6, 7	• Calculate expected values and use them to solve problems. (+) S.MD.1, 2, 3, 4 • Use probability to evaluate outcomes of decisions.. (+) S.MD. 5a, 5b

Traditional Pathway: High School Algebra I

The fundamental purpose of this course is to formalize and extend the mathematics that students learned in the middle grades. Because it is built on the middle grades standards, this is a more ambitious version of Algebra I than has generally been offered. The critical areas, called units, deepen and extend understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend, and students engage in methods for analyzing, solving, and using quadratic functions. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Critical Area 1: By the end of eighth grade, students have learned to solve linear equations in one variable and have applied graphical and algebraic methods to analyze and solve systems of linear equations in two variables. Now, students analyze and explain the process of solving an equation. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations.

Critical Area 2: In earlier grades, students define, evaluate, and compare functions, and use them to model relationships between quantities. In this unit, students will learn function notation and develop the concepts of domain and range. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. Students build on and informally extend their understanding of integer exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. Students explore systems of equations and inequalities, and they find and interpret their solutions. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

Critical Area 3: This unit builds upon prior students' prior experiences with data, providing students with more formal means of assessing how a model fits data. Students use regression techniques to describe approximately linear relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

Critical Area 4: In this unit, students build on their knowledge from unit 2, where they extended the laws of exponents to rational exponents. Students apply this new understanding of number and strengthen their ability to see structure in and create quadratic and exponential expressions. They create and solve equations, inequalities, and systems of equations involving quadratic expressions.

Critical Area 5: In this unit, students consider quadratic functions, comparing the key characteristics of quadratic functions to those of linear and exponential functions. They select from among these functions to model phenomena. Students learn to anticipate the graph of a quadratic function by interpreting various forms of quadratic expressions. In particular, they identify the real solutions of a quadratic equation as the zeros of a related quadratic function. Students expand their experience with functions to include more specialized functions—absolute value, step, and those that are piecewise-defined.

Units	Includes Standard Clusters*	Mathematical Practice Standards
Unit 1 Relationships Between Quantities and Reasoning with Equations	• Reason quantitatively and use units to solve problems. • Interpret the structure of expressions. • Create equations that describe numbers or relationships. • Understand solving equations as a process of reasoning and explain the reasoning. • Solve equations and inequalities in one variable.	**Make sense of problems and persevere in solving them.** **Reason abstractly and quantitatively.** **Construct viable arguments and critique the reasoning of others.** **Model with mathematics.** **Use appropriate tools strategically.** **Attend to precision.** **Look for and make use of structure.** **Look for and express regularity in repeated reasoning.**
Unit 2 Linear and Exponential Relationships	• Extend the properties of exponents to rational exponents. • Solve systems of equations. • Represent and solve equations and inequalities graphically. • Understand the concept of a function and use function notation. • Interpret functions that arise in applications in terms of a context. • Analyze functions using different representations. • Build a function that models a relationship between two quantities. • Build new functions from existing functions. • Construct and compare linear, quadratic, and exponential models and solve problems. • Interpret expressions for functions in terms of the situation they model.	
Unit 3 Descriptive Statistics	• Summarize, represent, and interpret data on a single count or measurement variable. • Summarize, represent, and interpret data on two categorical and quantitative variables. • Interpret linear models.	
Unit 4 Expressions and Equations	• Interpret the structure of expressions. • Write expressions in equivalent forms to solve problems. • Perform arithmetic operations on polynomials. • Create equations that describe numbers or relationships. • Solve equations and inequalities in one variable. • Solve systems of equations.	
Unit 5 Quadratic Functions and Modeling	• Use properties of rational and irrational numbers. • Interpret functions that arise in applications in terms of a context. • Analyze functions using different representations. • Build a function that models a relationship between two quantities. • Build new functions from existing functions. • Construct and compare linear, quadratic, and exponential models and solve problems.	

*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

Unit 1: Relationships Between Quantities and Reasoning with Equations

By the end of eighth grade students have learned to solve linear equations in one variable and have applied graphical and algebraic methods to analyze and solve systems of linear equations in two variables. This unit builds on these earlier experiences by asking students to analyze and explain the process of solving an equation. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations. All of this work is grounded on understanding quantities and on relationships between them.

Unit 1: Relationships between Quantities and Reasoning with Equations	
Clusters with Instructional Notes	**Common Core State Standards**
SKILLS TO MAINTAIN *Reinforce understanding of the properties of integer exponents. The initial experience with exponential expressions, equations, and functions involves integer exponents and builds on this understanding.**	
• Reason quantitatively and use units to solve problems. *Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.*	N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. N.Q.2 Define appropriate quantities for the purpose of descriptive modeling. N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
• Interpret the structure of expressions. *Limit to linear expressions and to exponential expressions with integer exponents.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*
• Create equations that describe numbers or relationships. *Limit A.CED.1 and A.CED.2 to linear and exponential equations, and, in the case of exponential equations, limit to situations requiring evaluation of exponential functions at integer inputs. Limit A.CED.3 to linear equations and inequalities. Limit A.CED.4 to formulas which are linear in the variable of interest.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*

*Instructional suggestions will be found in italics in this column throughout the document.

Unit 1: Relationships between Quantities and Reasoning with Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Understand solving equations as a process of reasoning and explain the reasoning. *Students should focus on and master A.REI.1 for linear equations and be able to extend and apply their reasoning to other types of equations in future courses. Students will solve exponential equations with logarithms in Algebra II.*	A.REI.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
• Solve equations and inequalities in one variable. *Extend earlier work with solving linear equations to solving linear inequalities in one variable and to solving literal equations that are linear in the variable being solved for. Include simple exponential equations that rely only on application of the laws of exponents, such as* $5^x=125$ or $2^x=1/16$.	A.REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Unit 2: Linear and Exponential Relationships

In earlier grades, students define, evaluate, and compare functions, and use them to model relationships between quantities. In this unit, students will learn function notation and develop the concepts of domain and range. They move beyond viewing functions as processes that take inputs and yield outputs and start viewing functions as objects in their own right. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. They work with functions given by graphs and tables, keeping in mind that, depending upon the context, these representations are likely to be approximate and incomplete. Their work includes functions that can be described or approximated by formulas as well as those that cannot. When functions describe relationships between quantities arising from a context, students reason with the units in which those quantities are measured. Students explore systems of equations and inequalities, and they find and interpret their solutions. Students build on and informally extend their understanding of integer exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

Unit 2: Linear and Exponential Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Extend the properties of exponents to rational exponents. *In implementing the standards in curriculum, these standards should occur before discussing exponential functions with continuous domains.*	N.RN.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.* N.RN.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.
• Solve systems of equations. *Build on student experiences graphing and solving systems of linear equations from middle school to focus on justification of the methods used. Include cases where the two equations describe the same line (yielding infinitely many solutions) and cases where two equations describe parallel lines (yielding no solution); connect to GPE.5 when it is taught in Geometry, which requires students to prove the slope criteria for parallel lines.*	A.REI.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A.REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
• Represent and solve equations and inequalities graphically. *For A.REI.10, focus on linear and exponential equations and be able to adapt and apply that learning to other types of equations in future courses. For A.REI.11, focus on cases where f(x) and g(x) are linear or exponential.*	A.REI.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). A.REI.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where *f(x)* and/or *g(x)* are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★ A.REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Unit 2: Linear and Exponential Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Understand the concept of a function and use function notation. *Students should experience a variety of types of situations modeled by functions. Detailed analysis of any particular class of functions at this stage is not advised. Students should apply these concepts throughout their future mathematics courses.* *Draw examples from linear and exponential functions. In F.IF.3, draw connection to F.BF.2, which requires students to write arithmetic and geometric sequences. Emphasize arithmetic and geometric sequences as examples of linear and exponential functions.*	F.IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If *f* is a function and *x* is an element of its domain, then *f(x)* denotes the output of *f* corresponding to the input *x*. The graph of *f* is the graph of the equation *y = f(x)*. F.IF.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. F.IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.*
• Interpret functions that arise in applications in terms of a context. *For F.IF.4 and 5, focus on linear and exponential functions. For F.IF.6, focus on linear functions and exponential functions whose domain is a subset of the integers. Unit 5 in this course and the Algebra II course address other types of functions.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★
• Analyze functions using different representations. *For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as* $y=3^n$ *and* $y=100^2$	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

Unit 2: Linear and Exponential Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Build a function that models a relationship between two quantities. *Limit to F.BF.1a, 1b, and 2 to linear and exponential functions. In F.BF.2, connect arithmetic sequences to linear functions and geometric sequences to exponential functions.*	F.BF.1 Write a function that describes a relationship between two quantities.★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* F.BF.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★
• Build new functions from existing functions. *Focus on vertical translations of graphs of linear and exponential functions. Relate the vertical translation of a linear function to its y-intercept.* *While applying other transformations to a linear graph is appropriate at this level, it may be difficult for students to identify or distinguish between the effects of the other transformations included in this standard.*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
• Construct and compare linear, quadratic, and exponential models and solve problems. *For F.LE.3, limit to comparisons between linear and exponential models. In constructing linear functions in F.LE.2, draw on and consolidate previous work in Grade 8 on finding equations for lines and linear functions (8.EE.6, 8.F.4).*	F.LE.1 Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals; and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F.LE.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
• Interpret expressions for functions in terms of the situation they model. *Limit exponential functions to those of the form $f(x) = b^x + k$.*	F.LE.5 Interpret the parameters in a linear or exponential function in terms of a context.

Unit 3: Descriptive Statistics

Experience with descriptive statistics began as early as Grade 6. Students were expected to display numerical data and summarize it using measures of center and variability. By the end of middle school they were creating scatter-plots and recognizing linear trends in data. This unit builds upon that prior experience, providing students with more formal means of assessing how a model fits data. Students use regression techniques to describe approximately linear relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

Unit 3: Descriptive Statistics	
Clusters with Instructional Notes	**Common Core State Standards**
• Summarize, represent, and interpret data on a single count or measurement variable. *In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.*	S.ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots). S.ID.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. S.ID.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
• Summarize, represent, and interpret data on two categorical and quantitative variables. *Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.* *S.ID.6b should be focused on linear models, but may be used to preview quadratic functions in Unit 5 of this course.*	S.ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association.
• Interpret linear models. *Build on students' work with linear relationships in eighth grade and introduce the correlation coefficient. The focus here is on the computation and interpretation of the correlation coefficient as a measure of how well the data fit the relationship. The important distinction between a statistical relationship and a cause-and-effect relationship arises in S.ID.9.*	S.ID.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit. S.ID.9 Distinguish between correlation and causation.

Unit 4: Expressions and Equations

In this unit, students build on their knowledge from unit 2, where they extended the laws of exponents to rational exponents. Students apply this new understanding of number and strengthen their ability to see structure in and create quadratic and exponential expressions. They create and solve equations, inequalities, and systems of equations involving quadratic expressions.

Unit 4: Expressions and Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Interpret the structure of expressions. *Focus on quadratic and exponential expressions. For A.SSE.1b, exponents are extended from the integer exponents found in Unit 1 to rational exponents focusing on those that represent square or cube roots.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.* A.SSE.2 Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.*
• Write expressions in equivalent forms to solve problems. *It is important to balance conceptual understanding and procedural fluency in work with equivalent expressions. For example, development of skill in factoring and completing the square goes hand-in-hand with understanding what different forms of a quadratic expression reveal.*	A.SSE.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★ a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
• Perform arithmetic operations on polynomials. *Focus on polynomial expressions that simplify to forms that are linear or quadratic in a positive integer power of x.*	A.APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
• Create equations that describe numbers or relationships. *Extend work on linear and exponential equations in Unit 1 to quadratic equations. Extend A.CED.4 to formulas involving squared variables.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*
• Solve equations and inequalities in one variable. *Students should learn of the existence of the complex number system, but will not solve quadratics with complex solutions until Algebra II.*	A.REI.4 Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.

Unit 4: Expressions and Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Solve systems of equations. *Include systems consisting of one linear and one quadratic equation. Include systems that lead to work with fractions. For example, finding the intersections between $x^2+y^2=1$ and $y = (x+1)/2$ leads to the point (3/5, 4/5) on the unit circle, corresponding to the Pythagorean triple $3^2+4^2=5^2$.*	A.REI.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line $y = –3x$ and the circle $x^2 + y^2 = 3$.*

Unit 5: Quadratic Functions and Modeling

In preparation for work with quadratic relationships students explore distinctions between rational and irrational numbers. They consider quadratic functions, comparing the key characteristics of quadratic functions to those of linear and exponential functions. They select from among these functions to model phenomena. Students learn to anticipate the graph of a quadratic function by interpreting various forms of quadratic expressions. In particular, they identify the real solutions of a quadratic equation as the zeros of a related quadratic function. Students learn that when quadratic equations do not have real solutions the number system must be extended so that solutions exist, analogous to the way in which extending the whole numbers to the negative numbers allows $x+1 = 0$ to have a solution. Formal work with complex numbers comes in Algebra II. Students expand their experience with functions to include more specialized functions—absolute value, step, and those that are piecewise-defined.

Unit 5: Quadratic Functions and Modeling	
Clusters with Instructional Notes	**Common Core State Standards**
• Use properties of rational and irrational numbers. *Connect N.RN.3 to physical situations, e.g., finding the perimeter of a square of area 2.*	N.RN.3 Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.
• Interpret functions that arise in applications in terms of a context. *Focus on quadratic functions; compare with linear and exponential functions studied in Unit 2.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★
• Analyze functions using different representations. *For F.IF.7b, compare and contrast absolute value, step and piecewise-defined functions with linear, quadratic, and exponential functions. Highlight issues of domain, range, and usefulness when examining piecewise-defined functions. Note that this unit, and in particular in F.IF.8b, extends the work begun in Unit 2 on exponential functions with integer exponents. For F.IF.9, focus on expanding the types of functions considered to include, linear, exponential, and quadratic.* *Extend work with quadratics to include the relationship between coefficients and roots, and that once roots are known, a quadratic equation can be factored.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. F.IF.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.* F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

Unit 5: Quadratic Functions and Modeling	
Clusters with Instructional Notes	**Common Core State Standards**
• Build a function that models a relationship between two quantities. *Focus on situations that exhibit a quadratic relationship.*	F.BF.1 Write a function that describes a relationship between two quantities.★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*
• Build new functions from existing functions. *For F.BF.3, focus on quadratic functions, and consider including absolute value functions. For F.BF.4a, focus on linear functions but consider simple situations where the domain of the function must be restricted in order for the inverse to exist, such as $f(x) = x^2$, $x>0$.*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.* F.BF.4 Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2\,x^3$ *or* $f(x) = (x+1)/(x-1)$ *for* $x \neq 1$.
• Construct and compare linear, quadratic, and exponential models and solve problems. *Compare linear and exponential growth to quadratic growth.*	F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

Traditional Pathway: Geometry

TheThe fundamental purpose of the course in Geometry is to formalize and extend students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. Important differences exist between this Geometry course and the historical approach taken in Geometry classes. For example, transformations are emphasized early in this course. Close attention should be paid to the introductory content for the Geometry conceptual category found in the high school CCSS. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas, organized into six units are as follows.

Critical Area 1: In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They use triangle congruence as a familiar foundation for the development of formal proof. Students prove theorems—using a variety of formats—and solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Critical Area 2: Students apply their earlier experience with dilations and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles to understand right triangle trigonometry, with particular attention to special right triangles and the Pythagorean theorem. Students develop the Laws of Sines and Cosines in order to find missing measures of general (not necessarily right) triangles, building on students' work with quadratic equations done in the first course. They are able to distinguish whether three given measures (angles or sides) define 0, 1, 2, or infinitely many triangles.

Critical Area 3: Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area and volume formulas. Additionally, students apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line.

Critical Area 4: Building on their work with the Pythagorean theorem in 8^{th} grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines, which relates back to work done in the first course. Students continue their study of quadratics by connecting the geometric and algebraic definitions of the parabola.

Critical Area 5: In this unit students prove basic theorems about circles, such as a tangent line is perpendicular to a radius, inscribed angle theorem, and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. They study relationships among segments on chords, secants, and tangents as an application of similarity. In the Cartesian coordinate system, students use the distance formula to write the equation of a circle when given the radius and the coordinates of its center. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations, which relates back to work done in the first course, to determine intersections between lines and circles or parabolas and between two circles.

Critical Area 6: Building on probability concepts that began in the middle grades, students use the languages of set theory to expand their ability to compute and interpret theoretical and experimental probabilities for compound events, attending to mutually exclusive events, independent events, and conditional probability. Students should make use of geometric probability models wherever possible. They use probability to make informed decisions.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Congruence, Proof, and Constructions</td><td>Experiment with transformations in the plane.
Understand congruence in terms of rigid motions.
Prove geometric theorems.
Make geometric constructions.</td><td rowspan="6">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Similarity, Proof, and Trigonometry</td><td>Understand similarity in terms of similarity transformations.
Prove theorems involving similarity.
Define trigonometric ratios and solve problems involving right triangles.
Apply geometric concepts in modeling situations.
Apply trigonometry to general triangles.</td></tr>
<tr><td>Unit 3
Extending to Three Dimensions</td><td>Explain volume formulas and use them to solve problems.
Visualize the relation between two-dimensional and three-dimensional objects.
Apply geometric concepts in modeling situations.</td></tr>
<tr><td>Unit 4
Connecting Algebra and Geometry through Coordinates</td><td>Use coordinates to prove simple geometric theorems algebraically.
Translate between the geometric description and the equation for a conic section.</td></tr>
<tr><td>Unit 5
Circles With and Without Coordinates</td><td>Understand and apply theorems about circles.
Find arc lengths and areas of sectors of circles.
Translate between the geometric description and the equation for a conic section.
Use coordinates to prove simple geometric theorem algebraically.
Apply geometric concepts in modeling situations.</td></tr>
<tr><td>Unit 6
Applications of Probability</td><td>Understand independence and conditional probability and use them to interpret data.
Use the rules of probability to compute probabilities of compound events in a uniform probability model.
Use probability to evaluate outcomes of decisions.</td></tr>
</table>

*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

Unit 1: Congruence, Proof, and Constructions

In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They use triangle congruence as a familiar foundation for the development of formal proof. Students prove theorems—using a variety of formats—and solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Unit 1: Congruence, Proof, and Constructions	
Clusters and Instructional Notes	**Common Core State Standards**
• Experiment with transformations in the plane. *Build on student experience with rigid motions from earlier grades. Point out the basis of rigid motions in geometric concepts, e.g., translations move points a specified distance along a line parallel to a specified line; rotations move objects along a circular arc with a specified center through a specified angle.*	G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. G.CO.2 Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). G.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. G.CO.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. G.CO.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
• Understand congruence in terms of rigid motions. *Rigid motions are at the foundation of the definition of congruence. Students reason from the basic properties of rigid motions (that they preserve distance and angle), which are assumed without proof. Rigid motions and their assumed properties can be used to establish the usual triangle congruence criteria, which can then be used to prove other theorems.*	G.CO.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. G.CO.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. G.CO.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.
• Prove geometric theorems. *Encourage multiple ways of writing proofs, such as in narrative paragraphs, using flow diagrams, in two-column format, and using diagrams without words. Students should be encouraged to focus on the validity of the underlying reasoning while exploring a variety of formats for expressing that reasoning. Implementation of G.CO.10 may be extended to include concurrence of perpendicular bisectors and angle bisectors as preparation for G.C.3 in Unit 5.*	G.CO.9 Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.* G.CO.10 Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.* G.CO.11 Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*

Unit 1: Congruence, Proof, and Constructions	
Clusters and Instructional Notes	**Common Core State Standards**
• Make geometric constructions. *Build on prior student experience with simple constructions. Emphasize the ability to formalize and explain how these constructions result in the desired objects.* *Some of these constructions are closely related to previous standards and can be introduced in conjunction with them.*	G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Unit 2: Similarity, Proof, and Trigonometry

Students apply their earlier experience with dilations and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles to understand right triangle trigonometry, with particular attention to special right triangles and the Pythagorean theorem. Students develop the Laws of Sines and Cosines in order to find missing measures of general (not necessarily right) triangles. They are able to distinguish whether three given measures (angles or sides) define 0, 1, 2, or infinitely many triangles.

Unit 2: Similarity, Proof, and Trigonometry	
Clusters and Instructional Notes	**Common Core State Standards**
• Understand similarity in terms of similarity transformations.	G.SRT.1 Verify experimentally the properties of dilations given by a center and a scale factor. a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor. G.SRT.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides. G.SRT.3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
• Prove theorems involving similarity.	G.SRT.4 Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity*. G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
• Define trigonometric ratios and solve problems involving right triangles.	G.SRT.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles. G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★
• Apply geometric concepts in modeling situations. *Focus on situations well modeled by trigonometric ratios for acute angles.*	G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).* G.MG.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).* G.MG.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*
• Apply trigonometry to general triangles. *With respect to the general case of the Laws of Sines and Cosines, the definitions of sine and cosine must be extended to obtuse angles.*	G.SRT.9 (+) Derive the formula $A = \frac{1}{2}ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side. G.SRT.10 (+) Prove the Laws of Sines and Cosines and use them to solve problems. G.SRT.11 (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).

Unit 3: Extending to Three Dimensions

Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area and volume formulas. Additionally, students apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line.

Unit 3: Extending to Three Dimensions	
Clusters and Instructional Notes	**Common Core State Standards**
• Explain volume formulas and use them to solve problems. *Informal arguments for area and volume formulas can make use of the way in which area and volume scale under similarity transformations: when one figure in the plane results from another by applying a similarity transformation with scale factor k, its area is k^2 times the area of the first. Similarly, volumes of solid figures scale by k^3 under a similarity transformation with scale factor k.*	G.GMD.1 Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.* G.GMD.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.★
• Visualize the relation between two-dimensional and three-dimensional objects.	G.GMD.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
• Apply geometric concepts in modeling situations. *Focus on situations that require relating two- and three-dimensional objects, determining and using volume, and the trigonometry of general triangles.*	G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*

Unit 4: Connecting Algebra and Geometry Through Coordinates

Building on their work with the Pythagorean theorem in 8th grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines. Students continue their study of quadratics by connecting the geometric and algebraic definitions of the parabola.

Unit 4: Connecting Algebra and Geometry Through Coordinates	
Clusters and Instructional Notes	**Common Core State Standards**
• Use coordinates to prove simple geometric theorems algebraically. *This unit has a close connection with the next unit. For example, a curriculum might merge G.GPE.1 and the Unit 5 treatment of G.GPE.4 with the standards in this unit. Reasoning with triangles in this unit is limited to right triangles; e.g., derive the equation for a line through two points using similar right triangles.* *Relate work on parallel lines in G.GPE.5 to work on A.REI.5 in High School Algebra I involving systems of equations having no solution or infinitely many solutions.* *G.GPE.7 provides practice with the distance formula and its connection with the Pythagorean theorem.*	G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* G.GPE.5 Prove the slope criteria for parallel and perpendicular lines and uses them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). G.GPE.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio. G.GPE.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.★
• Translate between the geometric description and the equation for a conic section. *The directrix should be parallel to a coordinate axis.*	G.GPE.2 Derive the equation of a parabola given a focus and directrix.

Unit 5: Circles With and Without Coordinates

In this unit, students prove basic theorems about circles, with particular attention to perpendicularity and inscribed angles, in order to see symmetry in circles and as an application of triangle congruence criteria. They study relationships among segments on chords, secants, and tangents as an application of similarity. In the Cartesian coordinate system, students use the distance formula to write the equation of a circle when given the radius and the coordinates of its center. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations to determine intersections between lines and circles or parabolas and between two circles.

Unit 5: Circles With and Without Coordinates	
Clusters and Instructional Notes	**Common Core State Standards**
• Understand and apply theorems about circles.	G.C.1 Prove that all circles are similar. G.C.2 Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.* G.C.3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. G.C.4 (+) Construct a tangent line from a point outside a given circle to the circle.
• Find arc lengths and areas of sectors of circles. *Emphasize the similarity of all circles. Note that by similarity of sectors with the same central angle, arc lengths are proportional to the radius. Use this as a basis for introducing radian as a unit of measure. It is not intended that it be applied to the development of circular trigonometry in this course.*	G.C.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
• Translate between the geometric description and the equation for a conic section.	G.GPE.1 Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
• Use coordinates to prove simple geometric theorems algebraically. *Include simple proofs involving circles.*	G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, $\sqrt{3}$) lies on the circle centered at the origin and containing the point (0, 2).*
• Apply geometric concepts in modeling situations. *Focus on situations in which the analysis of circles is required.*	G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*

Unit 6: Applications of Probability

Building on probability concepts that began in the middle grades, students use the languages of set theory to expand their ability to compute and interpret theoretical and experimental probabilities for compound events, attending to mutually exclusive events, independent events, and conditional probability. Students should make use of geometric probability models wherever possible. They use probability to make informed decisions.

Unit 6: Applications of Probability	
Clusters and Instructional Notes	**Common Core State Standards**
• Understand independence and conditional probability and use them to interpret data. *Build on work with two-way tables from Algebra I Unit 3 (S.ID.5) to develop understanding of conditional probability and independence.*	S.CP.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not"). S.CP.2 Understand that two events *A* and *B* are independent if the probability of *A* and *B* occurring together is the product of their probabilities, and use this characterization to determine if they are independent. S.CP.3 Understand the conditional probability of *A* given *B* as *P(A* and *B)/P(B)*, and interpret independence of *A* and *B* as saying that the conditional probability of *A* given *B* is the same as the probability of *A*, and the conditional probability of *B* given *A* is the same as the probability of *B*. S.CP.4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.* S.CP.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*
• Use the rules of probability to compute probabilities of compound events in a uniform probability model.	S.CP.6 Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A*, and interpret the answer in terms of the model. S.CP.7 Apply the Addition Rule, *P(A* or *B) = P(A) + P(B) – P(A* and *B)*, and interpret the answer in terms of the model. S.CP.8 (+) Apply the general Multiplication Rule in a uniform probability model, *P(A* and *B) = P(A)P(B|A) = P(B)P(A|B)*, and interpret the answer in terms of the model. S.CP.9 (+) Use permutations and combinations to compute probabilities of compound events and solve problems.
• Use probability to evaluate outcomes of decisions. *This unit sets the stage for work in Algebra II, where the ideas of statistical inference are introduced. Evaluating the risks associated with conclusions drawn from sample data (i.e. incomplete information) requires an understanding of probability concepts.*	S.MD.6 (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). S.MD.7 (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Traditional Pathway: Algebra II

Building on their work with linear, quadratic, and exponential functions, students extend their repertoire of functions to include polynomial, rational, and radical functions.[2] Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas for this course, organized into four units, are as follows:

Critical Area 1: This unit develops the structural similarities between the system of polynomials and the system of integers. Students draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, particularly the distributive property. Students connect multiplication of polynomials with multiplication of multi-digit integers, and division of polynomials with long division of integers. Students identify zeros of polynomials, including complex zeros of quadratic polynomials, and make connections between zeros of polynomials and solutions of polynomial equations. The unit culminates with the fundamental theorem of algebra. A central theme of this unit is that the arithmetic of rational expressions is governed by the same rules as the arithmetic of rational numbers.

Critical Area 2: Building on their previous work with functions, and on their work with trigonometric ratios and circles in Geometry, students now use the coordinate plane to extend trigonometry to model periodic phenomena.

Critical Area 3: In this unit students synthesize and generalize what they have learned about a variety of function families. They extend their work with exponential functions to include solving exponential equations with logarithms. They explore the effects of transformations on graphs of diverse functions, including functions arising in an application, in order to abstract the general principle that transformations on a graph always have the same effect regardless of the type of the underlying function. They identify appropriate types of functions to model a situation, they adjust parameters to improve the model, and they compare models by analyzing appropriateness of fit and making judgments about the domain over which a model is a good fit. The description of modeling as "*the process of choosing and using mathematics and statistics to analyze empirical situations, to understand them better, and to make decisions*" is at the heart of this unit. The narrative discussion and diagram of the modeling cycle should be considered when knowledge of functions, statistics, and geometry is applied in a modeling context.

Critical Area 4: In this unit, students see how the visual displays and summary statistics they learned in earlier grades relate to different types of data and to probability distributions. They identify different ways of collecting data—including sample surveys, experiments, and simulations—and the role that randomness and careful design play in the conclusions that can be drawn.

[2]In this course rational functions are limited to those whose numerators are of degree at most 1 and denominators of degree at most 2; radical functions are limited to square roots or cube roots of at most quadratic polynomials.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Polynomial, Rational, and Radical Relationships</td><td>• Perform arithmetic operations with complex numbers.
• Use complex numbers in polynomial identities and equations.
• Interpret the structure of expressions.
• Write expressions in equivalent forms to solve problems.
• Perform arithmetic operations on polynomials.
• Understand the relationship between zeros and factors of polynomials.
• Use polynomial identities to solve problems.
• Rewrite rational expressions.
• Understand solving equations as a process of reasoning and explain the reasoning.
• Represent and solve equations and inequalities graphically.
• Analyze functions using different representations.</td><td rowspan="4">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Trigonometric Functions</td><td>• Extend the domain of trigonometric functions using the unit circle.
• Model periodic phenomena with trigonometric function.
• Prove and apply trigonometric identites.</td></tr>
<tr><td>Unit 3
Modeling with Functions</td><td>• Create equations that describe numbers or relationships.
• Interpret functions that arise in applications in terms of a context.
• Analyze functions using different representations.
• Build a function that models a relationship between two quantities.
• Build new functions from existing functions.
• Construct and compare linear, quadratic, and exponential models and solve problems.</td></tr>
<tr><td>Unit 4
Inferences and Conclusions from Data</td><td>• Summarize, represent, and interpret data on single count or measurement variable.
• Understand and evaluate random processes underlying statistical experiments.
• Make inferences and justify conclusions from sample surveys, experiments and observational studies.
• Use probability to evaluate outcomes of decisions.</td></tr>
</table>

*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

Unit 1: Polynomial, Rational, and Radical Relationships

This unit develops the structural similarities between the system of polynomials and the system of integers. Students draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, particularly the distributive property. Students connect multiplication of polynomials with multiplication of multi-digit integers, and division of polynomials with long division of integers. Students identify zeros of polynomials, including complex zeros of quadratic polynomials, and make connections between zeros of polynomials and solutions of polynomial equations. The unit culminates with the fundamental theorem of algebra. Rational numbers extend the arithmetic of integers by allowing division by all numbers except 0. Similarly, rational expressions extend the arithmetic of polynomials by allowing division by all polynomials except the zero polynomial. A central theme of this unit is that the arithmetic of rational expressions is governed by the same rules as the arithmetic of rational numbers.

Unit 1: Polynomial, Rational, and Radical Relationships	
Clusters and Instructional Notes	**Common Core State Standards**
• Perform arithmetic operations with complex numbers.	N.CN.1 Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real. N.CN.2 Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
• Use complex numbers in polynomial identities and equations. *Limit to polynomials with real coefficients.*	N.CN.7 Solve quadratic equations with real coefficients that have complex solutions. N.CN.8 (+) Extend polynomial identities to the complex numbers. *For example, rewrite* $x^2 + 4$ *as* $(x + 2i)(x - 2i)$. N.CN.9 (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.
• Interpret the structure of expressions. *Extend to polynomial and rational expressions.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret* $P(1+r)^n$ *as the product of* P *and a factor not depending on* P. A.SSE.2 Use the structure of an expression to identify ways to rewrite it. *For example, see* $x^4 - y^4$ *as* $(x^2)^2 - (y^2)^2$, *thus recognizing it as a difference of squares that can be factored as* $(x^2 - y^2)(x^2 + y^2)$.
• Write expressions in equivalent forms to solve problems. *Consider extending A.SSE.4 to infinite geometric series in curricular implementations of this course description.*	A.SSE.4 Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.*★
• Perform arithmetic operations on polynomials. *Extend beyond the quadratic polynomials found in Algebra I.*	A.APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
• Understand the relationship between zeros and factors of polynomials.	A.APR.2 Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$. A.APR.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

Unit 1: Polynomial, Rational, and Radical Relationships	
Clusters and Instructional Notes	**Common Core State Standards**
• Use polynomial identities to solve problems. *This cluster has many possibilities for optional enrichment, such as relating the example in A.APR.4 to the solution of the system $u^2+v^2=1$, $v = t(u+1)$, relating the Pascal triangle property of binomial coefficients to $(x+y)^{n+1} = (x+y)(x+y)^n$, deriving explicit formulas for the coefficients, or proving the binomial theorem by induction.*	A.APR.4 Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples. A.APR.5 (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.
• Rewrite rational expressions *The limitations on rational functions apply to the rational expressions in A.APR.6. A.APR.7 requires the general division algorithm for polynomials.*	A.APR.6 Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system. A.APR.7 (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
• Understand solving equations as a process of reasoning and explain the reasoning. *Extend to simple rational and radical equations.*	A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
• Represent and solve equations and inequalities graphically. *Include combinations of linear, polynomial, rational, radical, absolute value, and exponential functions.*	A.REI.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★
• Analyze functions using different representations. *Relate F.IF.7c to the relationship between zeros of quadratic functions and their factored forms*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.

Unit 2: Trigonometric Functions

Building on their previous work with functions, and on their work with trigonometric ratios and circles in Geometry, students now use the coordinate plane to extend trigonometry to model periodic phenomena.

Unit 2: Trigonometric Functions	
Clusters and Instructional Notes	**Common Core State Standards**
• Extend the domain of trigonometric functions using the unit circle.	F.TF.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. F.TF.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
• Model periodic phenomena with trigonometric functions.	F.TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.★
• Prove and apply trigonometric identities. *An Algebra II course with an additional focus on trigonometry could include the (+) standard F.TF.9: Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems. This could be limited to acute angles in Algebra II.*	F.TF.8 Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$, given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$, and the quadrant of the angle.

Unit 3: Modeling with Functions

In this unit students synthesize and generalize what they have learned about a variety of function families. They extend their work with exponential functions to include solving exponential equations with logarithms. They explore the effects of transformations on graphs of diverse functions, including functions arising in an application, in order to abstract the general principle that transformations on a graph always have the same effect regardless of the type of the underlying function. They identify appropriate types of functions to model a situation, they adjust parameters to improve the model, and they compare models by analyzing appropriateness of fit and making judgments about the domain over which a model is a good fit. *The description of modeling as "the process of choosing and using mathematics and statistics to analyze empirical situations, to understand them better, and to make decisions" is at the heart of this unit. The narrative discussion and diagram of the modeling cycle should be considered when knowledge of functions, statistics, and geometry is applied in a modeling context.*

Unit 3: Modeling with Functions	
Clusters and Instructional Notes	**Common Core State Standards**
• Create equations that describe numbers or relationships. *For A.CED.1, use all available types of functions to create such equations, including root functions, but constrain to simple cases. While functions used in A.CED.2, 3, and 4 will often be linear, exponential, or quadratic the types of problems should draw from more complex situations than those addressed in Algebra I. For example, finding the equation of a line through a given point perpendicular to another line allows one to find the distance from a point to a line. Note that the example given for A.CED.4 applies to earlier instances of this standard, not to the current course.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law $V = IR$ to highlight resistance R.*
• Interpret functions that arise in applications in terms of a context. *Emphasize the selection of a model function based on behavior of data and context.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★

Unit 3: Modeling with Functions	
Clusters and Instructional Notes	**Common Core State Standards**
• Analyze functions using different representations. *Focus on applications and how key features relate to characteristics of a situation, making selection of a particular type of function model appropriate.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. F.IF.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.
• Build a function that models a relationship between two quantities. *Develop models for more complex or sophisticated situations than in previous courses.*	F.BF.1 Write a function that describes a relationship between two quantities.* b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model..*
• Build new functions from existing functions. *Use transformations of functions to find models as students consider increasingly more complex situations.* *For F.BF.3, note the effect of multiple transformations on a single graph and the common effect of each transformation across function types.* *Extend F.BF.4a to simple rational, simple radical, and simple exponential functions; connect F.BF.4a to F.LE.4.*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. F.BF.4 Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2\,x^3$ *or* $f(x) = (x+1)/(x-1)$ *for* $x \neq 1$.
• Construct and compare linear, quadratic, and exponential models and solve problems. *Consider extending this unit to include the relationship between properties of logarithms and properties of exponents, such as the connection between the properties of exponents and the basic logarithm property that log xy = log x +log y.*	F.LE.4 For exponential models, express as a logarithm the solution to $a\,b^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.

Unit 4: Inferences and Conclusions from Data

In this unit, students see how the visual displays and summary statistics they learned in earlier grades relate to different types of data and to probability distributions. They identify different ways of collecting data—including sample surveys, experiments, and simulations—and the role that randomness and careful design play in the conclusions that can be drawn.

Unit 4: Inferences and Conclusions from Data	
Clusters and Instructional Notes	**Common Core State Standards**
• Summarize, represent, and interpret data on a single count or measurement variable. *While students may have heard of the normal distribution, it is unlikely that they will have prior experience using it to make specific estimates. Build on students' understanding of data distributions to help them see how the normal distribution uses area to make estimates of frequencies (which can be expressed as probabilities). Emphasize that only some data are well described by a normal distribution.*	S.ID.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
• Understand and evaluate random processes underlying statistical experiments. *For S.IC.2, include comparing theoretical and empirical results to evaluate the effectiveness of a treatment.*	S.IC.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population. S.IC.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*
• Make inferences and justify conclusions from sample surveys, experiments, and observational studies. *In earlier grades, students are introduced to different ways of collecting data and use graphical displays and summary statistics to make comparisons. These ideas are revisited with a focus on how the way in which data is collected determines the scope and nature of the conclusions that can be drawn from that data. The concept of statistical significance is developed informally through simulation as meaning a result that is unlikely to have occurred solely as a result of random selection in sampling or random assignment in an experiment.* *For S.IC.4 and 5, focus on the variability of results from experiments—that is, focus on statistics as a way of dealing with, not eliminating, inherent randomness.*	S.IC.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. S.IC.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. S.IC.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. S.IC.6 Evaluate reports based on data.
• Use probability to evaluate outcomes of decisions. *Extend to more complex probability models. Include situations such as those involving quality control, or diagnostic tests that yield both false positive and false negative results.*	S.MD.6 (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). S.MD.7 (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Overview of the Integrated Pathway for the Common Core State Mathematics Standards

This table shows the domains and clusters in each course in the Integrated Pathway. The standards from each cluster included in that course are listed below each cluster. For each course, limits and focus for the clusters are shown in italics.

	Domains	Mathematics I	Mathematics II	Mathematics III	Fourth Courses*
Number and Quantity	The Real Number System		• Extend the properties of exponents to rational exponents. N.RN.1, 2 • Use properties of rational and irrational numbers. N.RN.3		
	Quantities	• Reason quantitatively and use units to solve problems. *Foundation for work with expressions, equations and functions* N.Q.1, 2, 3			
	The Complex Number System		• Perform arithmetic operations with complex numbers. *i^2 as highest power of i* N.CN.1, 2 • Use complex numbers in polynomial identities and equations. *Quadratics with real coefficients* N.CN.7, (+) 8, (+) 9	• Use complex numbers in polynomial identities and equations. *Polynomials with real coefficients; apply N.CN.9 to higher degree polynomials* (+) N.CN. 8, 9	• Perform arithmetic operations with complex numbers. (+) N.CN.3 • Represent complex numbers and their operations on the complex plane. (+) N.CN.4, 5, 6
	Vector Quantities and Matrices				• Represent and model with vector quantities. (+) N.VM.1, 2, 3 • Perform operations on vectors. (+) N.VM.4a, 4b, 4c, 5a, 5b • Perform operations on matrices and use matrices in applications. (+) N.VM.6, 7, 8, 9, 10, 11, 12

*The (+) standards in this column are those in the Common Core State Standards that are not included in any of the Integrated Pathway courses. They would be used in additional courses developed to follow Mathematics III.

Algebra

Domains	Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Seeing Structure in Expressions	• Interpret the structure of expressions. *Linear expressions and exponential expressions with integer exponents* A.SSE.1a, 1b	• Interpret the structure of expressions. *Quadratic and exponential* A.SSE.1a, 1b, 2 • Write expressions in equivalent forms to solve problems. *Quadratic and exponential* A.SSE.3a, 3b, 3c	• Interpret the structure of expressions. *Polynomial and rational* A.SSE.1a, 1b, 2 • Write expressions in equivalent forms to solve problems. A.SSE.4	
Arithmetic with Polynomials and Rational Expressions		• Perform arithmetic operations on polynomials. *Polynomials that simplify to quadratics* A.APR.1	• Perform arithmetic operations on polynomials. *Beyond quadratic* A.APR.1 • Understand the relationship between zeros and factors of polynomials. A.APR.2, 3 • Use polynomial identities to solve problems. A.APR.4, (+) 5 • Rewrite rational expressions. *Linear and quadratic denominators* A.APR.6, (+) 7	
Creating Equations	• Create equations that describe numbers or relationships. *Linear, and exponential (integer inputs only); for A.CED.3, linear only* A.CED. 1, 2, 3, 4	• Create equations that describe numbers or relationships. *In A.CED.4, include formulas involving quadratic terms* A.CED. 1, 2, 4	• Create equations that describe numbers or relationships. *Equations using all available types of expressions including simple root functions* A.CED.1, 2, 3, 4	

	Domains	Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Algebra	Reasoning with Equations and Inequalities	• Understand solving equations as a process of reasoning and explain the reasoning. *Master linear, learn as general principle* A.REI.1 • Solve equations and inequalities in one variable. *Linear inequalities; literal that are linear in the variables being solved for;, exponential of a form, such as $2^x = 1/16$* A.REI.3 • Solve systems of equations. *Linear systems* A.REI.5, 6 • Represent and solve equations and inequalities graphically. *Linear and exponential; learn as general principle* A.REI.10, 11, 12	• Solve equations and inequalities in one variable. *Quadratics with real coefficients* A.REI.4a, 4b • Solve systems of equations. *Linear-quadratic systems* A.REI.7	• Understand solving equations as a process of reasoning and explain the reasoning. *Simple radical and rational* A.REI.2 • Represent and solve equations and inequalities graphically. *Combine polynomial, rational, radical, absolute value, and exponential functions* A.REI.11	• Solve systems of equations. (+) A.REI.8, 9
Functions	Interpreting Functions	• Understand the concept of a function and use function notation. *Learn as general principle. Focus on linear and exponential (integer domains) and on arithmetic and geometric sequences* F.IF.1, 2, 3 • Interpret functions that arise in applications in terms of a context. *Linear and exponential, (linear domain)* F.IF.4, 5, 6 • Analyze functions using different representations. *Linear and exponential* F.IF.7a, 7e, 9	• Interpret functions that arise in applications in terms of a context. *Quadratic* F.IF.4, 5, 6 • Analyze functions using different representations. *Linear, exponential, quadratic, absolute value, step, piecewise-defined* F.IF.7a, 7b, 8a, 8b, 9	• Interpret functions that arise in applications in terms of a context. *Include rational, square root and cube root; emphasize selection of appropriate models* F.IF.4, 5, 6 • Analyze functions using different representations. *Include rational and radical; focus on using key features to guide selection of appropriate type of model function* F.IF. 7b, 7c, 7e, 8, 9	• Analyze functions using different representations. *Logarithmic and trigonometric functions* (+) F.IF.7d

	Domains	Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Functions	Building Functions	• Build a function that models a relationship between two quantities. *For F.BF.1, 2, linear and exponential (integer inputs)* F.BF.1a, 1b, 2 • Build new functions from existing functions. *Linear and exponential; focus on vertical translations for exponential* F.BF.3	• Build a function that models a relationship between two quantities. *Quadratic and exponential* F.BF.1a, 1b • Build new functions from existing functions. *Quadratic, absolute value* F.BF.3, 4a	• Build a function that models a relationship between two quantities. *Include all types of functions studied* F.BF.1b • Build new functions from existing functions. *Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types* F.BF.3, 4a	• Build a function that models a relationship between two quantities. (+) F.BF.1c • Build new functions from existing functions. (+) F.BF.4b, 4c, 4d, 5
	Linear, Quadratic, and Exponential Models	• Construct and compare linear, quadratic, and exponential models and solve problems. *Linear and exponential* F.LE.1a, 1b, 1c, 2, 3 • Interpret expressions for functions in terms of the situation they model. *Linear and exponential of form* *$f(x) = b^x + k$* F.LE.5	• Construct and compare linear, quadratic, and exponential models and solve problems. *Include quadratic* F.LE. 3	• Construct and compare linear, quadratic, and exponential models and solve problems. *Logarithms as solutions for exponentials* F.LE.4	
	Trigonometric Functions		• Prove and apply trigonometric identities. F.TF.8	• Extend the domain of trigonometric functions using the unit circle. F.TF.1, 2 • Model periodic phenomena with trigonometric functions. F.TF. 5	• Extend the domain of trigonometric functions using the unit circle. (+) F.TF.3, 4 • Model periodic phenomena with trigonometric functions. (+) F.TF. 6, 7 • Prove and apply trigonometric identities. (+) F.TF. 9

	Domains	Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Geometry	Congruence	• Experiment with transformations in the plane. G.CO.1, 2, 3, 4, 5 • Understand congruence in terms of rigid motions. *Build on rigid motions as a familiar starting point for development of concept of geometric proof* G.CO.6, 7, 8 • Make geometric constructions. *Formalize and explain processes* G.CO.12, 13	• Prove geometric theorems. *Focus on validity of underlying reasoning while using variety of ways of writing proofs* G.CO.9, 10, 11		
	Similarity, Right Triangles, and Trigonometry		• Understand similarity in terms of similarity transformations. G.SRT.1a, 1b, 2, 3 • Prove theorems involving similarity. *Focus on validity of underlying reasoning while using variety of formats* G.SRT.4, 5 • Define trigonometric ratios and solve problems involving right triangles. G.SRT.6, 7, 8	• Apply trigonometry to general triangles. (+) G.SRT.9. 10, 11	
	Circles		• Understand and apply theorems about circles. G.C.1, 2, 3, (+) 4 • Find arc lengths and areas of sectors of circles. *Radian introduced only as unit of measure* G.C.5		

	Domains	Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Geometry	Expressing Geometric Properties with Equations	• Use coordinates to prove simple geometric theorems algebraically. *Include distance formula; relate to Pythagorean theorem* G.GPE. 4, 5, 7	• Translate between the geometric description and the equation for a conic section. G.GPE.1, 2 • Use coordinates to prove simple geometric theorems algebraically. *For G.GPE.4 include simple circle theorems* G.GPE.4		• Translate between the geometric description and the equation for a conic section. (+) G.GPE.3
	Geometric Measurement and Dimension		• Explain volume formulas and use them to solve problems. G.GMD.1, 3	• Visualize the relation between two-dimensional and three-dimensional objects. G.GMD.4	• Explain volume formulas and use them to solve problems. (+) G.GMD.2
	Modeling with Geometry			• Apply geometric concepts in modeling situations. G.MG.1, 2, 3	
Statistics and Probability	Interpreting Categorical and Quantitative Data	• Summarize, represent, and interpret data on a single count or measurement variable. S.ID.1, 2, 3 • Summarize, represent, and interpret data on two categorical and quantitative variables. *Linear focus; discuss general principle* S.ID.5, 6a, 6b, 6c • Interpret linear models. S.ID.7, 8, 9		• Summarize, represent, and interpret data on a single count or measurement variable. S.ID.4	
	Making Inferences and Justifying Conclusions			• Understand and evaluate random processes underlying statistical experiments. S.IC.1, 2 • Make inferences and justify conclusions from sample surveys, experiments and observational studies. S.IC.3, 4, 5, 6	

	Domains	Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Statistics and Probability	Conditional Probability and the Rules of Probability		• Understand independence and conditional probability and use them to interpret data. *Link to data from simulations or experiments* S.CP.1, 2, 3, 4, 5 • Use the rules of probability to compute probabilities of compound events in a uniform probability model. S.CP.6, 7, (+) 8, (+) 9		
	Using Probability to Make Decisions		• Use probability to evaluate outcomes of decisions. *Introductory; apply counting rules* (+) S.MD.6, 7	• Use probability to evaluate outcomes of decisions. *Include more complex situations* (+) S.MD.6, 7	• Calculate expected values and use them to solve problems. (+) S.MD.1, 2, 3, 4 • Use probability to evaluate outcomes of decisions. (+) S.MD. 5a, 5b

Integrated Pathway: Mathematics I

The fundamental purpose of Mathematics I is to formalize and extend the mathematics that students learned in the middle grades. The critical areas, organized into units, deepen and extend understanding of linear relationships, in part by contrasting them with exponential phenomena, and in part by applying linear models to data that exhibit a linear trend. Mathematics 1 uses properties and theorems involving congruent figures to deepen and extend understanding of geometric knowledge from prior grades. The final unit in the course ties together the algebraic and geometric ideas studied. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Critical Area 1: By the end of eighth grade students have had a variety of experiences working with expressions and creating equations. In this first unit, students continue this work by using quantities to model and analyze situations, to interpret expressions, and by creating equations to describe situations.

Critical Area 2: In earlier grades, students define, evaluate, and compare functions, and use them to model relationships between quantities. In this unit, students will learn function notation and develop the concepts of domain and range. They move beyond viewing functions as processes that take inputs and yield outputs and start viewing functions as objects in their own right. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. They work with functions given by graphs and tables, keeping in mind that, depending upon the context, these representations are likely to be approximate and incomplete. Their work includes functions that can be described or approximated by formulas as well as those that cannot. When functions describe relationships between quantities arising from a context, students reason with the units in which those quantities are measured. Students build on and informally extend their understanding of integer exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

Critical Area 3: By the end of eighth grade, students have learned to solve linear equations in one variable and have applied graphical and algebraic methods to analyze and solve systems of linear equations in two variables. This unit builds on these earlier experiences by asking students to analyze and explain the process of solving an equation and to justify the process used in solving a system of equations. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations. Students explore systems of equations and inequalities, and they find and interpret their solutions. All of this work is grounded on understanding quantities and on relationships between them.

Critical Area 4: This unit builds upon prior students' prior experiences with data, providing students with more formal means of assessing how a model fits data. Students use regression techniques to describe approximately linear relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

Critical Area 5: In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Critical Area 6: Building on their work with the Pythagorean Theorem in 8^{th} grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Relationships Between Quantities</td><td>Reason quantitatively and use units to solve problems.
Interpret the structure of expressions.
Create equations that describe numbers or relationships.</td><td rowspan="6">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Linear and Exponential Relationships</td><td>Represent and solve equations and inequalities graphically.
Understand the concept of a function and use function notation.
Interpret functions that arise in applications in terms of a context.
Analyze functions using different representations.
Build a function that models a relationship between two quantities.
Build new functions from existing functions.
Construct and compare linear, quadratic, and exponential models and solve problems.
Interpret expressions for functions in terms of the situation they model.</td></tr>
<tr><td>Unit 3†
Reasoning with Equations</td><td>Understand solving equations as a process of reasoning and explain the reasoning.
Solve equations and inequalities in one variable.
Solve systems of equations.</td></tr>
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Descriptive Statistics</td><td>Summarize, represent, and interpret data on a single count or measurement variable.
Summarize, represent, and interpret data on two categorical and quantitative variables.
Interpret linear models.</td></tr>
<tr><td>Unit 5
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Understand congruence in terms of rigid motions.
Make geometric constructions.</td></tr>
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*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

†Note that solving equations and systems of equations follows a study of functions in this course. To examine equations before functions, this unit could be merged with Unit 1.

Unit 1: Relationships Between Quantities

By the end of eighth grade students have had a variety of experiences working with expressions and creating equations. In this first unit, students continue this work by using quantities to model and analyze situations, to interpret expressions, and by creating equations to describe situations.

Unit 1: Relationships between Quantities	
Clusters with Instructional Notes	**Common Core State Standards**
SKILLS TO MAINTAIN *Reinforce understanding of the properties of integer exponents. The initial experience with exponential expressions, equations, and functions involves integer exponents and builds on this understanding.*	
• Reason quantitatively and use units to solve problems. *Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.*	N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. N.Q.2 Define appropriate quantities for the purpose of descriptive modeling. N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
• Interpret the structure of expressions. *Limit to linear expressions and to exponential expressions with integer exponents.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*
• Create equations that describe numbers or relationships. *Limit A.CED.1 and A.CED.2 to linear and exponential equations, and, in the case of exponential equations, limit to situations requiring evaluation of exponential functions at integer inputs. Limit A.CED.3 to linear equations and inequalities. Limit A.CED.4 to formulas with a linear focus.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*

Unit 2: Linear and Exponential Relationships

In earlier grades, students define, evaluate, and compare functions, and use them to model relationships between quantities. In this unit, students will learn function notation and develop the concepts of domain and range. They move beyond viewing functions as processes that take inputs and yield outputs and start viewing functions as objects in their own right. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. They work with functions given by graphs and tables, keeping in mind that, depending upon the context, these representations are likely to be approximate and incomplete. Their work includes functions that can be described or approximated by formulas as well as those that cannot. When functions describe relationships between quantities arising from a context, students reason with the units in which those quantities are measured. Students build on and informally extend their understanding of integer exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

Unit 2: Linear and Exponential Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Represent and solve equations and inequalities graphically. *For A.REI.10 focus on linear and exponential equations and be able to adapt and apply that learning to other types of equations in future courses. For A.REI.11, focus on cases where f(x) and g(x) are linear or exponential.*	A.REI.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). A.REI.11 Explain why the *x*-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★ A.REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
• Understand the concept of a function and use function notation. *Students should experience a variety of types of situations modeled by functions. Detailed analysis of any particular class of function at this stage is not advised. Students should apply these concepts throughout their future mathematics courses.* *Draw examples from linear and exponential functions. In F.IF.3, draw connection to F.BF.2, which requires students to write arithmetic and geometric sequences. Emphasize arithmetic and geometric sequences as examples of linear and exponential functions.*	F.IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$. F.IF.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. F.IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by* $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ *for* $n \geq 1$.

Unit 2: Linear and Exponential Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Interpret functions that arise in applications in terms of a context. *For F.IF.4 and 5, focus on linear and exponential functions. For F.IF.6, focus on linear functions and intervals for exponential functions whose domain is a subset of the integers. Mathematics II and III will address other function types.* *N.RN.1 and N.RN. 2 will need to be referenced here before discussing exponential models with continuous domains.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★
• Analyze functions using different representations. *For F.IF.7a, 7e, and 9 focus on linear and exponential functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100\cdot 2^n$.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*
• Build a function that models a relationship between two quantities. *Limit F.BF.1a, 1b, and 2 to linear and exponential functions. In F.BF.2, connect arithmetic sequences to linear functions and geometric sequences to exponential functions.*	F.BF.1 Write a function that describes a relationship between two quantities.★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* F.BF.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★
• Build new functions from existing functions. *Focus on vertical translations of graphs of linear and exponential functions. Relate the vertical translation of a linear function to its y-intercept.* *While applying other transformations to a linear graph is appropriate at this level, it may be difficult for students to identify or distinguish between the effects of the other transformations included in this standard.*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*

Unit 2: Linear and Exponential Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Construct and compare linear, quadratic, and exponential models and solve problems. *For F.LE.3, limit to comparisons between exponential and linear models.*	F.LE.1 Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals; exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F.LE.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
• Interpret expressions for functions in terms of the situation they model. *Limit exponential functions to those of the form $f(x) = b^x + k$.*	F.LE.5 Interpret the parameters in a linear or exponential function in terms of a context.

Unit 3: Reasoning with Equations

By the end of eighth grade, students have learned to solve linear equations in one variable and have applied graphical and algebraic methods to analyze and solve systems of linear equations in two variables. This unit builds on these earlier experiences by asking students to analyze and explain the process of solving an equation and to justify the process used in solving a system of equations. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations. Students explore systems of equations and inequalities, and they find and interpret their solutions. All of this work is grounded on understanding quantities and on relationships between them.

Unit 3: Reasoning with Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Understand solving equations as a process of reasoning and explain the reasoning. *Students should focus on and master A.REI.1 for linear equations and be able to extend and apply their reasoning to other types of equations in future courses. Students will solve exponential equations with logarithms in Mathematics III.*	A.REI.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
• Solve equations and inequalities in one variable. *Extend earlier work with solving linear equations to solving linear inequalities in one variable and to solving literal equations that are linear in the variable being solved for. Include simple exponential equations that rely only on application of the laws of exponents, such as $5^x = 125$ or $2^x = 1/16$.*	A.REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
• Solve systems of equations. *Build on student experiences graphing and solving systems of linear equations from middle school to focus on justification of the methods used. Include cases where the two equations describe the same line (yielding infinitely many solutions) and cases where two equations describe parallel lines (yielding no solution); connect to GPE.5, which requires students to prove the slope criteria for parallel lines.*	A.REI.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A.REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

Unit 4: Descriptive Statistics

Experience with descriptive statistics began as early as Grade 6. Students were expected to display numerical data and summarize it using measures of center and variability. By the end of middle school they were creating scatterplots and recognizing linear trends in data. This unit builds upon that prior experience, providing students with more formal means of assessing how a model fits data. Students use regression techniques to describe approximately linear relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

Unit 4: Descriptive Statistics	
Clusters with Instructional Notes	**Common Core State Standards**
• Summarize, represent, and interpret data on a single count or measurement variable. *In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.*	S.ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots). S.ID.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. S.ID.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
• Summarize, represent, and interpret data on two categorical and quantitative variables. *Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.* *S.ID.6b should be focused on situations for which linear models are appropriate.*	S.ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for scatter plots that suggest a linear association.
• Interpret linear models. *Build on students' work with linear relationships in eighth grade and introduce the correlation coefficient. The focus here is on the computation and interpretation of the correlation coefficient as a measure of how well the data fit the relationship. The important distinction between a statistical relationship and a cause-and-effect relationship arises in S.ID.9.*	S.ID.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit. S.ID.9 Distinguish between correlation and causation.

Unit 5: Congruence, Proof, and Constructions

In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Unit 5: Congruence, Proof, and Constructions	
Clusters and Instructional Notes	**Common Core State Standards**
• Experiment with transformations in the plane. *Build on student experience with rigid motions from earlier grades. Point out the basis of rigid motions in geometric concepts, e.g., translations move points a specified distance along a line parallel to a specified line; rotations move objects along a circular arc with a specified center through a specified angle.*	G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. G.CO.2 Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). G.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. G.CO.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. G.CO.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
• Understand congruence in terms of rigid motions. *Rigid motions are at the foundation of the definition of congruence. Students reason from the basic properties of rigid motions (that they preserve distance and angle), which are assumed without proof. Rigid motions and their assumed properties can be used to establish the usual triangle congruence criteria, which can then be used to prove other theorems.*	G.CO.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. G.CO.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. G.CO.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.
• Make geometric constructions. *Build on prior student experience with simple constructions. Emphasize the ability to formalize and defend how these constructions result in the desired objects.* *Some of these constructions are closely related to previous standards and can be introduced in conjunction with them.*	G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Unit 6: Connecting Algebra and Geometry Through Coordinates

Building on their work with the Pythagorean Theorem in 8th grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines.

Unit 6: Connecting Algebra and Geometry Through Coordinates	
Clusters and Instructional Notes	**Common Core State Standards**
• Use coordinates to prove simple geometric theorems algebraically. *This unit has a close connection with the next unit. For example, a curriculum might merge G.GPE.1 and the Unit 5 treatment of G.GPE.4 with the standards in this unit. Reasoning with triangles in this unit is limited to right triangles; e.g., derive the equation for a line through two points using similar right triangles.* *Relate work on parallel lines in G.GPE.5 to work on A.REI.5 in Mathematics I involving systems of equations having no solution or infinitely many solutions.* *G.GPE.7 provides practice with the distance formula and its connection with the Pythagorean theorem.*	G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, $\sqrt{3}$) lies on the circle centered at the origin and containing the point (0, 2).* G.GPE.5 Prove the slope criteria for parallel and perpendicular lines; use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). G.GPE.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.★

Integrated Pathway: Mathematics II

The focus of Mathematics II is on quadratic expressions, equations, and functions; comparing their characteristics and behavior to those of linear and exponential relationships from Mathematics I as organized into 6 critical areas, or units. The need for extending the set of rational numbers arises and real and complex numbers are introduced so that all quadratic equations can be solved. The link between probability and data is explored through conditional probability and counting methods, including their use in making and evaluating decisions. The study of similarity leads to an understanding of right triangle trigonometry and connects to quadratics through Pythagorean relationships. Circles, with their quadratic algebraic representations, round out the course. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Critical Area 1: Students extend the laws of exponents to rational exponents and explore distinctions between rational and irrational numbers by considering their decimal representations. In Unit 3, students learn that when quadratic equations do not have real solutions the number system must be extended so that solutions exist, analogous to the way in which extending the whole numbers to the negative numbers allows $x+1 = 0$ to have a solution. Students explore relationships between number systems: whole numbers, integers, rational numbers, real numbers, and complex numbers. The guiding principle is that equations with no solutions in one number system may have solutions in a larger number system.

Critical Area 2: Students consider quadratic functions, comparing the key characteristics of quadratic functions to those of linear and exponential functions. They select from among these functions to model phenomena. Students learn to anticipate the graph of a quadratic function by interpreting various forms of quadratic expressions. In particular, they identify the real solutions of a quadratic equation as the zeros of a related quadratic function. When quadratic equations do not have real solutions, students learn that that the graph of the related quadratic function does not cross the horizontal axis. They expand their experience with functions to include more specialized functions—absolute value, step, and those that are piecewise-defined.

Critical Area 3: Students begin this unit by focusing on the structure of expressions, rewriting expressions to clarify and reveal aspects of the relationship they represent. They create and solve equations, inequalities, and systems of equations involving exponential and quadratic expressions.

Critical Area 4: Building on probability concepts that began in the middle grades, students use the languages of set theory to expand their ability to compute and interpret theoretical and experimental probabilities for compound events, attending to mutually exclusive events, independent events, and conditional probability. Students should make use of geometric probability models wherever possible. They use probability to make informed decisions.

Critical Area 5: Students apply their earlier experience with dilations and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles to understand right triangle trigonometry, with particular attention to special right triangles and the Pythagorean Theorem. It is in this unit that students develop facility with geometric proof. They use what they know about congruence and similarity to prove theorems involving lines, angles, triangles, and other polygons. They explore a variety of formats for writing proofs.

Critical Area 6: In this unit students prove basic theorems about circles, such as a tangent line is perpendicular to a radius, inscribed angle theorem, and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. In the Cartesian coordinate system, students use the distance formula to write the equation of a circle when given the radius and the coordinates of its center, and the equation of a parabola with vertical axis when given an equation of its directrix and the coordinates of its focus. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations to determine intersections between lines and circles or a parabola and between two circles. Students develop informal arguments justifying common formulas for circumference, area, and volume of geometric objects, especially those related to circles.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Extending the Number System</td><td>• Extend the properties of exponents to rational exponents.
• Use properties of rational and irrational numbers.
• Perform arithmetic operations with complex numbers.
• Perform arithmetic operations on polynomials.</td><td rowspan="6">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Quadratic Functions and Modeling</td><td>• Interpret functions that arise in applications in terms of a context.
• Analyze functions using different representations.
• Build a function that models a relationship between two quantities.
• Build new functions from existing functions.
• Construct and compare linear, quadratic, and exponential models and solve problems.</td></tr>
<tr><td>Unit 3†
Expressions and Equations</td><td>• Interpret the structure of expressions.
• Write expressions in equivalent forms to solve problems.
• Create equations that describe numbers or relationships.
• Solve equations and inequalities in one variable.
• Use complex numbers in polynomial identities and equations.
• Solve systems of equations.</td></tr>
<tr><td>Unit 4
Applications of Probability</td><td>• Understand independence and conditional probability and use them to interpret data.
• Use the rules of probability to compute probabilities of compound events in a uniform probability model.
• Use probability to evaluate outcomes of decisions.</td></tr>
<tr><td>Unit 5
Similarity, Right Triangle Trigonometry, and Proof</td><td>• Understand similarity in terms of similarity transformations.
• Prove geometric theorems.
• Prove theorems involving similarity.
• Use coordinates to prove simple geometric theorems algebraically.
• Define trigonometric ratios and solve problems involving right triangles.
• Prove and apply trigonometric identities.</td></tr>
<tr><td>Unit 6
Circles With and Without Coordinates</td><td>• Understand and apply theorems about circles.
• Find arc lengths and areas of sectors of circles.
• Translate between the geometric description and the equation for a conic section.
• Use coordinates to prove simple geometric theorem algebraically.
• Explain volume formulas and use them to solve problems.</td></tr>
</table>

*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

†Note that solving equations follows a study of functions in this course. To examine equations before functions, this unit could come before Unit 2.

Unit 1: Extending the Number System

Students extend the laws of exponents to rational exponents and explore distinctions between rational and irrational numbers by considering their decimal representations. In Unit 2, students learn that when quadratic equations do not have real solutions the number system must be extended so that solutions exist, analogous to the way in which extending the whole numbers to the negative numbers allows x+1 = 0 to have a solution. Students explore relationships between number systems: whole numbers, integers, rational numbers, real numbers, and complex numbers. The guiding principle is that equations with no solutions in one number system may have solutions in a larger number system.

Unit 1: Extending the Number System	
Clusters with Instructional Notes	**Common Core State Standards**
• Extend the properties of exponents to rational exponents.	N.RN.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.* N.RN.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.
• Use properties of rational and irrational numbers. *Connect N.RN.3 to physical situations, e.g., finding the perimeter of a square of area 2.*	N.RN.3 Explain why sums and products of rational numbers are rational, that the sum of a rational number and an irrational number is irrational, and that the product of a nonzero rational number and an irrational number is irrational.
• Perform arithmetic operations with complex numbers. *Limit to multiplications that involve i^2 as the highest power of i.*	N.CN.1 Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real. N.CN.2 Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
• Perform arithmetic operations on polynomials. *Focus on polynomial expressions that simplify to forms that are linear or quadratic in a positive integer power of x.*	A.APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Unit 2: Quadratic Functions and Modeling

Students consider quadratic functions, comparing the key characteristics of quadratic functions to those of linear and exponential functions. They select from among these functions to model phenomena. Students learn to anticipate the graph of a quadratic function by interpreting various forms of quadratic expressions. In particular, they identify the real solutions of a quadratic equation as the zeros of a related quadratic function. When quadratic equations do not have real solutions, students learn that that the graph of the related quadratic function does not cross the horizontal axis. They expand their experience with functions to include more specialized functions—absolute value, step, and those that are piecewise-defined.

Unit 2: Quadratic Functions and Modeling	
Clusters with Instructional Notes	**Common Core State Standards**
• Interpret functions that arise in applications in terms of a context. *Focus on quadratic functions; compare with linear and exponential functions studied in Mathematics I.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★
• Analyze functions using different representations. *For F.IF.7b, compare and contrast absolute value, step and piecewise-defined functions with linear, quadratic, and exponential functions. Highlight issues of domain, range and usefulness when examining piecewise-defined functions. Note that this unit, and in particular in F.IF.8b, extends the work begun in Mathematics I on exponential functions with integer exponents. For F.IF.9, focus on expanding the types of functions considered to include, linear, exponential, and quadratic.* *Extend work with quadratics to include the relationship between coefficients and roots, and that once roots are known, a quadratic equation can be factored.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. F.IF.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.* F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*
• Build a function that models a relationship between two quantities. *Focus on situations that exhibit a quadratic or exponential relationship.*	F.BF.1 Write a function that describes a relationship between two quantities.★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*

Unit 2: Quadratic Functions and Modeling	
Clusters with Instructional Notes	**Common Core State Standards**
• Build new functions from existing functions. *For F.BF.3, focus on quadratic functions and consider including absolute value functions.. For F.BF.4a, focus on linear functions but consider simple situations where the domain of the function must be restricted in order for the inverse to exist, such as $f(x) = x^2, x>0$.*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.* F.BF.4 Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2\,x^3$ *or* $f(x) = (x+1)/(x-1)$ *for* $x \neq 1$.
• Construct and compare linear, quadratic, and exponential models and solve problems. *Compare linear and exponential growth studied in Mathematics I to quadratic growth.*	F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

Unit 3: Expressions and Equations

Students begin this unit by focusing on the structure of expressions, rewriting expressions to clarify and reveal aspects of the relationship they represent. They create and solve equations, inequalities, and systems of equations involving exponential and quadratic expressions.

Unit 3: Expressions and Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Interpret the structure of expressions. *Focus on quadratic and exponential expressions. For A.SSE.1b, exponents are extended from the integer exponents found in Mathematics I to rational exponents focusing on those that represent square or cube roots.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.* A.SSE.2 Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.
• Write expressions in equivalent forms to solve problems. *It is important to balance conceptual understanding and procedural fluency in work with equivalent expressions. For example, development of skill in factoring and completing the square goes hand-in-hand with understanding what different forms of a quadratic expression reveal.*	A.SSE.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★ a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
• Create equations that describe numbers or relationships. *Extend work on linear and exponential equations in Mathematics I to quadratic equations. Extend A.CED.4 to formulas involving squared variables.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*
• Solve equations and inequalities in one variable. *Extend to solving any quadratic equation with real coefficients, including those with complex solutions.*	A.REI.4 Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.
• Use complex numbers in polynomial identities and equations. *Limit to quadratics with real coefficients.*	N.CN.7 Solve quadratic equations with real coefficients that have complex solutions. N.CN.8 (+) Extend polynomial identities to the complex numbers. *For example, rewrite $x^2 + 4$ as $(x + 2i)(x - 2i)$.* N.CN.9 (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

Unit 3: Expressions and Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Solve systems of equations. *Include systems consisting of one linear and one quadratic equation. Include systems that lead to work with fractions. For example, finding the intersections between $x^2 + y^2 = 1$ and $y = (x+1)/2$ leads to the point (3/5, 4/5) on the unit circle, corresponding to the Pythagorean triple $3^2 + 4^2 = 5^2$.*	A.REI.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.*

Unit 4: Applications of Probability

Building on probability concepts that began in the middle grades, students use the languages of set theory to expand their ability to compute and interpret theoretical and experimental probabilities for compound events, attending to mutually exclusive events, independent events, and conditional probability. Students should make use of geometric probability models wherever possible. They use probability to make informed decisions.

Unit 4: Applications of Probability	
Clusters and Instructional Notes	**Common Core State Standards**
• Understand independence and conditional probability and use them to interpret data. *Build on work with two-way tables from Mathematics I Unit 4 (S.ID.5) to develop understanding of conditional probability and independence.*	S.CP.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not"). S.CP.2 Understand that two events *A* and *B* are independent if the probability of *A* and *B* occurring together is the product of their probabilities, and use this characterization to determine if they are independent. S.CP.3 Understand the conditional probability of *A* given *B* as *P(A* and *B)/P(B)*, and interpret independence of *A* and *B* as saying that the conditional probability of *A* given *B* is the same as the probability of *A*, and the conditional probability of *B* given *A* is the same as the probability of *B*. S.CP.4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.* S.CP.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*
• Use the rules of probability to compute probabilities of compound events in a uniform probability model.	S.CP.6 Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A*, and interpret the answer in terms of the model. S.CP.7 Apply the Addition Rule, *P(A or B) = P(A) + P(B) – P(A* and *B)*, and interpret the answer in terms of the model. S.CP.8 (+) Apply the general Multiplication Rule in a uniform probability model, *P(A* and *B) = P(A)P(B|A) = P(B)P(A|B)*, and interpret the answer in terms of the model. S.CP.9 (+) Use permutations and combinations to compute probabilities of compound events and solve problems.
• Use probability to evaluate outcomes of decisions. *This unit sets the stage for work in Mathematics III, where the ideas of statistical inference are introduced. Evaluating the risks associated with conclusions drawn from sample data (i.e. incomplete information) requires an understanding of probability concepts.*	S.MD.6 (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). S.MD.7 (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Unit 5: Similarity, Right Triangle Trigonometry, and Proof

Students apply their earlier experience with dilations and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles to understand right triangle trigonometry, with particular attention to special right triangles and the Pythagorean theorem.

It is in this unit that students develop facility with geometric proof. They use what they know about congruence and similarity to prove theorems involving lines, angles, triangles, and other polygons. They explore a variety of formats for writing proofs.

Unit 5: Similarity, Right Triangle Trigonometry, and Proof	
Clusters and Instructional Notes	**Common Core State Standards**
• Understand similarity in terms of similarity transformations.	G.SRT.1 Verify experimentally the properties of dilations given by a center and a scale factor. a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor. G.SRT.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides. G.SRT.3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
• Prove geometric theorems. *Encourage multiple ways of writing proofs, such as in narrative paragraphs, using flow diagrams, in two-column format, and using diagrams without words. Students should be encouraged to focus on the validity of the underlying reasoning while exploring a variety of formats for expressing that reasoning. Implementation of G.CO.10 may be extended to include concurrence of perpendicular bisectors and angle bisectors as preparation for G.C.3 in Unit 6.*	G.CO.9 Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.* G.CO.10 Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.* G.CO.11 Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*
• Prove theorems involving similarity.	G.SRT.4 Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.* G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
• Use coordinates to prove simple geometric theorems algebraically.	G.GPE.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
• Define trigonometric ratios and solve problems involving right triangles.	G.SRT.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles. G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

Unit 5: Similarity, Right Triangle Trigonometry, and Proof	
Clusters and Instructional Notes	**Common Core State Standards**
• Prove and apply trigonometric identities. *In this course, limit θ to angles between 0 and 90 degrees. Connect with the Pythagorean theorem and the distance formula. A course with a greater focus on trigonometry could include the (+) standard F.TF.9: Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems. This could continue to be limited to acute angles in Mathematics II.* *Extension of trigonometric functions to other angles through the unit circle is included in Mathematics III.*	F.TF.8 Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find sin (θ), cos (θ), or tan (θ), given sin (θ), cos (θ), or tan (θ), and the quadrant of the angle.

Unit 6: Circles With and Without Coordinates

In this unit students prove basic theorems about circles, such as a tangent line is perpendicular to a radius, inscribed angle theorem, and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. They study relationships among segments on chords, secants, and tangents as an application of similarity. In the Cartesian coordinate system, students use the distance formula to write the equation of a circle when given the radius and the coordinates of its center, and the equation of a parabola with vertical axis when given an equation of its directrix and the coordinates of its focus. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations to determine intersections between lines and circles or a parabola and between two circles. Students develop informal arguments justifying common formulas for circumference, area, and volume of geometric objects, especially those related to circles.

Unit 6: Circles With an Without Coordinates	
Clusters and Instructional Notes	**Common Core State Standards**
• Understand and apply theorems about circles.	G.C.1 Prove that all circles are similar. G.C.2 Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.* G.C.3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. G.C.4 (+) Construct a tangent line from a point outside a given circle to the circle.
• Find arc lengths and areas of sectors of circles. *Emphasize the similarity of all circles. Note that by similarity of sectors with the same central angle, arc lengths are proportional to the radius. Use this as a basis for introducing radian as a unit of measure. It is not intended that it be applied to the development of circular trigonometry in this course.*	G.C.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
• Translate between the geometric description and the equation for a conic section. *Connect the equations of circles and parabolas to prior work with quadratic equations. The directrix should be parallel to a coordinate axis.*	G.GPE.1 Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation. G.GPE.2 Derive the equation of a parabola given a focus and directrix.
• Use coordinates to prove simple geometric theorems algebraically. *Include simple proofs involving circles.*	G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, $\sqrt{3}$) lies on the circle centered at the origin and containing the point (0, 2).*
• Explain volume formulas and use them to solve problems. *Informal arguments for area and volume formulas can make use of the way in which area and volume scale under similarity transformations: when one figure in the plane results from another by applying a similarity transformation with scale factor k, its area is k^2 times the area of the first. Similarly, volumes of solid figures scale by k^3 under a similarity transformation with scale factor k.*	G.GMD.1 Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.* G.GMD.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.★

Integrated Pathway: Mathematics III

It is in Mathematics III that students pull together and apply the accumulation of learning that they have from their previous courses, with content grouped into four critical areas, organized into units. They apply methods from probability and statistics to draw inferences and conclusions from data. Students expand their repertoire of functions to include polynomial, rational, and radical functions.[3] They expand their study of right triangle trigonometry to include general triangles. And, finally, students bring together all of their experience with functions and geometry to create models and solve contextual problems. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Critical Area 1: In this unit, students see how the visual displays and summary statistics they learned in earlier grades relate to different types of data and to probability distributions. They identify different ways of collecting data—including sample surveys, experiments, and simulations—and the role that randomness and careful design play in the conclusions that can be drawn.

Critical Area 2: This unit develops the structural similarities between the system of polynomials and the system of integers. Students draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, particularly the distributive property. Students connect multiplication of polynomials with multiplication of multi-digit integers, and division of polynomials with long division of integers. Students identify zeros of polynomials and make connections between zeros of polynomials and solutions of polynomial equations. The unit culminates with the fundamental theorem of algebra. Rational numbers extend the arithmetic of integers by allowing division by all numbers except 0. Similarly, rational expressions extend the arithmetic of polynomials by allowing division by all polynomials except the zero polynomial. A central theme of this unit is that the arithmetic of rational expressions is governed by the same rules as the arithmetic of rational numbers.

Critical Area 3: Students develop the Laws of Sines and Cosines in order to find missing measures of general (not necessarily right) triangles. They are able to distinguish whether three given measures (angles or sides) define 0, 1, 2, or infinitely many triangles. This discussion of general triangles open up the idea of trigonometry applied beyond the right triangle—that is, at least to obtuse angles. Students build on this idea to develop the notion of radian measure for angles and extend the domain of the trigonometric functions to all real numbers. They apply this knowledge to model simple periodic phenomena.

Critical Area 4: In this unit students synthesize and generalize what they have learned about a variety of function families. They extend their work with exponential functions to include solving exponential equations with logarithms. They explore the effects of transformations on graphs of diverse functions, including functions arising in an application, in order to abstract the general principle that transformations on a graph always have the same effect regardless of the type of the underlying functions. They identify appropriate types of functions to model a situation, they adjust parameters to improve the model, and they compare models by analyzing appropriateness of fit and making judgments about the domain over which a model is a good fit. The description of modeling as "the process of choosing and using mathematics and statistics to analyze empirical situations, to understand them better, and to make decisions" is at the heart of this unit. The narrative discussion and diagram of the modeling cycle should be considered when knowledge of functions, statistics, and geometry is applied in a modeling context.

[3]In this course rational functions are limited to those whose numerators are of degree at most 1 and denominators of degree at most 2; radical functions are limited to square roots or cube roots of at most quadratic polynomials.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Inferences and Conclusions from Data</td><td>• Summarize, represent, and interpret data on single count or measurement variable.
• Understand and evaluate random processes underlying statistical experiments.
• Make inferences and justify conclusions from sample surveys, experiments, and observational studies.
• Use probability to evaluate outcomes of decisions.</td><td rowspan="4">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Polynomial, Rational, and Radical Relationships.</td><td>• Use complex numbers in polynomial identities and equations.
• Interpret the structure of expressions.
• Write expressions in equivalent forms to solve problems.
• Perform arithmetic operations on polynomials.
• Understand the relationship between zeros and factors of polynomials.
• Use polynomial identities to solve problems.
• Rewrite rational expressions.
• Understand solving equations as a process of reasoning and explain the reasoning.
• Represent and solve equations and inequalities graphically.
• Analyze functions using different representations.</td></tr>
<tr><td>Unit 3
Trigonometry of General Triangles and Trigonometric Functions</td><td>• Apply trigonometry to general triangles.
• Extend the domain of trigonometric functions using the unit circle.
• Model periodic phenomena with trigonometric function.</td></tr>
<tr><td>Unit 4
Mathematical Modeling</td><td>• Create equations that describe numbers or relationships.
• Interpret functions that arise in applications in terms of a context.
• Analyze functions using different representations.
• Build a function that models a relationship between two quantities.
• Build new functions from existing functions.
• Construct and compare linear, quadratic, and exponential models and solve problems.
• Visualize relationships between two-dimensional and three-dimensional objects.
• Apply geometric concepts in modeling situations.</td></tr>
</table>

*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

Unit 1: Inferences and Conclusions from Data

In this unit, students see how the visual displays and summary statistics they learned in earlier grades relate to different types of data and to probability distributions. They identify different ways of collecting data—including sample surveys, experiments, and simulations—and the role that randomness and careful design play in the conclusions that can be drawn.

Unit 1: Inferences and Conclusions from Data	
Clusters and Instructional Notes	**Common Core State Standards**
• Summarize, represent, and interpret data on a single count or measurement variable. *While students may have heard of the normal distribution, it is unlikely that they will have prior experience using it to make specific estimates. Build on students' understanding of data distributions to help them see how the normal distribution uses area to make estimates of frequencies (which can be expressed as probabilities). Emphasize that only some data are well described by a normal distribution.*	S.ID.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
• Understand and evaluate random processes underlying statistical experiments. *For S.IC.2, include comparing theoretical and empirical results to evaluate the effectiveness of a treatment.*	S.IC.1 Understand that statistics allows inferences to be made about population parameters based on a random sample from that population. S.IC.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*
• Make inferences and justify conclusions from sample surveys, experiments, and observational studies. *In earlier grades, students are introduced to different ways of collecting data and use graphical displays and summary statistics to make comparisons., These ideas are revisited with a focus on how the way in which data is collected determines the scope and nature of the conclusions that can be drawn from that data. The concept of statistical significance is developed informally through simulation as meaning a result that is unlikely to have occurred solely as a result of random selection in sampling or random assignment in an experiment.* *For S.IC.4 and 5, focus on the variability of results from experiments—that is, focus on statistics as a way of dealing with, not eliminating, inherent randomness.*	S.IC.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. S.IC.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. S.IC.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. S.IC.6 Evaluate reports based on data.
• Use probability to evaluate outcomes of decisions. *Extend to more complex probability models. Include situations such as those involving quality control or diagnostic tests that yields both false positive and false negative results.*	S.MD.6 (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). S.MD.7 (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Unit 2: Polynomials, Rational, and Radical Relationships

This unit develops the structural similarities between the system of polynomials and the system of integers. Students draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, particularly the distributive property. Students connect multiplication of polynomials with multiplication of multi-digit integers, and division of polynomials with long division of integers. Students identify zeros of polynomials and make connections between zeros of polynomials and solutions of polynomial equations. The unit culminates with the fundamental theorem of algebra. Rational numbers extend the arithmetic of integers by allowing division by all numbers except 0. Similarly, rational expressions extend the arithmetic of polynomials by allowing division by all polynomials except the zero polynomial. A central theme of this unit is that the arithmetic of rational expressions is governed by the same rules as the arithmetic of rational numbers.

Unit 2: Polynomials, Rational, and Radical Relationships	
Clusters and Instructional Notes	**Common Core State Standards**
• Use complex numbers in polynomial identities and equations. *Build on work with quadratics equations in Mathematics II. Limit to polynomials with real coefficients.*	N.CN.8 (+) Extend polynomial identities to the complex numbers. *For example, rewrite $x^2 + 4$ as $(x + 2i)(x – 2i)$.* N.CN.9 (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.
• Interpret the structure of expressions. *Extend to polynomial and rational expressions.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.* A.SSE.2 Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 – y^4$ as $(x^2)^2 – (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 – y^2)(x^2 + y^2)$.
• Write expressions in equivalent forms to solve problems. *Consider extending A.SSE.4 to infinite geometric series in curricular implementations of this course description.*	A.SSE.4 Derive the formula for the sum of a geometric series (when the common ratio is not 1) , and use the formula to solve problems. *For example, calculate mortgage payments*. ★
• Perform arithmetic operations on polynomials. *Extend beyond the quadratic polynomials found in Mathematics II.*	A.APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
• Understand the relationship between zeros and factors of polynomials.	A.APR.2 Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x – a$ is $p(a)$, so $p(a) = 0$ if and only if $(x – a)$ is a factor of $p(x)$. A.APR.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

Unit 2: Polynomials, Rational, and Radical Relationships	
Clusters and Instructional Notes	**Common Core State Standards**
• Use polynomial identities to solve problems. *This cluster has many possibilities for optional enrichment, such as relating the example in A.APR.4 to the solution of the system $u^2+v^2=1$, $v = t(u+1)$, relating the Pascal triangle property of binomial coefficients to $(x+y)^{n+1} = (x+y)(x+y)^n$, deriving explicit formulas for the coefficients, or proving the binomial theorem by induction.*	A.APR.4 Prove polynomial identities and use them to describe numerical relationships. *For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.* A.APR.5 (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.
• Rewrite rational expressions *The limitations on rational functions apply to the rational expressions in A.APR.6. A.APR.7 requires the genera division algorithm for polynomials.*	A.APR.6 Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system. A.APR.7 (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
• Understand solving equations as a process of reasoning and explain the reasoning. *Extend to simple rational and radical equations.*	A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
• Represent and solve equations and inequalities graphically. *Include combinations of linear, polynomial, rational, radical, absolute value, and exponential functions.*	A.REI.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★
• Analyze functions using different representations. *Relate F.IF.7c to the relationship between zeros of quadratic functions and their factored forms.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.

Unit 3: Trigonometry of General Triangles and Trigonometric Functions

Students develop the Laws of Sines and Cosines in order to find missing measures of general (not necessarily right) triangles. They are able to distinguish whether three given measures (angles or sides) define 0, 1, 2, or infinitely many triangles. This discussion of general triangles open up the idea of trigonometry applied beyond the right triangle—that is, at least to obtuse angles. Students build on this idea to develop the notion of radian measure for angles and extend the domain of the trigonometric functions to all real numbers. They apply this knowledge to model simple periodic phenomena.

Unit 3: Trigonometry of General Triangles and Trigonometric Functions	
Clusters and Instructional Notes	**Common Core State Standards**
• Apply trigonometry to general triangles. *With respect to the general case of the Laws of Sines and Cosines, the definitions of sine and cosine must be extended to obtuse angles.*	G.SRT.9 (+) Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side. G.SRT.10 (+) Prove the Laws of Sines and Cosines and use them to solve problems. G.SRT.11 (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).
• Extend the domain of trigonometric functions using the unit circle.	F.TF.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. F.TF.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
• Model periodic phenomena with trigonometric functions.	F.TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.★

Unit 4: Mathematical Modeling

In this unit students synthesize and generalize what they have learned about a variety of function families. They extend their work with exponential functions to include solving exponential equations with logarithms. They explore the effects of transformations on graphs of diverse functions, including functions arising in an application, in order to abstract the general principle that transformations on a graph always have the same effect regardless of the type of the underlying functions. They identify appropriate types of functions to model a situation, they adjust parameters to improve the model, and they compare models by analyzing appropriateness of fit and making judgments about the domain over which a model is a good fit. The description of modeling as "*the process of choosing and using mathematics and statistics to analyze empirical situations, to understand them better, and to make decisions*" is at the heart of this unit. The narrative discussion and diagram of the modeling cycle should be considered when knowledge of functions, statistics, and geometry is applied in a modeling context.

Unit 4: Mathematical Modeling	
Clusters and Instructional Notes	**Common Core State Standards**
• Create equations that describe numbers or relationships. *For A.CED.1, use all available types of functions to create such equations, including root functions, but constrain to simple cases. While functions used in A.CED.2, 3, and 4 will often be linear, exponential, or quadratic the types of problems should draw from more complex situations than those addressed in Mathematics I. For example, finding the equation of a line through a given point perpendicular to another line allows one to find the distance from a point to a line. Note that the example given for A.CED.4 applies to earlier instances of this standard, not to the current course.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*
• Interpret functions that arise in applications in terms of a context. *Emphasize the selection of a model function based on behavior of data and context.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★
• Analyze functions using different representations. *Focus on applications and how key features relate to characteristics of a situation, making selection of a particular type of function model appropriate.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. F.IF.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

Unit 4: Mathematical Modeling	
Clusters and Instructional Notes	**Common Core State Standards**
• Build a function that models a relationship between two quantities. *Develop models for more complex or sophisticated situations than in previous courses.*	F.BF.1 Write a function that describes a relationship between two quantities.* b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*
• Build new functions from existing functions. *Use transformations of functions to find more optimum models as students consider increasingly more complex situations.* *For F.BF.3, note the effect of multiple transformations on a single function and the common effect of each transformation across function types. Include functions defined only by a graph.* *Extend F.BF.4a to simple rational, simple radical, and simple exponential functions; connect F.BF.4a to F.LE.4.*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.* F.BF.4 Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2\,x^3$ *or* $f(x) = (x+1)/(x-1)$ *for* $x \neq 1$.
• Construct and compare linear, quadratic, and exponential models and solve problems. *Consider extending this unit to include the relationship between properties of logarithms and properties of exponents, such as the connection between the properties of exponents and the basic logarithm property that log xy = log x + log y.*	F.LE.4 For exponential models, express as a logarithm the solution to $a\,b^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.
• Visualize relationships between two-dimensional and three-dimensional objects.	G.GMD.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
• Apply geometric concepts in modeling situations.	G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).★ G.MG.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).★ G.MG.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★

High School Mathematics in Middle School[4]

There are some students who are able to move through the mathematics quickly. These students may choose to take high school mathematics beginning in eighth grade[5] or earlier so they can take college-level mathematics in high school.[6] Students who are capable of moving more quickly deserve thoughtful attention, both to ensure that they are challenged and that they are mastering the full range of mathematical content and skills—without omitting critical concepts and topics. Care must be taken to ensure that students master and fully understand all important topics in the mathematics curriculum, and that the continuity of the mathematics learning progression is not disrupted. In particular, the Standards for Mathematical Practice ought to continue to be emphasized in these cases.

The number of students taking high school mathematics in eighth grade has increased steadily for years. Part of this trend is the result of a concerted effort to get more students to take Calculus and other college-level mathematics courses in high school. Enrollment in both AP Statistics and AP Calculus, for example, have essentially doubled over the last decade (College Board, 2009). There is also powerful research showing that among academic factors, the strongest predictor of whether a student will earn a bachelor's degree is the highest level of mathematics taken in high school (Adelman, 1999). A recent study completed by The College Board confirms this. Using data from 65,000 students enrolled in 110 colleges, students' high school coursework was evaluated to determine which courses were closely associated with students' successful performance in college. The study confirmed the importance of a rigorous curriculum throughout a students' high school career. Among other conclusions, the study found that students who took more advanced courses, such as Pre-Calculus in the 11th grade or Calculus in 12th grade, were more successful in college. Students who took AP Calculus at any time during their high school careers were most successful (Wyatt & Wiley, 2010). And even as more students are enrolled in more demanding courses, it does not necessarily follow that there must be a corresponding decrease in engagement and success (Cooney & Bottoms, 2009, p. 2).

At the same time, there are cautionary tales of pushing underprepared students into the first course of high school mathematics in the eighth grade. The Brookings Institute's 2009 Brown Center Report on American Education found that the NAEP scores of students taking Algebra I in the eighth grade varied widely, with the bottom ten percent scoring far below grade level. And a report from the Southern Regional Education Board, which supports increasing the number of middle students taking Algebra I, found that among students in the lowest quartile on achievement tests, those enrolled in higher-level mathematics had a slightly higher failure rate than those enrolled in lower-level mathematics (Cooney & Bottoms, 2009, p. 2). In all other quartiles, students scoring similarly on achievement tests were less likely to fail if they were enrolled in more demanding courses. These two reports are reminders that, rather than skipping or rushing through content, students should have appropriate progressions of foundational content to maximize their likelihoods of success in high school mathematics.

It is also important to note that notions of what constitutes a course called "Algebra I" or "Mathematics I" vary widely. In the CCSS, students begin preparing for algebra in Kindergarten, as they start learning about the properties of operations. Furthermore, much of the content central to typical Algebra I courses—namely linear equations, inequalities, and functions—is found in the 8th grade CCSS. The Algebra I course described here ("High School Algebra I"), however, is the first formal algebra course in the Traditional Pathway (concepts from this Algebra I course are developed across the first two courses of the integrated pathway). Enrolling an eighth-grade student in a watered down version of either the Algebra I course or Mathematics I course described here may in fact do students a disservice, as mastery of algebra including attention to the Standards for Mathematical Practice is fundamental for success in further mathematics and on college entrance examinations. As mentioned above, skipping material to get students to a particular point in the curriculum will likely create gaps in the students' mathematical background, which may create additional problems later, because students may be denied the opportunity for a rigorous Algebra I or Mathematics I course and may miss important content from eighth-grade mathematics.

Middle School Acceleration

Taking the above considerations into account, as well as the recognition that there are other methods for accomplishing these goals, the Achieve Pathways Group endorses the notion that all students who are ready for rigorous high school mathematics in eighth grade should take such courses (Algebra I or Mathematics I), and that all middle schools should offer this opportunity to their students. To prepare students for high school mathematics in eighth grade, districts are encouraged to have a well-crafted sequence of **compacted courses**. The term "compacted" means to compress content, which requires a faster pace to complete, as opposed to skipping content. The Achieve Pathways Group has developed two compacted course sequences, one designed for districts using a traditional Algebra I – Geometry – Algebra II high school sequence, and the other for districts using an integrated sequence, which is commonly found internationally. Both are based on the idea that content should compact 3 years of content into 2 years, at most. In other words, compacting content from 2 years into 1 year would be too challenging, and compacting 4 years of content into 3 years starting in grade 7 runs the risk of compacting across middle and high schools. As such, grades 7, 8, and 9 were compacted into grades 7 and 8 (a 3:2 compaction). As a result, some 8th grade content is in the 7th grade courses, and high school content is in 8th grade.

[4]This section refers to mathematics content, not high school credit. The determination for high school credit is presumed to be made by state and local education agencies.
[5]Either 8th Grade Algebra I or Accelerated Mathematics I.
[6]Such as Calculus or Advanced Statistics.

The compacted traditional sequence, or, "Accelerated Traditional," compacts grades 7, 8, and High School Algebra I into two years: "Accelerated 7th Grade" and "8th Grade Algebra I." Upon successfully completion of this pathway, students will be ready for Geometry in high school. The compacted integrated sequence, or, "Accelerated Integrated," compacts grades 7, 8, and Mathematics I into two years: "Accelerated 7th Grade" and "8th Grade Mathematics I." At the end of 8th grade, these students will be ready for Mathematics II in high school. While the K-7 CCSS effectively prepare students for algebra in 8th grade, some standards from 8th grade have been placed in the Accelerated 7th Grade course to make the 8th Grade courses more manageable.

The Achieve Pathways Group has followed a set of guidelines[7] for the development of these compacted courses.

1. **Compacted courses should include the same Common Core State Standards as the non-compacted courses.** It is recommended to compact three years of material into two years, rather than compacting two years into one. The rationale is that mathematical concepts are likely to be omitted when trying to squeeze two years of material into one. This is to be avoided, as the standards have been carefully developed to define clear learning progressions through the major mathematical domains. Moreover, the compacted courses should not sacrifice attention to the Mathematical Practices Standard.

2. **Decisions to accelerate students into the Common Core State Standards for high school mathematics before ninth grade should not be rushed.** Placing students into tracks too early should be avoided at all costs. It is not recommended to compact the standards before grade seven. In this document, compaction begins in seventh grade for both the traditional and integrated (international) sequences.

3. **Decisions to accelerate students into high school mathematics before ninth grade should be based on solid evidence of student learning.** Research has shown discrepancies in the placement of students into "advanced" classes by race/ethnicity and socioeconomic background. While such decisions to accelerate are almost always a joint decision between the school and the family, serious efforts must be made to consider solid evidence of student learning in order to avoid unwittingly disadvantaging the opportunities of particular groups of students.

4. **A menu of challenging options should be available for students after their third year of mathematics—and all students should be strongly encouraged to take mathematics in all years of high school.** Traditionally, students taking high school mathematics in the eighth grade are expected to take Precalculus in their junior years and then Calculus in their senior years. This is a good and worthy goal, but it should not be the only option for students. Advanced courses could also include Statistics, Discrete Mathematics, or Mathematical Decision Making. An array of challenging options will keep mathematics relevant for students, and give them a new set of tools for their futures in college and career (see Fourth Courses section of this paper for further detail).

Other Ways to Accelerate Students

Just as care should be taken not to rush the decision to accelerate students, care should also be taken to provide more than one opportunity for acceleration. Some students may not have the preparation to enter a "Compacted Pathway" but may still develop an interest in taking advanced mathematics, such as AP Calculus or AP Statistics in their senior year. Additional opportunities for acceleration may include:

- Allowing students to take two mathematics courses simultaneously (such as Geometry and Algebra II, or Precalculus and Statistics).

- Allowing students in schools with block scheduling to take a mathematics course in both semesters of the same academic year.

- Offering summer courses that are designed to provide the equivalent experience of a full course in all regards, including attention to the Mathematical Practices.[8]

- Creating different compaction ratios, including four years of high school content into three years beginning in 9th grade.

- Creating a hybrid Algebra II-Precalculus course that allows students to go straight to Calculus.

A combination of these methods and our suggested compacted sequences would allow for the most mathematically-inclined students to take advanced mathematics courses during their high school career. The compacted sequences begin here:

[7]Based on work published by Washington Office of the Superintendent of Public Schools, 2008

[8]As with other methods of accelerating students, enrolling students in summer courses should be handled with care, as the pace of the courses likely be enormously fast.

Overview of the Accelerated Traditional Pathway for the Common Core State Mathematics Standards

This table shows the domains and clusters in each course in the Accelerated Traditional Pathway. The standards from each cluster included in that course are listed below each cluster. For each course, limits and focus for the clusters are shown in italics. For organizational purposes, clusters from 7th Grade and 8th Grade have been situated in the matrix within the high school domains.

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses*
Number and Quantity	The Real Number System	• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. 7.NS.1a, 1b, 1c, 1d, 2a, 2b, 2c, 2d, 3 • Know that there are numbers that are not rational, and approximate them by rational numbers. 8.NS.1, 2 • Work with radicals and integer exponents. 8.EE.1, 2, 3, 4	• Extend the properties of exponents to rational exponents. N.RN.1, 2 • Use properties of rational and irrational numbers. N.RN.3.			
	Quantities	• Analyze proportional relationships and use them to solve real-world and mathematical problems. 7.RP.1, 2a, 2b, 2c, 2d, 3	• Reason quantitatively and use units to solve problems. *Foundation for work with expressions, equations and functions* N.Q.1, 2, 3			

*The (+) standards in this column are those in the Common Core State Standards that are not included in any of the Accelerated Traditional Pathway courses. They would be used in additional courses developed to follow Algebra II.

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Number and Quantity	The Complex Number System				• Perform arithmetic operations with complex numbers. N.CN.1, 2 • Use complex numbers in polynomial identities and equations. *Polynomials with real coefficients* N.CN.7, (+) 8, (+) 9	• Perform arithmetic operations with complex numbers. (+) N.CN.3 • Represent complex numbers and their operations on the complex plane. (+) N.CN.4, 5, 6
	Vector Quantities and Matrices					• Represent and model with vector quantities. (+) N.VM.1, 2, 3 • Perform operations on vectors. (+) N.VM.4a, 4b, 4c, 5a, 5b • Perform operations on matrices and use matrices in applications. (+) N.VM.6, 7, 8, 9, 10, 11, 12
Algebra	Seeing Structure in Expressions	• Use properties of operations to generate equivalent expressions. 7.EE.1, 2 • Solve real-life and mathematical problems using numerical and algebraic expressions and equations.. 7.EE.3, 4a, 4b	• Interpret the structure of expressions. *Linear, exponential, quadratic* A.SSE.1a, 1b, 2 • Write expressions in equivalent forms to solve problems. *Quadratic and exponential* A.SSE.3a, 3b, 3c		• Interpret the structure of expressions. *Polynomial and rational* A.SSE.1a, 1b, 2 • Write expressions in equivalent forms to solve problems. A.SSE.4	

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Algebra	Arithmetic with Polynomials and Rational Expressions		• Perform arithmetic operations on polynomials. *Linear and quadratic* A.APR.1		• Perform arithmetic operations on polynomials. *Beyond quadratic* A.APR.1 • Understand the relationship between zeros and factors of polynomials. A.APR.2, 3 • Use polynomial identities to solve problems. A.APR.4, (+) 5 • Rewrite rational expressions. *Linear and quadratic denominators* A.APR.6, (+) 7	
	Creating Equations		• Create equations that describe numbers or relationships. *Linear, quadratic, and exponential (integer inputs only) for A.CED.3, linear only* A.CED. 1, 2, 3, 4		• Create equations that describe numbers or relationships. *Equations using all available types of expressions, including simple root functions* A.CED.1, 2, 3, 4	

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Algebra	Reasoning with Equations and Inequalities	• Understand the connections between proportional relationships, lines, and linear equations. 8.EE.5, 6 • Analyze and solve linear equations and pairs of simultaneous linear equations. 8.EE.7a, 7b	• Understand solving equations as a process of reasoning and explain the reasoning. *Master linear, learn as general principle* A.REI.1 • Solve equations and inequalities in one variable. *Linear inequalities; literal equations that are linear in the variables being solved for; quadratics with real solutions* A.REI.3, 4a, 4b • Analyze and solve linear equations and pairs of simultaneous linear equations. 8.EE.8a, 8b, 8c • Solve systems of equations. *Linear-linear and linear-quadratic* A.REI.5, 6, 7 • Represent and solve equations and inequalities graphically. *Linear and exponential; learn as general principle* A.REI.10, 11, 12		• Understand solving equations as a process of reasoning and explain the reasoning. *Simple radical and rational* A.REI.2 • Represent and solve equations and inequalities graphically. *Combine polynomial, rational, radical, absolute value, and exponential functions* A.REI.11	• Solve systems of equations. (+) A.REI.8, 9

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Functions	Interpreting Functions		• Define, evaluate, and compare functions. 8.F.1, 2, 3 • Understand the concept of a function and use function notation. *Learn as general principle; focus on linear and exponential and on arithmetic and geometric sequences* F.IF.1, 2, 3 • Use functions to model relationships between quantities. 8.F.4, 5 • Interpret functions that arise in applications in terms of a context. *Linear, exponential, and quadratic* F.IF.4, 5, 6 • Analyze functions using different representations. *Linear, exponential, quadratic, absolute value, step, piecewise-defined* F.IF.7a, 7b, 7e, 8a, 8b, 9		• Interpret functions that arise in applications in terms of a context. *Emphasize selection of appropriate models* F.IF.4, 5, 6 • Analyze functions using different representations. *Focus on using key features to guide selection of appropriate type of model function* F.IF.7b, 7c, 7e, 8, 9	• Analyze functions using different representations. *Logarithmic and trigonometric functions* (+) F.IF.7d

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Functions	Building Functions		• Build a function that models a relationship between two quantities. *For F.BF.1, 2, linear, exponential, and quadratic* F.BF.1a, 1b, 2 • Build new functions from existing functions. *Linear, exponential, quadratic, and absolute value; for F.BF.4a, linear only* F.BF.3, 4a		• Build a function that models a relationship between two quantities. *Include all types of functions studied* F.BF.1b • Build new functions from existing functions. *Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types* F.BF.3, 4a	• Build a function that models a relationship between two quantities. (+) F.BF.1c • Build new functions from existing functions. (+) F.BF.4b, 4c, 4d, 5
	Linear, Quadratic, and Exponential Models		• Construct and compare linear, quadratic, and exponential models and solve problems. F.LE.1a, 1b, 1c, 2, 3 • Interpret expressions for functions in terms of the situation they model. *Linear and exponential of form $f(x) = b^x + k$* F.LE.5		• Construct and compare linear, quadratic, and exponential models and solve problems. *Logarithms as solutions for exponentials* F.LE.4	
	Trigonomet-ric Functions				• Extend the domain of trigonometric functions using the unit circle. F.TF.1, 2 • Model periodic phenomena with trigonometric functions. F.TF.5 • Prove and apply trigonometric identities. F.TF.8	• Extend the domain of trigonometric functions using the unit circle. (+) F.TF.3, 4 • Model periodic phenomena with trigonometric functions. (+) F.TF. 6, 7 • Prove and apply trigonometric identities. (+) F.TF. 9

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Geometry	Congruence	• Draw, construct, and describe geometrical figures and describe the relationships between them. *Focus on constructing triangles* 7.G.2 • Understand congruence and similarity using physical models, transparencies, or geometric software. 8.G.1a, 1b, 1c, 2, 5 • For 8.G.5, informal arguments to establish angle sum and exterior angle theorems for triangles and angles relationships when parallel lines are cut by a transversal		• Experiment with transformations in the plane. G.CO.1, 2, 3, 4, 5 • Understand congruence in terms of rigid motions. *Build on rigid motions as a familiar starting point for development of concept of geometric proof* G.CO.6, 7, 8 • Prove geometric theorems. *Focus on validity of underlying reasoning while using variety of ways of writing proofs* G.CO.9, 10, 11 • Make geometric constructions. *Formalize and explain processes* G.CO.12,13		
	Similarity, Right Triangles, and Trigonometry	• Draw, construct, and describe geometrical figures and describe the relationships between them. *Scale drawings* 7.G.1 • Understand congruence and similarity using physical models, transparencies, or geometric software. 8.G.3, 4, 5 • For 8.G.5, informal arguments to establish the angle-angle criterion for similar triangles		• Understand similarity in terms of similarity transformations. G.SRT.1a, 1b, 2, 3 • Prove theorems involving similarity. G.SRT.4, 5 • Define trigonometric ratios and solve problems involving right triangles. G.SRT.6, 7, 8 • Apply trigonometry to general triangles. G.SRT.9. 10, 11		

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Geometry	Circles			• Understand and apply theorems about circles. G.C.1, 2, 3, (+) 4 • Find arc lengths and areas of sectors of circles. *Radian introduced only as unit of measure* G.C.5		
	Expressing Geometric Properties with Equations			• Translate between the geometric description and the equation for a conic section. G.GPE.1, 2 • Use coordinates to prove simple geometric theorems algebraically. *Include distance formula; relate to Pythagorean theorem* G.GPE. 4, 5, 6, 7		• Translate between the geometric description and the equation for a conic section. (+) G.GPE.3
	Geometric Measurement and Dimension	• Draw, construct, and describe geometrical figures and describe the relationships between them. *Slicing 3-D figures* 7.G.3 • Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. 7.G.4, 5, 6 • Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. 8.G.9	• Understand and apply the Pythagorean theorem. *Connect to radicals, rational exponents, and irrational numbers* 8.G.6, 7, 8	• Explain volume formulas and use them to solve problems. G.GMD.1, 3 • Visualize the relation between two-dimensional and three-dimensional objects. G.GMD.4		• Explain volume formulas and use them to solve problems. (+) G.GMD.2
	Modeling with Geometry			• Apply geometric concepts in modeling situations. G.MG.1, 2, 3		

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Statistics and Probability	Interpreting Categorical and Quantitative Data		• Summarize, represent, and interpret data on a single count or measurement variable. S.ID.1, 2, 3 • Investigate patterns of association in bivariate data. 8.SP.1, 2, 3, 4 • Summarize, represent, and interpret data on two categorical and quantitative variables. *Linear focus; discuss general principle* S.ID.5, 6a, 6b, 6c • Interpret linear models. S.ID.7, 8, 9		• Summarize, represent, and interpret data on a single count or measurement variable. S.ID.4	
	Making Inferences and Justifying Conclusions	• Use random sampling to draw inferences about a population. 7.SP.1, 2 • Draw informal comparative inferences about two populations. 7.SP.3, 4			• Understand and evaluate random processes underlying statistical experiments. S.IC.1, 2 • Make inferences and justify conclusions from sample surveys, experiments and observational studies. S.IC.3, 4, 5, 6	

	Domains	Accelerated 7th Grade	8th Grade Algebra I	Geometry	Algebra II	Fourth Courses
Statistics and Probability	Conditional Probability and the Rules of Probability	• Investigate chance processes and develop, use, and evaluate probability models. 7.SP.5, 6, 7a, 7b, 8a, 8b, 8c		• Understand independence and conditional probability and use them to interpret data. *Link to data from simulations or experiments* S.CP.1, 2, 3, 4, 5 • Use the rules of probability to compute probabilities of compound events in a uniform probability model. S.CP.6, 7, (+) 8, (+) 9		
	Using Probability to Make Decisions			• Use probability to evaluate outcomes of decisions. *Introductory; apply counting rules* (+) S.MD.6, 7	• Use probability to evaluate outcomes of decisions. *Include more complex situations* (+) S.MD.6, 7	• Calculate expected values and use them to solve problems. (+) S.MD.1, 2, 3, 4 • Use probability to evaluate outcomes of decisions. (+) S.MD. 5a, 5b

Accelerated Traditional Pathway: Accelerated 7th Grade

This course differs from the non-accelerated 7th Grade course in that it contains content from 8th grade. While coherence is retained, in that it logically builds from the 6th Grade, the additional content when compared to the non-accelerated course demands a faster pace for instruction and learning. Content is organized into four critical areas, or units. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas are as follows:

Critical Area 1: Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems. They extend their mastery of the properties of operations to develop an understanding of integer exponents, and to work with numbers written in scientific notation.

Critical Area 2: Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \times A$. Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation.

Critical Area 3: Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Critical Area 4: Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity, they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Rational Numbers and Exponents</td><td>• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
• Know that there are numbers that are not rational, and approximate them by rational numbers.
• Work with radicals and integer exponents.</td><td rowspan="4">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Proportionality and LInear Relationships</td><td>• Analyze proportional relationships and use them to solve real-world and mathematical problems.
• Use properties of operations to generate equivalent expressions.
• Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
• Understand the connections between proportional relationships, lines, and linear equations.
• Analyze and solve linear equations and pairs of simultaneous linear equations.</td></tr>
<tr><td>Unit 3
Introduction to Sampling Inference</td><td>• Use random sampling to draw inferences about a population.
• Draw informal comparative inferences about two populations.
• Investigate chance processes and develop, use, and evaluate probability models.</td></tr>
<tr><td>Unit 4
Creating, Comparing, and Analyzing Geometric Figures</td><td>• Draw, construct and describe geometrical figures and describe the relationships between them.
• Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
• Understand congruence and similarity using physical models, transparencies, or geometry software.
• Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.</td></tr>
</table>

*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

Unit 1: Rational Numbers and Exponents

Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems. They extend their mastery of the properties of operations to develop an understanding of integer exponents, and to work with numbers written in scientific notation.

Unit 1: Rational Numbers and Exponents	
Clusters with Instructional Notes	**Common Core State Standards**
• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. Understand $p + q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers. 7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. 7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.*

*Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

Unit 1: Rational Numbers and Exponents	
Clusters with Instructional Notes	**Common Core State Standards**
• Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. 8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., p2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*
• Work with radicals and integer exponents.	8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$. 8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. 8.EE.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as* 3×10^8 *and the population of the world as* 7×10^9*, and determine that the world population is more than 20 times larger.* 8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Unit 2: Proportionality and Linear Relationships

Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \times A$. Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation.

Unit 2: Proportionality and Linear Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.1 *Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks* $^1/_2$ *mile in each* $^1/_4$ *hour, compute the unit rate as the complex fraction* $^{1/2}/_{1/4}$ *miles per hour, equivalently 2 miles per hour.* 7.RP.2 *Recognize and represent proportional relationships between quantities.* a. *Decide whether two quantities are in a proportional relationship,* e.g., by testing *for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.* b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.* d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. 7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
• Use properties of operations to generate equivalent expressions.	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*

Unit 2: Proportionality and Linear Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.* *7.EE.4* Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.*
• Understand the connections between proportional relationships, lines, and linear equations.	8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* 8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.
• Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7 Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Unit 3: Introduction to Sampling and Inference

Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Unit 3: Introduction to Sampling and Inference	
Clusters with Instructional Notes	**Common Core State Standards**
• Use random sampling to draw inferences about a population.	7.SP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. 7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
• Draw informal comparative inferences about two populations.	7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.* 7.SP.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

Unit 3: Introduction to Sampling and Inference	
Clusters with Instructional Notes	**Common Core State Standards**
• Investigate chance processes and develop, use, and evaluate probability models.	7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $^1/_2$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. 7.SP.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.* 7.SP.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.* b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?* 7.SP.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

Unit 4: Creating, Comparing, and Analyzing Geometric Figures

Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity, they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

Unit 4: Creating, Comparing, and Analyzing Geometric Figures	
Clusters with Instructional Notes	**Common Core State Standards**
• Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. 7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. 7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
• Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. 7.G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. 7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Unit 4: Creating, Comparing, and Analyzing Geometric Figures	
Clusters with Instructional Notes	**Common Core State Standards**
• Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.1 Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines. 8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. 8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. 8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. 8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*
• Solve real-world and mathematical problem involving volume of cylinders, cones, and spheres.	8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

8th Grade Algebra I

The fundamental purpose of 8th Grade Algebra I is to formalize and extend the mathematics that students learned through the end of seventh grade. The critical areas, called units, deepen and extend understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend, and students engage in methods for analyzing, solving, and using quadratic functions. In addition, the units will introduce methods for analyzing and using quadratic functions, including manipulating expressions for them, and solving quadratic equations. Students understand and apply the Pythagorean theorem, and use quadratic functions to model and solve problems. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

This course differs from High School Algebra I in that it contains content from 8th grade. While coherence is retained, in that it logically builds from the Accelerated 7th Grade, the additional content when compared to the high school course demands a faster pace for instruction and learning.

Critical Area 1: Work with quantities and rates, including simple linear expressions and equations forms the foundation for this unit. Students use units to represent problems algebraically and graphically, and to guide the solution of problems. Student experience with quantity provides a foundation for the study of expressions, equations, and functions. This unit builds on earlier experiences with equations by asking students to analyze and explain the process of solving an equation. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations.

Critical Area 2: Building on earlier work with linear relationships, students learn function notation and language for describing characteristics of functions, including the concepts of domain and range. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. They work with functions given by graphs and tables, keeping in mind that depending upon the context, these representations are likely to be approximate and incomplete. Their work includes functions that can be described or approximated by formulas as well as those that cannot. When functions describe relationships between quantities arising from a context, students reason with the units in which those quantities are measured. Students explore systems of equations and inequalities, and they find and interpret their solutions. Students build on and informally extend their understanding of integral exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

Critical Area 3: Students use regression techniques to describe relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

Critical Area 4: In this unit, students build on their knowledge from unit 2, where they extended the laws of exponents to rational exponents. Students apply this new understanding of number and strengthen their ability to see structure in and create quadratic and exponential expressions. They create and solve equations, inequalities, and systems of equations involving quadratic expressions.

Critical Area 5: In preparation for work with quadratic relationships students explore distinctions between rational and irrational numbers. They consider quadratic functions, comparing the key characteristics of quadratic functions to those of linear and exponential functions. They select from among these functions to model phenomena. Students learn to anticipate the graph of a quadratic function by interpreting various forms of quadratic expressions. In particular, they identify the real solutions of a quadratic equation as the zeros of a related quadratic function. Students learn that when quadratic equations do not have real solutions the number system must be extended so that solutions exist, analogous to the way in which extending the whole numbers to the negative numbers allows $x+1 = 0$ to have a solution. Formal work with complex numbers comes in Algebra II. Students expand their experience with functions to include more specialized functions—absolute value, step, and those that are piecewise-defined.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Relationships Between Quantities and Reasoning with Equations</td><td>• Reason quantitatively and use units to solve problems.
• Interpret the structure of expressions.
• Create equations that describe numbers or relationships.
• Understand solving equations as a process of reasoning and explain the reasoning.
• Solve equations and inequalities in one variable.</td><td rowspan="3">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Linear and Exponential Relationships</td><td>• Extend the properties of exponents to rational exponents.
• Analyze and solve linear equations and pairs of simultaneous linear equations.
• Solve systems of equations.
• Represent and solve equations and inequalities graphically
• Define, evaluate, and compare functions.
• Understand the concept of a function and use function notation.
• Use functions to model relationships between quantities.
• Interpret functions that arise in applications in terms of a context.
• Analyze functions using different representations.
• Build a function that models a relationship between two quantities.
• Build new functions from existing functions.
• Construct and compare linear, quadratic, and exponential models and solve problems.
• Interpret expressions for functions in terms of the situation they model.</td></tr>
<tr><td>Unit 3
Descriptive Statistics</td><td>• Summarize, represent, and interpret data on a single count or measurement variable.
• Investigate patterns of association in bivariate data.
• Summarize, represent, and interpret data on two categorical and quantitative variables.
• Interpret linear models.</td></tr>
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*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

Units	Includes Standard Clusters	Mathematical Practice Standards
Unit 4 Expressions and Equations	• Interpret the structure of expressions. • Write expressions in equivalent forms to solve problems. • Perform arithmetic operations on polynomials. • Create equations that describe numbers or relationships. • Solve equations and inequalities in one variable. • Solve systems of equations.	
Unit 5 Quadratics Funtions and Modeling	• Use properties of rational and irrational numbers. • Understand and apply the Pythagorean theorem. • Interpret functions that arise in applications in terms of a context. • Analyze functions using different representations. • Build a function that models a relationship between two quantities. • Build new functions from existing functions. • Construct and compare linear, quadratic and exponential models and solve problems.	

Unit 1: Relationships between Quantities and Reasoning with Equations

Work with quantities and rates, including simple linear expressions and equations forms the foundation for this unit. Students use units to represent problems algebraically and graphically, and to guide the solution of problems. Student experience with quantity provides a foundation for the study of expressions, equations, and functions. This unit builds on earlier experiences with equations by asking students to analyze and explain the process of solving an equation. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations.

Unit 1: Relationships between Quantities and Reasoning with Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Reason quantitatively and use units to solve problems. *Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.*[12]	N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. N.Q.2 Define appropriate quantities for the purpose of descriptive modeling. N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
• Interpret the structure of expressions. *Limit to linear expressions and to exponential expressions with integer exponents.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*
• Create equations that describe numbers or relationships. *Limit A.CED.1 and A.CED.2 to linear and exponential equations, and, in the case of exponential equations, limit to situations requiring evaluation of exponential functions at integer inputs. Limit A.CED.3 to linear equations and inequalities. Limit A.CED.4 to formulas which are linear in the variables of interest.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law $V = IR$ to highlight resistance R.*
• Understand solving equations as a process of reasoning and explain the reasoning. *Students should focus on and master A.REI.1 for linear equations and be able to extend and apply their reasoning to other types of equations in future units and courses. Students will solve exponential equations in Algebra II.*	A.REI.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

Unit 1: Relationships between Quantities and Reasoning with Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Solve equations and inequalities in one variable. *Extend earlier work with solving linear equations to solving linear inequalities in one variable and to solving literal equations that are linear in the variable being solved for. Include simple exponential equations that rely only on application of the laws of exponents, such as $5^x = 125$ or $2^x = \frac{1}{16}$.*	A.REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Unit 2: Linear and Exponential Functions

Building on earlier work with linear relationships, students learn function notation and language for describing characteristics of functions, including the concepts of domain and range. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. They work with functions given by graphs and tables, keeping in mind that depending upon the context, these representations are likely to be approximate and incomplete. Their work includes functions that can be described or approximated by formulas as well as those that cannot. When functions describe relationships between quantities arising from a context, students reason with the units in which those quantities are measured. Students explore systems of equations and inequalities, and they find and interpret their solutions. Students build on and informally extend their understanding of integral exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

Unit 2: Linear and Exponential Functions	
Clusters with Instructional Notes	**Common Core State Standards**
• Extend the properties of exponents to rational exponents. *In implementing the standards in curriculum, these standards should occur before discussing exponential models with continuous domains.*	N.RN.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.* N.RN.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.
• Analyze and solve linear equations and pairs of simultaneous linear equations. *While this content is likely subsumed by A.REI.3, 5, and 6, it could be used for scaffolding instruction to the more sophisticated content found there.*	8.EE.8 Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.* c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*
• Solve systems of equations. *Include cases where two equations describe the same line (yielding infinitely many solutions) and cases where two equations describe parallel lines (yielding no solution).*	A.REI.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A.REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

Unit 2: Linear and Exponential Functions	
Clusters with Instructional Notes	**Common Core State Standards**
• Represent and solve equations and inequalities graphically. *For A.REI.10 focus on linear and exponential equations and be able to adapt and apply that learning to other types of equations in future courses. For A.REI.11, focus on cases where f(x) and g(x) are linear or exponential.*	A.REI.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). A.REI.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★ A.REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
• Define, evaluate, and compare functions. *While this content is likely subsumed by F.IF.1-3 and F.IF.7a, it could be used for scaffolding instruction to the more sophisticated content found there.*	8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. 8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* 8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*
• Understand the concept of a function and use function notation. *Students should experience a variety of types of situations modeled by functions Detailed analysis of any particular class of function at this stage is not advised. Students should apply these concepts throughout their future mathematics courses.* *Constrain examples to linear functions and exponential functions having integral domains. In F.IF.3, draw connection to F.BF.2, which requires students to write arithmetic and geometric sequences.*	F.IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$. F.IF.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. F.IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for $n \geq 1$.*
• Use functions to model relationships between quantities. *While this content is likely subsumed by F.IF.4 and F.BF.1a, it could be used for scaffolding instruction to the more sophisticated content found there.*	8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. 8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Unit 2: Linear and Exponential Functions	
Clusters with Instructional Notes	**Common Core State Standards**
• Interpret functions that arise in applications in terms of a context. *For F.IF.4 and 5, focus on linear and exponential functions. For F.IF.6, focus on linear functions and exponential functions whose domain is a subset of the integers. Unit 5 in this course and Algebra II course address other types of functions.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★
• Analyze functions using different representations. *For F.IF.7a, 7e, and 9 focus on linear and exponentials functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y=3^n$ and $y=100\cdot 2^n$.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.
• Build a function that models a relationship between two quantities. *Limit F.BF.1a, 1b, and 2 to linear and exponential functions. In F.BF.2, connect arithmetic sequences to linear functions and geometric sequences to exponential functions in F.BF.2.*	F.BF.1 Write a function that describes a relationship between two quantities.★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* F.BF.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★
• Build new functions from existing functions. *Focus on vertical translations of graphs of linear and exponential functions. Relate the vertical translation of a linear function to its y-intercept.* *While applying other transformations to a linear graph is appropriate at this level, it may be difficult for students to identify or distinguish between the effects of the other transformations included in this standard.*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*

Unit 2: Linear and Exponential Functions	
Clusters with Instructional Notes	**Common Core State Standards**
• Construct and compare linear, quadratic, and exponential models and solve problems. *For F.LE.3, limit to comparisons between linear and exponential models.*	F.LE.1 Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals; and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F.LE.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
• Interpret expressions for functions in terms of the situation they model. *Limit exponential functions to those of the form $f(x) = b^x + k$.*	F.LE.5 Interpret the parameters in a linear or exponential function in terms of a context.

Unit 3: Descriptive Statistics

Students use regression techniques to describe relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

Unit 3: Descriptive Statistics	
Clusters with Instructional Notes	**Common Core State Standards**
• Summarize, represent, and interpret data on a single count or measurement variable. *In grades 6 – 7, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.*	S.ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots). S.ID.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. S.ID.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
• Investigate patterns of association in bivariate data. *While this content is likely subsumed by S.ID.6-9, it could be used for scaffolding instruction to the more sophisticated content found there.*	8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. 8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. 8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height*. 8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
• Summarize, represent, and interpret data on two categorical and quantitative variables. *Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.* *S.ID.6b should be focused on linear models, but may be used to preface quadratic functions in the Unit 6 of this course.*	S.ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association.

Unit 3: Descriptive Statistics	
Clusters with Instructional Notes	**Common Core State Standards**
• Interpret linear models. *Build on students' work with linear relationship and; introduce the correlation coefficient. The focus here is on the computation and interpretation of the correlation coefficient as a measure how well the data fit the relationship. The important distinction between a statistical relationship and a cause-and-effect relationship arises in S.ID.9.*	S.ID.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit. S.ID.9 Distinguish between correlation and causation.

Unit 4: Expressions and Equations

In this unit, students build on their knowledge from unit 2, where they extended the laws of exponents to rational exponents. Students apply this new understanding of number and strengthen their ability to see structure in and create quadratic and exponential expressions. They create and solve equations, inequalities, and systems of equations involving quadratic expressions.

Unit 4: Expressions and Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Interpret the structure of expressions. *Focus on quadratic and exponential expressions. For A.SSE.1b, exponents are extended from integer found in Unit 1 to rational exponents focusing on those that represent square roots and cube roots.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.* A.SSE.2 Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.*
• Write expressions in equivalent forms to solve problems. *Consider extending this unit to include the relationship between properties of logarithms and properties of exponents.*	A.SSE.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★ a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
• Perform arithmetic operations on polynomials. *Focus on polynomial expressions that simplify to forms that are linear or quadratic in a positive integer power of* x.	A.APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
• Create equations that describe numbers or relationships. *Extend work on linear and exponential equations in Unit 1 to include quadratic equations. Extend A.CED.4 to formulas involving squared variables.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*

Unit 4: Expressions and Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Solve equations and inequalities in one variable. *Students should learn of the existence of the complex number system, but will not solve quadratics with complex solutions until Algebra II.*	A.REI.4 Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.
• Solve systems of equations. *Include systems consisting of one linear and one quadratic equation. Include systems that lead to work with fractions. For example, finding the intersections between $x^2+y^2=1$ and $y = (x+1)/2$ leads to the point (3/5, 4/5) on the unit circle, corresponding to the Pythagorean triple $3^2 + 4^2 = 5^2$.*	A.REI.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.*

Unit 5: Quadratic Functions and Modeling

In preparation for work with quadratic relationships students explore distinctions between rational and irrational numbers. They consider quadratic functions, comparing the key characteristics of quadratic functions to those of linear and exponential functions. They select from among these functions to model phenomena. Students learn to anticipate the graph of a quadratic function by interpreting various forms of quadratic expressions. In particular, they identify the real solutions of a quadratic equation as the zeros of a related quadratic function. Students learn that when quadratic equations do not have real solutions the number system must be extended so that solutions exist, analogous to the way in which extending the whole numbers to the negative numbers allows $x+1 = 0$ to have a solution. Formal work with complex numbers comes in Algebra II. Students expand their experience with functions to include more specialized functions—absolute value, step, and those that are piecewise-defined.

Unit 5: Quadratic Functions and Modeling	
Clusters with Instructional Notes	**Common Core State Standards**
• Use properties of rational and irrational numbers. *Connect N.RN.3 to physical situations, e.g., finding the perimeter of a square of area 2.*	N.RN.3 Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.
• Understand and apply the Pythagorean theorem. *Discuss applications of the Pythagorean theorem and its connections to radicals, rational exponents, and irrational numbers.*	8.G.6 Explain a proof of the Pythagorean theorem and its converse. 8.G.7 Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. 8.G.8 Apply the Pythagorean theorem to find the distance between two points in a coordinate system.
• Interpret functions that arise in applications in terms of a context. *Focus on quadratic functions; compare with linear and exponential functions studied in Unit 2.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★

Unit 5: Quadratic Functions and Modeling	
Clusters with Instructional Notes	**Common Core State Standards**
• Analyze functions using different representations. *For F.IF.7b, compare and contrast absolute value, step and piecewise-defined functions with linear, quadratic, and exponential functions. Highlight issues of domain, range, and usefulness when examining piecewise-defined functions. Note that this unit, and in particular in F.IF.8b, extends the work begun in Unit 2 on exponential functions with integral exponents. For F.IF.9, focus on expanding the types of functions considered to include, linear, exponential, and quadratic.* *Extend work with quadratics to include the relationship between coefficients and roots, and that once roots are known, a quadratic equation can be factored.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. F.IF.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.* F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*
• Build a function that models a relationship between two quantities. *Focus on situations that exhibit a quadratic relationship.*	F.BF.1 Write a function that describes a relationship between two quantities.★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*
• Build new functions from existing functions. *For F.BF.3, focus on quadratic functions, and consider including absolute value functions. For F.BF.4a, focus on linear functions but consider simple situations where the domain of the function must be restricted in order for the inverse to exist, such as $f(x) = x^2, x>0$*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.* F.BF.4 Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example, $f(x) = 2x^3$ for $x > 0$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$.*
• Construct and compare linear, quadratic, and exponential models and solve problems. *Compare linear and exponential growth to growth of quadratic growth.*	F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

Overview of the Accelerated Integrated Pathway for the Common Core State Mathematics Standards

This table shows the domains and clusters in each course in the Accelerated Traditional Pathway. The standards from each cluster included in that course are listed below each cluster. For each course, limits and focus for the clusters are shown in italics. For organizational purposes, clusters from 7th Grade and 8th Grade have been situated in the matrix within the high school domains.

	Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses*
Number and Quantity	The Real Number System	• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. 7.NS.1a, 1b, 1c, 1d, 2a, 2b, 2c, 2d, 3 • Know that there are numbers that are not rational, and approximate them by rational numbers. 8.NS.1, 2 • Work with radicals and integer exponents. 8.EE.1, 2, 3, 4		• Extend the properties of exponents to rational exponents. N.RN.1, 2 • Use properties of rational and irrational numbers. N.RN.3.		
	Quantities	• Analyze proportional relationships and use them to solve real-world and mathematical problems. 7.RP.1, 2a, 2b, 2c, 2d, 3	• Reason quantitatively and use units to solve problems. *Foundation for work with expressions, equations and functions* N.Q.1, 2, 3			
	The Complex Number System			• Perform arithmetic operations with complex numbers. *i^2 as highest power of i* N.CN.1, 2 • Use complex numbers in polynomial identities and equations. *Quadratics with real coefficients* N.CN.7, (+)8, (+) 9	• Use complex numbers in polynomial identities and equations. *Polynomials with real coefficients; apply N.CN.9 to higher degree polynomials* (+) N.CN.8, 9	• Perform arithmetic operations with complex numbers. (+) N.CN.3 • Represent complex numbers and their operations on the complex plane. (+) N.CN.4, 5, 6

*The (+) standards in this column are those in the Common Core State Standards that are not included in any of the Accelerated Integrated Pathway courses. They would be used in additional courses developed to follow Mathematics III.

	Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Number and Quantity	Vector Quantities and Matrices					• Represent and model with vector quantities. (+) N.VM.1, 2, 3 • Perform operations on vectors. (+) N.VM.4a, 4b, 4c, 5a, 5b • Perform operations on matrices and use matrices in applications. (+) N.VM.6, 7, 8, 9, 10, 11, 12
Algebra	Seeing Structure in Expressions	• Use properties of operations to generate equivalent expressions. 7.EE.1, 2 • Solve real-life and mathematical problems using numerical and algebraic expressions and equations.. 7.EE.3, 4a, 4b	• Interpret the structure of expressions. *Linear expressions and exponential expressions with integer exponents* A.SSE.1a, 1b	• Interpret the structure of expressions. *Quadratic and exponential* A.SSE.1a, 1b, 2 • Write expressions in equivalent forms to solve problems. *Quadratic and exponential* A.SSE.3a, 3b, 3c	• Interpret the structure of expressions. *Polynomial and rational* A.SSE.1a, 1b, 2 • Write expressions in equivalent forms to solve problems. A.SSE.4	
	Arithmetic with Polynomials and Rational Expressions			• Perform arithmetic operations on polynomials. *Polynomials that simplify to quadratics* A.APR.1	• Perform arithmetic operations on polynomials. *Beyond quadratic* A.APR.1 • Understand the relationship between zeros and factors of polynomials. A.APR.2, 3 • Use polynomial identities to solve problems. A.APR.4, (+) 5 • Rewrite rational expressions. *Linear and quadratic denominators* A.APR.6, (+) 7	

Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Algebra Creating Equations		• Create equations that describe numbers or relationships. *Linear and exponential (integer inputs only); for A.CED.3, linear only.* A.CED.1, 2, 3, 4	• Create equations that describe numbers or relationships. *In A.CED.4 include formulas involving quadratic terms A.CED.1, 2, 4*	• Create equations that describe numbers or relationships. *Equations using all available types of expressions, including simple root functions* A.CED.1, 2, 3, 4	
Algebra Reasoning with Equations and Inequalities	• Understand the connections between proportional relationships, lines, and linear equations. 8.EE.5, 6 • Analyze and solve linear equations and pairs of simultaneous linear equations. 8.EE.7a, 7b	• Understand solving equations as a process of reasoning and explain the reasoning. *Master linear, learn as general principle* A.REI.1 • Solve equations and inequalities in one variable. *Linear inequalities; literal equations that are linear in the variables being solved for; exponential of a form, such as $2^x = 1/16$* A.REI.3 • Analyze and solve linear equations and pairs of simultaneous linear equations *Systems of linear equations* 8.EE.8a, 8b, 8c • Solve systems of equations. *Linear systems* A.REI.5, 6 • Represent and solve equations and inequalities graphically. *Linear and exponential; learn as general principle* A.REI.10, 11, 12	• Solve equations and inequalities in one variable. *Quadratics with real coefficients* A.REI.4a, 4b • Solve systems of equations. *Linear-quadratic systems* A.REI.7	• Understand solving equations as a process of reasoning and explain the reasoning. *Simple radical and rational* A.REI.2 • Represent and solve equations and inequalities graphically. *Combine polynomial, rational, radical, absolute value, and exponential functions.* A.REI.11	• Solve systems of equations. (+) A.REI.8, 9

	Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Functions	Interpreting Functions		• Define, evaluate, and compare functions. 8.F.1, 2, 3 • Understand the concept of a function and use function notation. *Learn as general principle. Focus on linear and exponential (integer domains) and on arithmetic and geometric sequences* F.IF.1, 2, 3 • Use functions to model relationships between quantities. 8.F.4, 5 • Interpret functions that arise in applications in terms of a context. *Linear and exponential, (linear domain)* F.IF.4, 5, 6 • Analyze functions using different representations. *Linear and exponential* F.IF.7a, 7e, 9	• Interpret functions that arise in applications in terms of a context. *Quadratic* F.IF.4, 5, 6 • Analyze functions using different representations. *Linear, exponential, quadratic, absolute value, step, piecewise-defined* F.IF.7a, 7b, 8a, 8b, 9	• Interpret functions that arise in applications in terms of a context. *Include rational, square root and cube root; emphasize selection of appropriate models* F.IF.4, 5, 6 • Analyze functions using different representations. *Include rational and radical; focus on using key features to guide selection of appropriate type of model function* F.IF. 7b, 7c, 7e, 8, 9	• Analyze functions using different representations. *Logarithmic and trigonometric functions* (+) F.IF.7d

	Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Functions	Building Functions		• Build a function that models a relationship between two quantities. *Linear and exponential (integer inputs)* F.BF.1a, 1b, 2 • Build new functions from existing functions. *For F.BF.1, 2, linear and exponential; focus on vertical translations for exponential* F.BF.3	• Build a function that models a relationship between two quantities. *Quadratic and exponential* F.BF.1a, 1b • Build new functions from existing functions. *Quadratic, all exponential, absolute value* F.BF.3, 4a	• Build a function that models a relationship between two quantities. *Include all types of functions studied* F.BF.1b • Build new functions from existing functions. *Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types* F.BF.3, 4a	• Build a function that models a relationship between two quantities. (+) F.BF.1c • Build new functions from existing functions. (+) F.BF.4b, 4c, 4d, 5
	Linear, Quadratic, and Exponential Models		• Construct and compare linear, quadratic, and exponential models and solve problems. *Linear and exponential* F.LE.1a, 1b, 1c, 2, 3 • Interpret expressions for functions in terms of the situation they model. *Linear and exponential of form $f(x) = b^x = k$* F.LE.5	• Construct and compare linear, quadratic, and exponential models and solve problems. *Include quadratic* F.LE. 3	• Construct and compare linear, quadratic, and exponential models and solve problems. *Logarithms as solutions for exponentials* F.LE.4	
	Trigonometric Functions			• Prove and apply trigonometric identities. F.TF.8	• Extend the domain of trigonometric functions using the unit circle. F.TF.1, 2 • Model periodic phenomena with trigonometric functions. F.TF.5	• Extend the domain of trigonometric functions using the unit circle. (+) F.TF.3, 4 • Model periodic phenomena with trigonometric functions. (+) F.TF. 6, 7 Prove and apply trigonometric identities. (+) F.TF. 9

	Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Geometry	Congruence	• Draw, construct, and describe geometrical figures and describe the relationships between them. *Focus on constructing triangles* 7.G.2 • Understand congruence and similarity using physical models, transparencies, or geometric software. 8.G.1a, 1b, 1c, 2, 5 • For 8.G.5, informal arguments to establish angle sum and exterior angle theorems for triangles and angles relationships when parallel lines are cut by a transversal	• Experiment with transformations in the plane. G.CO.1, 2, 3, 4, 5 • Understand congruence in terms of rigid motions. *Build on rigid motions as a familiar starting point for development of concept of geometric proof* G.CO.6, 7, 8 • Make geometric constructions. *Formalize and explain processes* G.CO.12, 13	• Prove geometric theorems. *Focus on validity of underlying reasoning while using variety of ways of writing proofs* G.CO.9, 10, 11		
Geometry	Similarity, Right Tri-angles, and Trigonom-etry	• Draw, construct, and describe geometrical figures and describe the relationships between them. *Scale drawings* 7.G.1 • Understand congruence and similarity using physical models, transparencies, or geometric software. 8.G.3, 4, 5 • For 8.G.5, informal arguments to establish the angle-angle criterion for similar triangles		• Understand similarity in terms of similarity transformations. G.SRT.1a, 1b, 2, 3 • Prove theorems involving similarity. *Focus on validity of underlying reasoning while using variety of formats* G.SRT.4, 5 • *Define trigonometric ratios and solve problems involving right triangles.* G.SRT.6, 7, 8	• Apply trigonometry to general triangles. (+) G.SRT.9. 10, 11	

	Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Geometry	Circles			• Understand and apply theorems about circles. G.C.1, 2, 3, (+) 4 • Find arc lengths and areas of sectors of circles. *Radian introduced only as unit of measure* G.C.5		
	Expressing Geometric Properties with Equa-tions		• Use coordinates to prove simple geometric theorems algebraically. *Include distance formula; relate to Pythagorean theorem* G.GPE. 4, 5, 7	• Translate between the geometric description and the equation for a conic section. G.GPE.1, 2 • Use coordinates to prove simple geometric theorems algebraically. *For G.GPE.4 include simple circle theorems* G.GPE. 4, 6		• Translate between the geometric description and the equation for a conic section. (+) G.GPE.3
	Geometric Measure-ment and Dimension	• Draw, construct, and describe geometrical figures and describe the relationships between them. *Slicing 3-D figures* 7.G.3 • Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. 7.G.4, 5, 6 • Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. 8.G.9	• Understand and apply the Pythagorean theorem. *Connect to radicals, rational exponents, and irrational numbers* 8.G.6, 7, 8	• Explain volume formulas and use them to solve problems. G.GMD.1, 3	• Visualize the relation between two-dimensional and three-dimensional objects. G.GMD.4	• Explain volume formulas and use them to solve problems. (+) G.GMD.2
	Modeling with Geometry				• Apply geometric concepts in modeling situations. G.MG.1, 2, 3	

	Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Statistics and Probability	Interpreting Categorical and Quanti-tative Data		• Summarize, represent, and interpret data on a single count or measurement variable. S.ID.1, 2, 3 • Investigate patterns of association in bivariate data. 8.SP.1, 2, 3, 4 • Summarize, represent, and interpret data on two categorical and quantitative variables. *Linear focus; discuss general principle* S.ID.5, 6a, 6b, 6c • Interpret linear models. S.ID.7, 8, 9		• Summarize, represent, and interpret data on a single count or measurement variable. S.ID.4	
	Making Infer-ences and Justifying Conclusions	• Use random sampling to draw inferences about a population. 7.SP.1, 2 • Draw informal comparative inferences about two populations. 7.SP.3, 4			• Understand and evaluate random processes underlying statistical experiments. S.IC.1, 2 • Make inferences and justify conclusions from sample surveys, experiments and observational studies. S.IC.3, 4, 5, 6	

	Domains	Accelerated 7th Grade	8th Grade Mathematics I	Mathematics II	Mathematics III	Fourth Courses
Statistics and Probability	Conditional Probability and the Rules of Probability	• Investigate chance processes and develop, use, and evaluate probability models. 7.SP.5, 6, 7a, 7b, 8a, 8b, 8c		• Understand independence and conditional probability and use them to interpret data. *Link to data from simulations or experiments* S.CP.1, 2, 3, 4, 5 • Use the rules of probability to compute probabilities of compound events in a uniform probability model. S.CP.6, 7, (+) 8, (+) 9		
	Using Probability to Make Decisions			• Use probability to evaluate outcomes of decisions. *Introductory; apply counting rules* (+) S.MD.6, 7	• Use probability to evaluate outcomes of decisions. *Include more complex situations* (+) S.MD.6, 7	• Calculate expected values and use them to solve problems. (+) S.MD.1, 2, 3, 4 • Use probability to evaluate outcomes of decisions. (+) S.MD. 5a, 5b

Accelerated Integrated Pathway: Accelerated 7th Grade

This course differs from the non-accelerated 7th Grade course in that it contains content from 8th grade. While coherence is retained, in that it logically builds from the 6th Grade, the additional content when compared to the non-accelerated course demands a faster pace for instruction and learning. Content is organized into four critical areas, or units. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas are as follows:

Critical Area 1: Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems. They extend their mastery of the properties of operations to develop an understanding of integer exponents, and to work with numbers written in scientific notation.

Critical Area 2: Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \times A$. Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation.

Critical Area 3: Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Critical Area 4: Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity, they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Rational Numbers and Exponents</td><td>• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
• Know that there are numbers that are not rational, and approximate them by rational numbers.
• Work with radicals and integer exponents.</td><td rowspan="4">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Proportionality and Linear Relationships</td><td>• Analyze proportional relationships and use them to solve real-world and mathematical problems.
• Use properties of operations to generate equivalent expressions.
• Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
• Understand the connections between proportional relationships, lines, and linear equations.
• Analyze and solve linear equations and pairs of simultaneous linear equations.</td></tr>
<tr><td>Unit 3
Introduction to Sampling and Interference</td><td>• Use random sampling to draw inferences about a population.
• Draw informal comparative inferences about two populations.
• Investigate chance processes and develop, use, and evaluate probability models.</td></tr>
<tr><td>Unit 4
Creating, Comparing, and Analyzing Geometric Figures</td><td>• Draw, construct and describe geometrical figures and describe the relationships between them.
• Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
• Understand congruence and similarity using physical models, transparencies, or geometry software.
• Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.</td></tr>
</table>

*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

Unit 1: Rational Numbers and Exponents

Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. They convert between a fraction and decimal form of an irrational number. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems. They extend their mastery of the properties of operations to develop an understanding of integer exponents, and to work with numbers written in scientific notation.

Unit 1: Rational Numbers and Exponents	
Clusters with Instructional Notes	**Common Core State Standards**
• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. Understand $p + q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers. 7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. 7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.*

*Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

Unit 1: Rational Numbers and Exponents	
Clusters with Instructional Notes	**Common Core State Standards**
• Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. 8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*
• Work with radicals and integer exponents.	8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$. 8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. 8.EE.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.* 8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Unit 2: Proportionality and Linear Relationships

Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \times A$. Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation.

Unit 2: Proportionality and Linear Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.1 *Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $^1/_2$ mile in each $^1/_4$ hour, compute the unit rate as the complex fraction $^{1/2}/_{1/4}$ miles per hour, equivalently 2 miles per hour.* 7.RP.2 *Recognize and represent proportional relationships between quantities.* a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.* d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. 7.RP.3 *Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
• Use properties of operations to generate equivalent expressions.	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*

Unit 2: Proportionality and Linear Relationships	
Clusters with Instructional Notes	**Common Core State Standards**
• Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.* *7.EE.4* Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*
• Understand the connections between proportional relationships, lines, and linear equations.	8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* 8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.
• Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7 Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Unit 3: Introduction to Sampling and Inference

Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Unit 3: Introduction to Sampling and Inference	
Clusters with Instructional Notes	**Common Core State Standards**
• Use random sampling to draw inferences about a population.	7.SP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. 7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
• Draw informal comparative inferences about two populations.	7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.* 7.SP.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

Unit 3: Introduction to Sampling and Inference	
Clusters with Instructional Notes	**Common Core State Standards**
• Investigate chance processes and develop, use, and evaluate probability models.	7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $^1/_2$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. 7.SP.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.* 7.SP.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.* b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?* 7.SP.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

Unit 4: Creating, Comparing, and Analyzing Geometric Figures

Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity, they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

Unit 4: Creating, Comparing, and Analyzing Geometric Figures	
Clusters with Instructional Notes	**Common Core State Standards**
• Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. 7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. 7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
• Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. 7.G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. 7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Unit 4: Creating, Comparing, and Analyzing Geometric Figures	
Clusters with Instructional Notes	**Common Core State Standards**
• Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.1 Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines. 8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. 8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. 8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. 8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*
• Solve real-world and mathematical problem involving volume of cylinders, cones, and spheres.	8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

8th Grade Mathematics I

The fundamental purpose of 8th Grade Mathematics I is to formalize and extend the mathematics that students learned through the end of seventh grade. Content in this course is grouped into six critical areas, or units. The units of study deepen and extend understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend. 8th Grade Mathematics 1 includes an exploration of the role of rigid motions in congruence and similarity. The Pythagorean theorem is introduced, and students examine volume relationships of cones, cylinders, and spheres. 8th Grade Mathematics 1 uses properties and theorems involving congruent figures to deepen and extend understanding of geometric knowledge from prior grades. The final unit in the course ties together the algebraic and geometric ideas studied. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

This course differs from Mathematics I in that it contains content from 8th grade. While coherence is retained, in that it logically builds from Accelerated 7th Grade, the additional content when compared to the high school course demands a faster pace for instruction and learning.

Critical Area 1: Work with quantities and rates, including simple linear expressions and equations forms the foundation for this unit. Students use units to represent problems algebraically and graphically, and to guide the solution of problems. Student experience with quantity provides a foundation for the study of expressions, equations, and functions.

Critical Area 2: Building on earlier work with linear relationships, students learn function notation and language for describing characteristics of functions, including the concepts of domain and range. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. They work with functions given by graphs and tables, keeping in mind that depending upon the context, these representations are likely to be approximate and incomplete. Their work includes functions that can be described or approximated by formulas as well as those that cannot. When functions describe relationships between quantities arising from a context, students reason with the units in which those quantities are measured. Students build on and informally extend their understanding of integral exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

Critical Area 3: This unit builds on earlier experiences by asking students to analyze and explain the process of solving an equation and to justify the process used in solving a system of equations. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations. Students explore systems of equations and inequalities, and they find and interpret their solutions.

Critical Area 4: This unit builds upon prior students' prior experiences with data, providing students with more formal means of assessing how a model fits data. Students use regression techniques to describe approximately linear relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

Critical Area 5: In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Critical Area 6: Building on their work with the Pythagorean Theorem to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines.

<table>
<tr><th>Units</th><th>Includes Standard Clusters*</th><th>Mathematical Practice Standards</th></tr>
<tr><td>Unit 1
Relationships Between Quantities</td><td>• Reason quantitatively and use units to solve problems.
• Interpret the structure of expressions.
• Create equations that describe numbers or relationships.</td><td rowspan="6">Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>Unit 2
Linear and Exponential Relationships</td><td>• Represent and solve equations and inequalities graphically.
• Define, evaluate, and compare functions.
• Understand the concept of a function and use function notation.
• Use functions to model relationships between quantities.
• Interpret functions that arise in applications in terms of a context.
• Analyze functions using different representations.
• Build a function that models a relationship between two quantities.
• Build new functions from existing functions.
• Construct and compare linear, quadratic, and exponential models and solve problems.
• Interpret expressions for functions in terms of the situation they model.</td></tr>
<tr><td>Unit 3†
Reasoning with Equations</td><td>• Understand solving equations as a process of reasoning and explain the reasoning.
• Solve equations and inequalities in one variable.
• Analyze and solve linear equations and pairs of simultaneous linear equations.
• Solve systems of equations.</td></tr>
<tr><td>Unit 4
Descriptive Statistics</td><td>• Summarize, represent, and interpret data on a single count or measurement variable.
• Investigate patterns of associate in bivariate data.
• Summarize, represent, and interpret data on two categorical and quantitative variables.
• Interpret linear models.</td></tr>
<tr><td>Unit 5
Congruence, Proof, and Constructions</td><td>• Experiment with transformations in the plane.
• Understand congruence in terms of rigid motions.
• Make geometric constructions.
• Understand and apply the Pythagorean theorem.</td></tr>
<tr><td>Unit 6
Connecting Algebra and Geometry through Coordinates</td><td>• Use coordinates to prove simple geometric theorems algebraically.</td></tr>
</table>

*In some cases clusters appear in more than one unit within a course or in more than one course. Instructional notes will indicate how these standards grow over time. In some cases only certain standards within a cluster are included in a unit.

†Note that solving equations and systems of equations follows a study of functions in this course. To examine equations before functions, this unit could be merged with Unit 1.

Unit 1: Relationships Between Quantities

Work with quantities and rates, including simple linear expressions and equations forms the foundation for this unit. Students use units to represent problems algebraically and graphically, and to guide the solution of problems. Student experience with quantity provides a foundation for the study of expressions, equations, and functions.

Unit 1: Relationships between Quantities	
Clusters with Instructional Notes	**Common Core State Standards**
• Reason quantitatively and use units to solve problems. *Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.*	N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. N.Q.2 Define appropriate quantities for the purpose of descriptive modeling. N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
• Interpret the structure of expressions. *Limit to linear expressions and to exponential expressions with integer exponents.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*
• Create equations that describe numbers or relationships. *Limit A.CED.1 and A.CED.2 to linear and exponential equations, and, in the case of exponential equations, limit to situations requiring evaluation of exponential functions at integer inputs. Limit A.CED.3 to linear equations and inequalities. Limit A.CED.4 to formulas which are linear in the variables of interest.*	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*

Unit 2: Linear and Exponential Functions

Building on earlier work with linear relationships, students learn function notation and language for describing characteristics of functions, including the concepts of domain and range. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. They work with functions given by graphs and tables, keeping in mind that depending upon the context, these representations are likely to be approximate and incomplete. Their work includes functions that can be described or approximated by formulas as well as those that cannot. When functions describe relationships between quantities arising from a context, students reason with the units in which those quantities are measured. Students build on and informally extend their understanding of integral exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

Unit 2: Linear and Exponential Functions	
Clusters with Instructional Notes	**Common Core State Standards**
• Represent and solve equations and inequalities graphically. *For A.REI.10 focus on linear and exponential equations and be able to adapt and apply that learning to other types of equations in future courses. For A.REI.11, focus on cases where f(x) and g(x) are linear or exponential.*	A.REI.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). A.REI.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★ A.REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
• Define, evaluate, and compare functions. *While this content is likely subsumed by F.IF.1-3 and F.IF.7a, it could be used for scaffolding instruction to the more sophisticated content found there.*	8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. 8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* 8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function* $A = s^2$ *giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*
• Understand the concept of a function and use function notation. *Students should experience a variety of types of situations modeled by functions. Detailed analysis of any particular class of function at this stage is not advised. Students should apply these concepts throughout their future mathematics courses.* *Constrain examples to linear functions and exponential functions having integral domains. In F.IF.3, draw connection to F.BF.2, which requires students to write arithmetic and geometric sequences.*	F.IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$. F.IF.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. F.IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by* $f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1)$ *for* $n \ge 1$.

Unit 2: Linear and Exponential Functions	
Clusters with Instructional Notes	**Common Core State Standards**
• Use functions to model relationships between quantities. *While this content is likely subsumed by F.IF.4 and F.BF.1a, it could be used for scaffolding instruction to the more sophisticated content found there.*	8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (*x*, *y*) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. 8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
• Interpret functions that arise in applications in terms of a context. *For F.IF.4 and 5, focus on linear and exponential functions. For F.IF.6, focus on linear functions and exponential functions whose domain is a subset of the integers. Mathematics II and III will address other types of functions.* *N.RN.1 and N.RN. 2 will need to be referenced here before discussing exponential functions with continuous domains.*	F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★
• Analyze functions using different representations. *For F.IF.7a, 7e, and 9 focus on linear and exponential functions. Include comparisons of two functions presented algebraically. For example, compare the growth of two linear functions, or two exponential functions such as $y = 3^n$ and $y = 100 \times 2^n$.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*
• Build a function that models a relationship between two quantities. *Limit F.BF.1a, 1b, and 2 to linear and exponential functions. In F.BF.2, connect arithmetic sequences to linear functions and connect geometric sequences to exponential functions in F.BF.2.*	F.BF.1 Write a function that describes a relationship between two quantities.★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* F.BF.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★

Unit 2: Linear and Exponential Functions	
Clusters with Instructional Notes	**Common Core State Standards**
• Build new functions from existing functions. *Focus on vertical translations of graphs of linear and exponential functions. Relate the vertical translation of a linear function to its y-intercept.* *While applying other transformations to a linear graph is appropriate at this level, it may be difficult for students to identify or distinguish between the effects of the other transformations included in this standard.*	F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
• Construct and compare linear, quadratic, and exponential models and solve problems. *For F.LE.3, limit to comparisons to those between exponential and linear models.*	F.LE.1 Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals; and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F.LE.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
• Interpret expressions for functions in terms of the situation they model. *Limit exponential, with exponential functions to those of the form $f(x) = b^x + k$.*	F.LE.5 Interpret the parameters in a linear or exponential function in terms of a context.

Unit 3: Reasoning with Equations

This unit builds on earlier experiences by asking students to analyze and explain the process of solving an equation and to justify the process used in solving a system of equations. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations. Students explore systems of equations and inequalities, and they find and interpret their solutions.

Unit 3: Reasoning with Equations	
Clusters with Instructional Notes	**Common Core State Standards**
• Understand solving equations as a process of reasoning and explain the reasoning. *Students should focus on and master A.REI.1 for linear equations and be able to extend and apply their reasoning to other types of equations in future courses. Students will solve exponential equations in Mathematics III.*	A.REI.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
• Solve equations and inequalities in one variable. *Extend earlier work with solving linear equations to solving linear inequalities in one variable and to solving literal equations that are linear in the variable being solved for. Include simple exponential equations that rely only on application of the laws of exponents, such as* $5^x = 125$ *or* $2^x = 1/16$ *.*	A.REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
• Analyze and solve linear equations and pairs of simultaneous linear equations. *While this content is likely subsumed by A.REI.3, 5, and 6, it could be used for scaffolding instruction to the more sophisticated content found there.*	8.EE.8 Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example,* $3x + 2y = 5$ *and* $3x + 2y = 6$ *have no solution because* $3x + 2y$ *cannot simultaneously be 5 and 6.* c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*
• Solve systems of equations. *Include cases where two equations describe the same line (yielding infinitely many solutions) and cases where two equations describe parallel lines (yielding no solution).*	A.REI.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A.REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

Unit 4: Descriptive Statistics

Students use regression techniques to describe relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

Unit 4: Descriptive Statistics	
Clusters with Instructional Notes	**Common Core State Standards**
• Summarize, represent, and interpret data on a single count or measurement variable. *In grades 6 – 7, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.*	S.ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots). S.ID.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. S.ID.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
• Investigate patterns of association in bivariate data. *While this content is likely subsumed by S.ID.6-9, it could be used for scaffolding instruction to the more sophisticated content found there.*	8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. 8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. 8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.* 8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
• Summarize, represent, and interpret data on two categorical and quantitative variables. *Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.* *S.ID.6b should be focused on situations for which linear models are appropriate.*	S.ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association.

Unit 4: Descriptive Statistics	
Clusters with Instructional Notes	**Common Core State Standards**
• Interpret linear models. *Build on students' work with linear relationship and introduce the correlation coefficient. The focus here is on the computation and interpretation of the correlation coefficient as a measure how well the data fit the relationship. The important distinction between a statistical relationship and a cause-and-effect relationship arises in S.ID.9.*	S.ID.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit. S.ID.9 Distinguish between correlation and causation.

Unit 5: Congruence, Proof, and Constructions

In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Unit 5: Congruence, Proof, and Constructions	
Clusters with Instructional Notes	**Common Core State Standards**
• Experiment with transformations in the plane. *Build on student experience with rigid motions from earlier grades. Point out the basis of rigid motions in geometric concepts, e.g., translations move points a specified distance along a line parallel to a specified line; rotations move objects along a circular arc with a specified center through a specified angle.*	G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. G.CO.2 Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). G.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. G.CO.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. G.CO.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
• Understand congruence in terms of rigid motions. *Rigid motions are at the foundation of the definition of congruence. Students reason from the basic properties of rigid motions (that they preserve distance and angle), which are assumed without proof. Rigid motions and their assumed properties can be used to establish the usual triangle congruence criteria, which can then be used to prove other theorems.*	G.CO.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. G.CO.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. G.CO.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.
• Make geometric constructions. *Build on prior student experience with simple constructions. Emphasize the ability to formalize and defend how these constructions result in the desired objects.* *Some of these constructions are closely related to previous standards and can be introduced in conjunction with them.*	G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.
• Understand and apply the Pythagorean theorem. *Discuss applications of the Pythagorean theorem and its connections to radicals, rational exponents, and irrational numbers.*	8.G.6 Explain a proof of the Pythagorean theorem and its converse. 8.G.7 Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. 8.G.8 Apply the Pythagorean theorem to find the distance between two points in a coordinate system.

Unit 6: Connecting Algebra and Geometry Through Coordinates

Building on their work with the Pythagorean Theorem to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines.

Unit 6: Connecting Algebra and Geometry Through Coordinates	
Clusters with Instructional Notes	**Common Core State Standards**
• Use coordinates to prove simple geometric theorems algebraically. *Reasoning with triangles in this unit is limited to right triangles; e.g., derive the equation for a line through two points using similar right triangles.* *Relate work on parallel lines in G.GPE.5 to work on A.REI.5 in Mathematics I involving systems of equations having no solution or infinitely many solutions.* *G.GPE.7 provides practice with the distance formula and its connection with the Pythagorean theorem.*	G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, $\sqrt{3}$) lies on the circle centered at the origin and containing the point (0, 2). G.GPE.5 Prove the slope criteria for parallel and perpendicular lines; use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). G.GPE.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.★

Additional Mathematics Courses

The “college and career ready” line has been based on evidence from a number of sources, including international benchmarking, surveys of postsecondary faculty and employers, review of state standards, and expert opinion. Students meeting these standards should be well-prepared for introductory mathematics courses in 2- and 4- year colleges. Still, there are persuasive reasons for students to continue on to take a fourth mathematics course in high school.

Research consistently finds that taking mathematics above the Algebra II level highly corresponds to many measures of student success. In his groundbreaking report Answers in the Toolbox, Clifford Adelman found that the strongest predictor of postsecondary success is the highest level of mathematics completed (Executive Summary). ACT has found that taking more mathematics courses correlates with greater success on their college entrance examination. Of students taking (Algebra I, Geometry and Algebra II and no other mathematics courses), only thirteen percent of those students met the benchmark for readiness for college algebra. One additional mathematics course greatly increased the likelihood that a student would reach that benchmark, and three-fourths of students taking Calculus met the benchmark (ACTb 13).

Students going through the pathways should be encouraged to select from a range of high quality mathematics options. STEM-intending students should be strongly encouraged to take Precalculus and Calculus (and perhaps a computer science course). A student interested in psychology may benefit greatly from a course in discrete mathematics, followed by AP Statistics. A student interested in starting a business after high school could use knowledge and skills gleaned from a course on mathematical decision-making. Mathematically-inclined students can, at this level, double up on courses—a student taking college calculus and college statistics would be well-prepared for almost any postsecondary career.

Taken together, there is compelling rationale for urging students to continue their mathematical education throughout high school, allowing students several rich options once they have demonstrated mastery of core content. The Pathways describe possible courses for the first three years of high school. Other arrangements of the Common Core State Standards for high school are possible. Standards marked with a (+) may appear either in courses required for all students, or in later courses. In particular, the (+) standards can form the starting point for fourth year courses in Precalculus and in Probability and Statistics. Other fourth year courses, for example Calculus, Modeling, or Discrete Mathematics are possible.

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Common Core State Standards
for
Mathematics

COMMON CORE STATE STANDARDS FOR

Mathematics

COMMON CORE
STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

Table of Contents

Introduction

Toward greater focus and coherence

> *Mathematics experiences in early childhood settings should concentrate on (1) number (which includes whole number, operations, and relations) and (2) geometry, spatial relations, and measurement, with more mathematics learning time devoted to number than to other topics. Mathematical process goals should be integrated in these content areas.*
>
> — Mathematics Learning in Early Childhood, National Research Council, 2009

> *The composite standards [of Hong Kong, Korea and Singapore] have a number of features that can inform an international benchmarking process for the development of K–6 mathematics standards in the U.S. First, the composite standards concentrate the early learning of mathematics on the number, measurement, and geometry strands with less emphasis on data analysis and little exposure to algebra. The Hong Kong standards for grades 1–3 devote approximately half the targeted time to numbers and almost all the time remaining to geometry and measurement.*
>
> — Ginsburg, Leinwand and Decker, 2009

> *Because the mathematics concepts in [U.S.] textbooks are often weak, the presentation becomes more mechanical than is ideal. We looked at both traditional and non-traditional textbooks used in the US and found this conceptual weakness in both.*
>
> — Ginsburg et al., 2005

> *There are many ways to organize curricula. The challenge, now rarely met, is to avoid those that distort mathematics and turn off students.*
>
> — Steen, 2007

For over a decade, research studies of mathematics education in high-performing countries have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on the promise of common standards, the standards must address the problem of a curriculum that is "a mile wide and an inch deep." These Standards are a substantial answer to that challenge.

It is important to recognize that "fewer standards" are no substitute for focused standards. Achieving "fewer standards" would be easy to do by resorting to broad, general statements. Instead, these Standards aim for clarity and specificity.

Assessing the coherence of a set of standards is more difficult than assessing their focus. William Schmidt and Richard Houang (2002) have said that content standards and curricula are coherent if they are:

> *articulated over time as a sequence of topics and performances that are logical and reflect, where appropriate, the sequential or hierarchical nature of the disciplinary content from which the subject matter derives. That is, what and how students are taught should reflect not only the topics that fall within a certain academic discipline,* ***but also the key ideas*** *that determine how knowledge is organized and generated within that discipline. This implies*

> *that to be coherent, a set of content standards must evolve from particulars (e.g., the meaning and operations of whole numbers, including simple math facts and routine computational procedures associated with whole numbers and fractions) to deeper structures inherent in the discipline. These deeper structures then serve as a means for connecting the particulars (such as an understanding of the rational number system and its properties).* (emphasis added)

These Standards endeavor to follow such a design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the properties of operations to structure those ideas.

In addition, the "sequence of topics and performances" that is outlined in a body of mathematics standards must also respect what is known about how students learn. As Confrey (2007) points out, developing "sequenced obstacles and challenges for students…absent the insights about meaning that derive from careful study of learning, would be unfortunate and unwise." In recognition of this, the development of these Standards began with research-based learning progressions detailing what is known today about how students' mathematical knowledge, skill, and understanding develop over time.

Understanding mathematics

These Standards define what students should understand and be able to do in their study of mathematics. Asking a student to understand something means asking a teacher to assess whether the student has understood it. But what does mathematical understanding look like? One hallmark of mathematical understanding is the ability to justify, in a way appropriate to the student's mathematical maturity, *why* a particular mathematical statement is true or where a mathematical rule comes from. There is a world of difference between a student who can summon a mnemonic device to expand a product such as $(a + b)(x + y)$ and a student who can explain where the mnemonic comes from. The student who can explain the rule understands the mathematics, and may have a better chance to succeed at a less familiar task such as expanding $(a + b + c)(x + y)$. Mathematical understanding and procedural skill are equally important, and both are assessable using mathematical tasks of sufficient richness.

The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The Standards should be read as allowing for the widest possible range of students to participate fully from the outset, along with appropriate accommodations to ensure maximum participaton of students with special education needs. For example, for students with disabilities reading should allow for use of Braille, screen reader technology, or other assistive devices, while writing should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, speaking and listening should be interpreted broadly to include sign language. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.

The Standards begin on page 6 with eight Standards for Mathematical Practice.

How to read the grade level standards

Standards define what students should understand and be able to do.

Clusters are groups of related standards. Note that standards from different clusters may sometimes be closely related, because mathematics is a connected subject.

Domains are larger groups of related standards. Standards from different domains may sometimes be closely related.

Domain

Number and Operations in Base Ten	3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic.

Standard

Cluster

1. Use place value understanding to round whole numbers to the nearest 10 or 100.
2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
3. Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

These Standards do not dictate curriculum or teaching methods. For example, just because topic A appears before topic B in the standards for a given grade, it does not necessarily mean that topic A must be taught before topic B. A teacher might prefer to teach topic B before topic A, or might choose to highlight connections by teaching topic A and topic B at the same time. Or, a teacher might prefer to teach a topic of his or her own choosing that leads, as a byproduct, to students reaching the standards for topics A and B.

What students can learn at any particular grade level depends upon what they have learned before. Ideally then, each standard in this document might have been phrased in the form, "Students who already know ... should next come to learn ...." But at present this approach is unrealistic—not least because existing education research cannot specify all such learning pathways. Of necessity therefore, grade placements for specific topics have been made on the basis of state and international comparisons and the collective experience and collective professional judgment of educators, researchers and mathematicians. One promise of common state standards is that over time they will allow research on learning progressions to inform and improve the design of standards to a much greater extent than is possible today. Learning opportunities will continue to vary across schools and school systems, and educators should make every effort to meet the needs of individual students based on their current understanding.

These Standards are not intended to be new names for old ways of doing business. They are a call to take the next step. It is time for states to work together to build on lessons learned from two decades of standards based reforms. It is time to recognize that standards are not just promises to our children, but promises we intend to keep.

Mathematics | Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).

1 Make sense of problems and persevere in solving them.
Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

2 Reason abstractly and quantitatively.
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

3 Construct viable arguments and critique the reasoning of others.
Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions,

communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

4 Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

5 Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

6 Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

7 Look for and make use of structure.
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

8 Look for and express regularity in repeated reasoning.
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content
The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction.

The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices.

In this respect, those content standards which set an expectation of understanding are potential "points of intersection" between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.

Mathematics | Kindergarten

In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as $5 + 2 = 7$ and $7 - 2 = 5$. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

Grade K Overview

Counting and Cardinality

- **Know number names and the count sequence.**
- **Count to tell the number of objects.**
- **Compare numbers.**

Operations and Algebraic Thinking

- **Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**

Number and Operations in Base Ten

- **Work with numbers 11–19 to gain foundations for place value.**

Measurement and Data

- **Describe and compare measurable attributes.**
- **Classify objects and count the number of objects in categories.**

Geometry

- **Identify and describe shapes.**
- **Analyze, compare, create, and compose shapes.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Counting and Cardinality K.CC

Know number names and the count sequence.

1. Count to 100 by ones and by tens.
2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects.

4. Understand the relationship between numbers and quantities; connect counting to cardinality.
   a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
   b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
   c. Understand that each successive number name refers to a quantity that is one larger.
5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

Compare numbers.

6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.[1]
7. Compare two numbers between 1 and 10 presented as written numerals.

Operations and Algebraic Thinking K.OA

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

1. Represent addition and subtraction with objects, fingers, mental images, drawings[2], sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).
4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
5. Fluently add and subtract within 5.

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[1]Include groups with up to ten objects.
[2]Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)

Number and Operations in Base Ten — K.NBT

Work with numbers 11–19 to gain foundations for place value.

1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Measurement and Data — K.MD

Describe and compare measurable attributes.

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

Classify objects and count the number of objects in each category.

3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.[3]

Geometry — K.G

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.
2. Correctly name shapes regardless of their orientations or overall size.
3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

Analyze, compare, create, and compose shapes.

4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).
5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
6. Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*

[3]Limit category counts to be less than or equal to 10.

Mathematics | Grade 1

In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

(1) Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

(2) Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

(3) Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.[1]

(4) Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

[1]Students should apply the principle of transitivity of measurement to make indirect comparisons, but they need not use this technical term.

Grade 1 Overview

Operations and Algebraic Thinking

- **Represent and solve problems involving addition and subtraction.**
- **Understand and apply properties of operations and the relationship between addition and subtraction.**
- **Add and subtract within 20.**
- **Work with addition and subtraction equations.**

Number and Operations in Base Ten

- **Extend the counting sequence.**
- **Understand place value.**
- **Use place value understanding and properties of operations to add and subtract.**

Measurement and Data

- **Measure lengths indirectly and by iterating length units.**
- **Tell and write time.**
- **Represent and interpret data.**

Geometry

- **Reason with shapes and their attributes.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 1.OA

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.[2]

2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Understand and apply properties of operations and the relationship between addition and subtraction.

3. Apply properties of operations as strategies to add and subtract.[3] *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*

4. Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*

Add and subtract within 20.

5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

Work with addition and subtraction equations.

7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*

8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = $\square$ – 3, 6 + 6 = $\square$.*

Number and Operations in Base Ten 1.NBT

Extend the counting sequence.

1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

Understand place value.

2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
   a. 10 can be thought of as a bundle of ten ones — called a "ten."
   b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
   c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

[2]See Glossary, Table 1.
[3]Students need not use formal terms for these properties.

3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

Use place value understanding and properties of operations to add and subtract.

4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Measurement and Data 1.MD

Measure lengths indirectly and by iterating length units.

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.
2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

Tell and write time.

3. Tell and write time in hours and half-hours using analog and digital clocks.

Represent and interpret data.

4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Geometry 1.G

Reason with shapes and their attributes.

1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.[4]
3. Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

[4]Students do not need to learn formal names such as "right rectangular prism."

Mathematics | Grade 2

In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

(1) Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).

(2) Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.

(3) Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.

(4) Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

Grade 2 Overview

Operations and Algebraic Thinking

- **Represent and solve problems involving addition and subtraction.**
- **Add and subtract within 20.**
- **Work with equal groups of objects to gain foundations for multiplication.**

Number and Operations in Base Ten

- **Understand place value.**
- **Use place value understanding and properties of operations to add and subtract.**

Measurement and Data

- **Measure and estimate lengths in standard units.**
- **Relate addition and subtraction to length.**
- **Work with time and money.**
- **Represent and interpret data.**

Geometry

- **Reason with shapes and their attributes.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 2.OA

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]

Add and subtract within 20.

2. Fluently add and subtract within 20 using mental strategies.[2] By end of Grade 2, know from memory all sums of two one-digit numbers.

Work with equal groups of objects to gain foundations for multiplication.

3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Number and Operations in Base Ten 2.NBT

Understand place value.

1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
   a. 100 can be thought of as a bundle of ten tens — called a "hundred."
   b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
2. Count within 1000; skip-count by 5s, 10s, and 100s.
3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

Use place value understanding and properties of operations to add and subtract.

5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
6. Add up to four two-digit numbers using strategies based on place value and properties of operations.
7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
9. Explain why addition and subtraction strategies work, using place value and the properties of operations.[3]

[1]See Glossary, Table 1.
[2]See standard 1.OA.6 for a list of mental strategies.
[3]Explanations may be supported by drawings or objects.

Measurement and Data 2.MD

Measure and estimate lengths in standard units.

1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
3. Estimate lengths using units of inches, feet, centimeters, and meters.
4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length.

5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

Work with time and money.

7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*

Represent and interpret data.

9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems[4] using information presented in a bar graph.

Geometry 2.G

Reason with shapes and their attributes.

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.[5] Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

[4]See Glossary, Table 1.
[5]Sizes are compared directly or visually, not compared by measuring.

Mathematics | Grade 3

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

(1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

(2) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, 1/2 of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

(3) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.

(4) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Grade 3 Overview

Operations and Algebraic Thinking

- **Represent and solve problems involving multiplication and division.**
- **Understand properties of multiplication and the relationship between multiplication and division.**
- **Multiply and divide within 100.**
- **Solve problems involving the four operations, and identify and explain patterns in arithmetic.**

Number and Operations in Base Ten

- **Use place value understanding and properties of operations to perform multi-digit arithmetic.**

Number and Operations—Fractions

- **Develop understanding of fractions as numbers.**

Measurement and Data

- **Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.**
- **Represent and interpret data.**
- **Geometric measurement: understand concepts of area and relate area to multiplication and to addition.**
- **Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.**

Geometry

- **Reason with shapes and their attributes.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division.

1. Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*
2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*
3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]
4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = $\square$ ÷ 3, 6 × 6 = ?.*

Understand properties of multiplication and the relationship between multiplication and division.

5. Apply properties of operations as strategies to multiply and divide.[2] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*
6. Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

Multiply and divide within 100.

7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.[3]
9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

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[1]See Glossary, Table 2.
[2]Students need not use formal terms for these properties.
[3]This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

Number and Operations in Base Ten 3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic.[4]

1. Use place value understanding to round whole numbers to the nearest 10 or 100.
2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

Number and Operations—Fractions[5] 3.NF

Develop understanding of fractions as numbers.

1. Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*.
2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.
   a. Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.
   b. Represent a fraction *a*/*b* on a number line diagram by marking off *a* lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.
3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
   a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
   b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
   c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*
   d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Measurement and Data 3.MD

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

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[4]A range of algorithms may be used.
[5]Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.

2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[6] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[7]

Represent and interpret data.

3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

5. Recognize area as an attribute of plane figures and understand concepts of area measurement.
   a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
   b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.
6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
7. Relate area to the operations of multiplication and addition.
   a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
   b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
   c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.
   d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

[6]Excludes compound units such as cm^3 and finding the geometric volume of a container.
[7]Excludes multiplicative comparison problems (problems involving notions of "times as much"; see Glossary, Table 2).

Geometry 3.G

Reason with shapes and their attributes.

1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*

Mathematics | Grade 4

In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

Grade 4 Overview

Operations and Algebraic Thinking

- **Use the four operations with whole numbers to solve problems.**
- **Gain familiarity with factors and multiples.**
- **Generate and analyze patterns.**

Number and Operations in Base Ten

- **Generalize place value understanding for multi-digit whole numbers.**
- **Use place value understanding and properties of operations to perform multi-digit arithmetic.**

Number and Operations—Fractions

- **Extend understanding of fraction equivalence and ordering.**
- **Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.**
- **Understand decimal notation for fractions, and compare decimal fractions.**

Measurement and Data

- **Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.**
- **Represent and interpret data.**
- **Geometric measurement: understand concepts of angle and measure angles.**

Geometry

- **Draw and identify lines and angles, and classify shapes by properties of their lines and angles.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 4.OA

Use the four operations with whole numbers to solve problems.

1. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.[1]
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Gain familiarity with factors and multiples.

4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

Generate and analyze patterns.

5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Number and Operations in Base Ten[2] 4.NBT

Generalize place value understanding for multi-digit whole numbers.

1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*
2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
3. Use place value understanding to round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

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[1] See Glossary, Table 2.
[2] Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.

6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations—Fractions[3] 4.NF

Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.
   a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
   b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*
   c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
   d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
   a. Understand a fraction a/b as a multiple of $1/b$. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*
   b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*
   c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

[3]Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.

Understand decimal notation for fractions, and compare decimal fractions.

5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[4] *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
6. Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

Measurement and Data 4.MD

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

Represent and interpret data.

4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

Geometric measurement: understand concepts of angle and measure angles.

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:
    a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.
    b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.

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[4]Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.

6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Geometry 4.G

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Mathematics | Grade 5

In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3) Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

Grade 5 Overview

Operations and Algebraic Thinking

- **Write and interpret numerical expressions.**
- **Analyze patterns and relationships.**

Number and Operations in Base Ten

- **Understand the place value system.**
- **Perform operations with multi-digit whole numbers and with decimals to hundredths.**

Number and Operations—Fractions

- **Use equivalent fractions as a strategy to add and subtract fractions.**
- **Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**

Measurement and Data

- **Convert like measurement units within a given measurement system.**
- **Represent and interpret data.**
- **Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.**

Geometry

- **Graph points on the coordinate plane to solve real-world and mathematical problems.**
- **Classify two-dimensional figures into categories based on their properties.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 5.OA

Write and interpret numerical expressions.

1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*

Analyze patterns and relationships.

3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

Number and Operations in Base Ten 5.NBT

Understand the place value system.

1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
3. Read, write, and compare decimals to thousandths.
   a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).
   b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
4. Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5. Fluently multiply multi-digit whole numbers using the standard algorithm.
6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Number and Operations—Fractions 5.NF

Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.*

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
   a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)*
   b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
5. Interpret multiplication as scaling (resizing), by:
   a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
   b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.
6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.[1]
   a. Interpret division of a unit fraction by a non-zero whole number,

[1]Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.

and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*

b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*

c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*

Measurement and Data 5.MD

Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Represent and interpret data.

2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

   a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.

   b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

   a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

   b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

   c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

Geometry 5.G

Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).
2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Classify two-dimensional figures into categories based on their properties.

3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
4. Classify two-dimensional figures in a hierarchy based on properties.

Mathematics | Grade 6

In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

(1) Students use reasoning about multiplication and division to solve ratio and rate problems about quantities. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students connect their understanding of multiplication and division with ratios and rates. Thus students expand the scope of problems for which they can use multiplication and division to solve problems, and they connect ratios and fractions. Students solve a wide variety of problems involving ratios and rates.

(2) Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students use these operations to solve problems. Students extend their previous understandings of number and the ordering of numbers to the full system of rational numbers, which includes negative rational numbers, and in particular negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane.

(3) Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are in equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between quantities.

(4) Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range or mean absolute deviation) can also be useful for summarizing data because two very different sets of data can have the same mean and

median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected.

Students in Grade 6 also build on their work with area in elementary school by reasoning about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. They reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths. They prepare for work on scale drawings and constructions in Grade 7 by drawing polygons in the coordinate plane.

Grade 6 Overview

Ratios and Proportional Relationships

- **Understand ratio concepts and use ratio reasoning to solve problems.**

The Number System

- **Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**
- **Compute fluently with multi-digit numbers and find common factors and multiples.**
- **Apply and extend previous understandings of numbers to the system of rational numbers.**

Expressions and Equations

- **Apply and extend previous understandings of arithmetic to algebraic expressions.**
- **Reason about and solve one-variable equations and inequalities.**
- **Represent and analyze quantitative relationships between dependent and independent variables.**

Geometry

- **Solve real-world and mathematical problems involving area, surface area, and volume.**

Statistics and Probability

- **Develop understanding of statistical variability.**
- **Summarize and describe distributions.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Ratios and Proportional Relationships 6.RP

Understand ratio concepts and use ratio reasoning to solve problems.

1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
2. Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*[1]
3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
   a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
   b. Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*
   c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
   d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

The Number System 6.NS

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?*

Compute fluently with multi-digit numbers and find common factors and multiples.

2. Fluently divide multi-digit numbers using the standard algorithm.
3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2).*

[1]Expectations for unit rates in this grade are limited to non-complex fractions.

Apply and extend previous understandings of numbers to the system of rational numbers.

5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

    a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.

    b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

    c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

7. Understand ordering and absolute value of rational numbers.

    a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.*

    b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write $-3\,^\circ C > -7\,^\circ C$ to express the fact that $-3\,^\circ C$ is warmer than $-7\,^\circ C$.*

    c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of –30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars.*

    d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.*

8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

Expressions and Equations 6.EE

Apply and extend previous understandings of arithmetic to algebraic expressions.

1. Write and evaluate numerical expressions involving whole-number exponents.

2. Write, read, and evaluate expressions in which letters stand for numbers.

    a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation “Subtract y from 5” as $5 - y$.*

b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.*

c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas* $V = s^3$ *and* $A = 6\ s^2$ *to find the volume and surface area of a cube with sides of length* $s = 1/2$.

3. Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.*

4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*

Reason about and solve one-variable equations and inequalities.

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.

8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

Represent and analyze quantitative relationships between dependent and independent variables.

9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*

Geometry 6.G

Solve real-world and mathematical problems involving area, surface area, and volume.

1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l\ w\ h$ and $V = b\ h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Statistics and Probability 6.SP

Develop understanding of statistical variability.

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

Summarize and describe distributions.

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
   a. Reporting the number of observations.
   b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.
   c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
   d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Mathematics | Grade 7

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

(1) Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

(2) Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.

(3) Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.

(4) Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Grade 7 Overview

Ratios and Proportional Relationships

- **Analyze proportional relationships and use them to solve real-world and mathematical problems.**

The Number System

- **Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.**

Expressions and Equations

- **Use properties of operations to generate equivalent expressions.**
- **Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**

Geometry

- **Draw, construct and describe geometrical figures and describe the relationships between them.**
- **Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.**

Statistics and Probability

- **Use random sampling to draw inferences about a population.**
- **Draw informal comparative inferences about two populations.**
- **Investigate chance processes and develop, use, and evaluate probability models.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Ratios and Proportional Relationships 7.RP

Analyze proportional relationships and use them to solve real-world and mathematical problems.

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction* $\frac{1/2}{1/4}$ *miles per hour, equivalently 2 miles per hour.*
2. Recognize and represent proportional relationships between quantities.
   a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
   b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
   c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.*
   d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and $(1, r)$ where r is the unit rate.
3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

The Number System 7.NS

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
   a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
   b. Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
   c. Understand subtraction of rational numbers as adding the additive inverse, $p – q = p + (–q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
   d. Apply properties of operations as strategies to add and subtract rational numbers.
2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
   a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.

c. Apply properties of operations as strategies to multiply and divide rational numbers.

d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

3. Solve real-world and mathematical problems involving the four operations with rational numbers.[1]

Expressions and Equations 7.EE

Use properties of operations to generate equivalent expressions.

1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."*

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

   a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*

   b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*

Geometry 7.G

Draw, construct, and describe geometrical figures and describe the relationships between them.

1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

2. Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
3. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

4. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Statistics and Probability 7.SP

Use random sampling to draw inferences about a population.

1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
2. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*

Draw informal comparative inferences about two populations.

3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

Investigate chance processes and develop, use, and evaluate probability models.

5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*

7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.

    a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*

    b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*

8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

    a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.

    b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.

    c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

Mathematics | Grade 8

In Grade 8, instructional time should focus on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

(1) Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \cdot A$. Students also use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom). At this grade, fitting the model, and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question and to interpret components of the relationship (such as slope and y-intercept) in terms of the situation.

Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.

(2) Students grasp the concept of a function as a rule that assigns to each input exactly one output. They understand that functions describe situations where one quantity determines another. They can translate among representations and partial representations of functions (noting that tabular and graphical representations may be partial representations), and they describe how aspects of the function are reflected in the different representations.

(3) Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem holds, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

Grade 8 Overview

The Number System

- **Know that there are numbers that are not rational, and approximate them by rational numbers.**

Expressions and Equations

- **Work with radicals and integer exponents.**
- **Understand the connections between proportional relationships, lines, and linear equations.**
- **Analyze and solve linear equations and pairs of simultaneous linear equations.**

Functions

- **Define, evaluate, and compare functions.**
- **Use functions to model relationships between quantities.**

Geometry

- **Understand congruence and similarity using physical models, transparencies, or geometry software.**
- **Understand and apply the Pythagorean Theorem.**
- **Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.**

Statistics and Probability

- **Investigate patterns of association in bivariate data.**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The Number System 8.NS

Know that there are numbers that are not rational, and approximate them by rational numbers.

1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of* $\sqrt{2}$*, show that* $\sqrt{2}$ *is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

Expressions and Equations 8.EE

Work with radicals and integer exponents.

1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.
2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
3. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as* 3×10^8 *and the population of the world as* 7×10^9*, and determine that the world population is more than 20 times larger.*
4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Understand the connections between proportional relationships, lines, and linear equations.

5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.*
6. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.

Analyze and solve linear equations and pairs of simultaneous linear equations.

7. Solve linear equations in one variable.
    a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).
    b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

8. Analyze and solve pairs of simultaneous linear equations.

    a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.

    b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.*

    c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Functions 8.F

Define, evaluate, and compare functions.

1. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.[1]
2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*
3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*

Use functions to model relationships between quantities.

4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
5. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Geometry 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.

1. Verify experimentally the properties of rotations, reflections, and translations:

    a. Lines are taken to lines, and line segments to line segments of the same length.

    b. Angles are taken to angles of the same measure.

    c. Parallel lines are taken to parallel lines.

2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

[1]Function notation is not required in Grade 8.

3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
4. Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*

Understand and apply the Pythagorean Theorem.

6. Explain a proof of the Pythagorean Theorem and its converse.
7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

9. Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

Statistics and Probability 8.SP

Investigate patterns of association in bivariate data.

1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
3. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*
4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*

Mathematics Standards for High School

The high school standards specify the mathematics that all students should study in order to be college and career ready. Additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics is indicated by (+), as in this example:

> (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers).

All standards without a (+) symbol should be in the common mathematics curriculum for all college and career ready students. Standards with a (+) symbol may also appear in courses intended for all students.

The high school standards are listed in conceptual categories:

- Number and Quantity
- Algebra
- Functions
- Modeling
- Geometry
- Statistics and Probability

Conceptual categories portray a coherent view of high school mathematics; a student's work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus.

Modeling is best interpreted not as a collection of isolated topics but in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (★). The star symbol sometimes appears on the heading for a group of standards; in that case, it should be understood to apply to all standards in that group.

Mathematics | High School—Number and Quantity

Numbers and Number Systems. During the years from kindergarten to eighth grade, students must repeatedly extend their conception of number. At first, "number" means "counting number": 1, 2, 3... Soon after that, 0 is used to represent "none" and the whole numbers are formed by the counting numbers together with zero. The next extension is fractions. At first, fractions are barely numbers and tied strongly to pictorial representations. Yet by the time students understand division of fractions, they have a strong concept of fractions as numbers and have connected them, via their decimal representations, with the base-ten system used to represent the whole numbers. During middle school, fractions are augmented by negative fractions to form the rational numbers. In Grade 8, students extend this system once more, augmenting the rational numbers with the irrational numbers to form the real numbers. In high school, students will be exposed to yet another extension of number, when the real numbers are augmented by the imaginary numbers to form the complex numbers.

With each extension of number, the meanings of addition, subtraction, multiplication, and division are extended. In each new number system—integers, rational numbers, real numbers, and complex numbers—the four operations stay the same in two important ways: They have the commutative, associative, and distributive properties and their new meanings are consistent with their previous meanings.

Extending the properties of whole-number exponents leads to new and productive notation. For example, properties of whole-number exponents suggest that $(5^{1/3})^3$ should be $5^{(1/3)3} = 5^1 = 5$ and that $5^{1/3}$ should be the cube root of 5.

Calculators, spreadsheets, and computer algebra systems can provide ways for students to become better acquainted with these new number systems and their notation. They can be used to generate data for numerical experiments, to help understand the workings of matrix, vector, and complex number algebra, and to experiment with non-integer exponents.

Quantities. In real world problems, the answers are usually not numbers but quantities: numbers with units, which involves measurement. In their work in measurement up through Grade 8, students primarily measure commonly used attributes such as length, area, and volume. In high school, students encounter a wider variety of units in modeling, e.g., acceleration, currency conversions, derived quantities such as person-hours and heating degree days, social science rates such as per-capita income, and rates in everyday life such as points scored per game or batting averages. They also encounter novel situations in which they themselves must conceive the attributes of interest. For example, to find a good measure of overall highway safety, they might propose measures such as fatalities per year, fatalities per year per driver, or fatalities per vehicle-mile traveled. Such a conceptual process is sometimes called quantification. Quantification is important for science, as when surface area suddenly "stands out" as an important variable in evaporation. Quantification is also important for companies, which must conceptualize relevant attributes and create or choose suitable measures for them.

Number and Quantity Overview

The Real Number System

- Extend the properties of exponents to rational exponents
- Use properties of rational and irrational numbers.

Quantities

- Reason quantitatively and use units to solve problems

The Complex Number System

- Perform arithmetic operations with complex numbers
- Represent complex numbers and their operations on the complex plane
- Use complex numbers in polynomial identities and equations

Vector and Matrix Quantities

- Represent and model with vector quantities.
- Perform operations on vectors.
- Perform operations on matrices and use matrices in applications.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The Real Number System N-RN

Extend the properties of exponents to rational exponents.

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.*

2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

Use properties of rational and irrational numbers.

3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

Quantities* N-Q

Reason quantitatively and use units to solve problems.

1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

2. Define appropriate quantities for the purpose of descriptive modeling.

3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

The Complex Number System N-CN

Perform arithmetic operations with complex numbers.

1. Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.

2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.

3. (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.

Represent complex numbers and their operations on the complex plane.

4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.

5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *For example,* $(-1 + \sqrt{3}\,\mathrm{i})^3 = 8$ *because* $(-1 + \sqrt{3}\,\mathrm{i})$ *has modulus* 2 *and argument* 120°.

6. (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

Use complex numbers in polynomial identities and equations.

7. Solve quadratic equations with real coefficients that have complex solutions.

8. (+) Extend polynomial identities to the complex numbers. *For example, rewrite* $x^2 + 4$ *as* $(x + 2i)(x - 2i)$.

9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

Vector and Matrix Quantities — N-VM

Represent and model with vector quantities.

1. (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\boldsymbol{v}$, $|\boldsymbol{v}|$, $||\boldsymbol{v}||$, v).
2. (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
3. (+) Solve problems involving velocity and other quantities that can be represented by vectors.

Perform operations on vectors.

4. (+) Add and subtract vectors.
   a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.
   b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.
   c. Understand vector subtraction $\boldsymbol{v} - \boldsymbol{w}$ as $\boldsymbol{v} + (-\boldsymbol{w})$, where $-\boldsymbol{w}$ is the additive inverse of $\boldsymbol{w}$, with the same magnitude as $\boldsymbol{w}$ and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.
5. (+) Multiply a vector by a scalar.
   a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$.
   b. Compute the magnitude of a scalar multiple $c\boldsymbol{v}$ using $||c\boldsymbol{v}|| = |c|v$. Compute the direction of $c\boldsymbol{v}$ knowing that when $|c|v \neq 0$, the direction of $c\boldsymbol{v}$ is either along $\boldsymbol{v}$ (for $c > 0$) or against $\boldsymbol{v}$ (for $c < 0$).

Perform operations on matrices and use matrices in applications.

6. (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
7. (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.
8. (+) Add, subtract, and multiply matrices of appropriate dimensions.
9. (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.
10. (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.
11. (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.
12. (+) Work with 2×2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.

Mathematics | High School—Algebra

Expressions. An expression is a record of a computation with numbers, symbols that represent numbers, arithmetic operations, exponentiation, and, at more advanced levels, the operation of evaluating a function. Conventions about the use of parentheses and the order of operations assure that each expression is unambiguous. Creating an expression that describes a computation involving a general quantity requires the ability to express the computation in general terms, abstracting from specific instances.

Reading an expression with comprehension involves analysis of its underlying structure. This may suggest a different but equivalent way of writing the expression that exhibits some different aspect of its meaning. For example, $p + 0.05p$ can be interpreted as the addition of a 5% tax to a price p. Rewriting $p + 0.05p$ as $1.05p$ shows that adding a tax is the same as multiplying the price by a constant factor.

Algebraic manipulations are governed by the properties of operations and exponents, and the conventions of algebraic notation. At times, an expression is the result of applying operations to simpler expressions. For example, $p + 0.05p$ is the sum of the simpler expressions p and $0.05p$. Viewing an expression as the result of operation on simpler expressions can sometimes clarify its underlying structure.

A spreadsheet or a computer algebra system (CAS) can be used to experiment with algebraic expressions, perform complicated algebraic manipulations, and understand how algebraic manipulations behave.

Equations and inequalities. An equation is a statement of equality between two expressions, often viewed as a question asking for which values of the variables the expressions on either side are in fact equal. These values are the solutions to the equation. An identity, in contrast, is true for all values of the variables; identities are often developed by rewriting an expression in an equivalent form.

The solutions of an equation in one variable form a set of numbers; the solutions of an equation in two variables form a set of ordered pairs of numbers, which can be plotted in the coordinate plane. Two or more equations and/or inequalities form a system. A solution for such a system must satisfy every equation and inequality in the system.

An equation can often be solved by successively deducing from it one or more simpler equations. For example, one can add the same constant to both sides without changing the solutions, but squaring both sides might lead to extraneous solutions. Strategic competence in solving includes looking ahead for productive manipulations and anticipating the nature and number of solutions.

Some equations have no solutions in a given number system, but have a solution in a larger system. For example, the solution of $x + 1 = 0$ is an integer, not a whole number; the solution of $2x + 1 = 0$ is a rational number, not an integer; the solutions of $x^2 - 2 = 0$ are real numbers, not rational numbers; and the solutions of $x^2 + 2 = 0$ are complex numbers, not real numbers.

The same solution techniques used to solve equations can be used to rearrange formulas. For example, the formula for the area of a trapezoid, $A = ((b_1+b_2)/2)h$, can be solved for h using the same deductive process.

Inequalities can be solved by reasoning about the properties of inequality. Many, but not all, of the properties of equality continue to hold for inequalities and can be useful in solving them.

Connections to Functions and Modeling. Expressions can define functions, and equivalent expressions define the same function. Asking when two functions have the same value for the same input leads to an equation; graphing the two functions allows for finding approximate solutions of the equation. Converting a verbal description to an equation, inequality, or system of these is an essential skill in modeling.

Algebra Overview

Seeing Structure in Expressions

- Interpret the structure of expressions
- Write expressions in equivalent forms to solve problems

Arithmetic with Polynomials and Rational Expressions

- Perform arithmetic operations on polynomials
- Understand the relationship between zeros and factors of polynomials
- Use polynomial identities to solve problems
- Rewrite rational expressions

Creating Equations

- Create equations that describe numbers or relationships

Reasoning with Equations and Inequalities

- Understand solving equations as a process of reasoning and explain the reasoning
- Solve equations and inequalities in one variable
- Solve systems of equations
- Represent and solve equations and inequalities graphically

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Seeing Structure in Expressions — A-SSE

Interpret the structure of expressions

1. Interpret expressions that represent a quantity in terms of its context.*
   a. Interpret parts of an expression, such as terms, factors, and coefficients.
   b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret* $P(1+r)^n$ *as the product of P and a factor not depending on P.*
2. Use the structure of an expression to identify ways to rewrite it. *For example, see* $x^4 - y^4$ *as* $(x^2)^2 - (y^2)^2$*, thus recognizing it as a difference of squares that can be factored as* $(x^2 - y^2)(x^2 + y^2)$.

Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*
   a. Factor a quadratic expression to reveal the zeros of the function it defines.
   b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
   c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression* 1.15^t *can be rewritten as* $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.**

Arithmetic with Polynomials and Rational Expressions — A-APR

Perform arithmetic operations on polynomials

1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Understand the relationship between zeros and factors of polynomials

2. Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.
3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

Use polynomial identities to solve problems

4. Prove polynomial identities and use them to describe numerical relationships. *For example, the polynomial identity* $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ *can be used to generate Pythagorean triples.*
5. (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.[1]

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[1] The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.

Rewrite rational expressions

6. Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.

7. (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.

Creating Equations* A-CED

Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*

2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*

4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law $V = IR$ to highlight resistance R.*

Reasoning with Equations and Inequalities A-REI

Understand solving equations as a process of reasoning and explain the reasoning

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Solve equations and inequalities in one variable

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

4. Solve quadratic equations in one variable.

   a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.

   b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.

Solve systems of equations

5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line* $y = -3x$ and the circle $x^2 + y^2 = 3$.
8. (+) Represent a system of linear equations as a single matrix equation in a vector variable.
9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3 × 3 or greater).

Represent and solve equations and inequalities graphically

10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★
12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Mathematics | High School—Functions

Functions describe situations where one quantity determines another. For example, the return on $10,000 invested at an annualized percentage rate of 4.25% is a function of the length of time the money is invested. Because we continually make theories about dependencies between quantities in nature and society, functions are important tools in the construction of mathematical models.

In school mathematics, functions usually have numerical inputs and outputs and are often defined by an algebraic expression. For example, the time in hours it takes for a car to drive 100 miles is a function of the car's speed in miles per hour, v; the rule $T(v) = 100/v$ expresses this relationship algebraically and defines a function whose name is T.

The set of inputs to a function is called its domain. We often infer the domain to be all inputs for which the expression defining a function has a value, or for which the function makes sense in a given context.

A function can be described in various ways, such as by a graph (e.g., the trace of a seismograph); by a verbal rule, as in, "I'll give you a state, you give me the capital city;" by an algebraic expression like $f(x) = a + bx$; or by a recursive rule. The graph of a function is often a useful way of visualizing the relationship of the function models, and manipulating a mathematical expression for a function can throw light on the function's properties.

Functions presented as expressions can model many important phenomena. Two important families of functions characterized by laws of growth are linear functions, which grow at a constant rate, and exponential functions, which grow at a constant percent rate. Linear functions with a constant term of zero describe proportional relationships.

A graphing utility or a computer algebra system can be used to experiment with properties of these functions and their graphs and to build computational models of functions, including recursively defined functions.

Connections to Expressions, Equations, Modeling, and Coordinates.

Determining an output value for a particular input involves evaluating an expression; finding inputs that yield a given output involves solving an equation. Questions about when two functions have the same value for the same input lead to equations, whose solutions can be visualized from the intersection of their graphs. Because functions describe relationships between quantities, they are frequently used in modeling. Sometimes functions are defined by a recursive process, which can be displayed effectively using a spreadsheet or other technology.

Functions Overview

Interpreting Functions

- **Understand the concept of a function and use function notation**
- **Interpret functions that arise in applications in terms of the context**
- **Analyze functions using different representations**

Building Functions

- **Build a function that models a relationship between two quantities**
- **Build new functions from existing functions**

Linear, Quadratic, and Exponential Models

- **Construct and compare linear, quadratic, and exponential models and solve problems**
- **Interpret expressions for functions in terms of the situation they model**

Trigonometric Functions

- **Extend the domain of trigonometric functions using the unit circle**
- **Model periodic phenomena with trigonometric functions**
- **Prove and apply trigonometric identities**

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Interpreting Functions F-IF

Understand the concept of a function and use function notation

1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If *f* is a function and *x* is an element of its domain, then *f*(*x*) denotes the output of *f* corresponding to the input *x*. The graph of *f* is the graph of the equation *y* = *f*(*x*).
2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.*

Interpret functions that arise in applications in terms of the context

4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★
5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★
6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★

Analyze functions using different representations

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★
   a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
   b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
   c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.
   d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.
   e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.
   a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
   b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*

9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

Building Functions F-BF

Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.*
   a. Determine an explicit expression, a recursive process, or steps for calculation from a context.
   b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*
   c. (+) Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*
2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.*

Build new functions from existing functions

3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
4. Find inverse functions.
   a. Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2x^3$ *or* $f(x) = (x+1)/(x–1)$ *for* $x \neq 1$.
   b. (+) Verify by composition that one function is the inverse of another.
   c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.
   d. (+) Produce an invertible function from a non-invertible function by restricting the domain.
5. (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.

Linear, Quadratic, and Exponential Models* F-LE

Construct and compare linear, quadratic, and exponential models and solve problems

1. Distinguish between situations that can be modeled with linear functions and with exponential functions.
   a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
   b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
   c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
4. For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.

Interpret expressions for functions in terms of the situation they model

5. Interpret the parameters in a linear or exponential function in terms of a context.

Trigonometric Functions F-TF

Extend the domain of trigonometric functions using the unit circle

1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.
2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi-x$, $\pi+x$, and $2\pi-x$ in terms of their values for x, where x is any real number.
4. (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

Model periodic phenomena with trigonometric functions

5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.★
6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.★

Prove and apply trigonometric identities

8. Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.
9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

Mathematics | High School—Modeling

Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. Modeling is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. Quantities and their relationships in physical, economic, public policy, social, and everyday situations can be modeled using mathematical and statistical methods. When making mathematical models, technology is valuable for varying assumptions, exploring consequences, and comparing predictions with data.

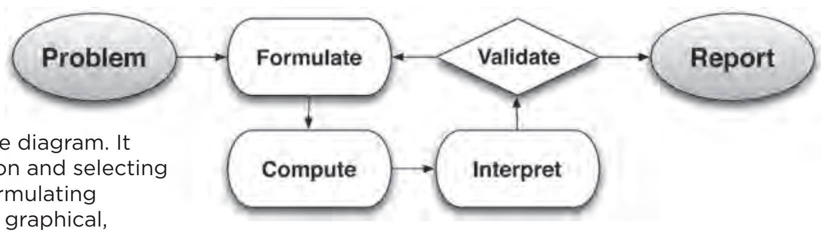
A model can be very simple, such as writing total cost as a product of unit price and number bought, or using a geometric shape to describe a physical object like a coin. Even such simple models involve making choices. It is up to us whether to model a coin as a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. Other situations—modeling a delivery route, a production schedule, or a comparison of loan amortizations—need more elaborate models that use other tools from the mathematical sciences. Real-world situations are not organized and labeled for analysis; formulating tractable models, representing such models, and analyzing them is appropriately a creative process. Like every such process, this depends on acquired expertise as well as creativity.

Some examples of such situations might include:

- Estimating how much water and food is needed for emergency relief in a devastated city of 3 million people, and how it might be distributed.
- Planning a table tennis tournament for 7 players at a club with 4 tables, where each player plays against each other player.
- Designing the layout of the stalls in a school fair so as to raise as much money as possible.
- Analyzing stopping distance for a car.
- Modeling savings account balance, bacterial colony growth, or investment growth.
- Engaging in critical path analysis, e.g., applied to turnaround of an aircraft at an airport.
- Analyzing risk in situations such as extreme sports, pandemics, and terrorism.
- Relating population statistics to individual predictions.

In situations like these, the models devised depend on a number of factors: How precise an answer do we want or need? What aspects of the situation do we most need to understand, control, or optimize? What resources of time and tools do we have? The range of models that we can create and analyze is also constrained by the limitations of our mathematical, statistical, and technical skills, and our ability to recognize significant variables and relationships among them. Diagrams of various kinds, spreadsheets and other technology, and algebra are powerful tools for understanding and solving problems drawn from different types of real-world situations.

One of the insights provided by mathematical modeling is that essentially the same mathematical or statistical structure can sometimes model seemingly different situations. Models can also shed light on the mathematical structures themselves, for example, as when a model of bacterial growth makes more vivid the explosive growth of the exponential function.



The basic modeling cycle is summarized in the diagram. It involves (1) identifying variables in the situation and selecting those that represent essential features, (2) formulating a model by creating and selecting geometric, graphical, tabular, algebraic, or statistical representations that describe relationships between the variables, (3) analyzing and performing operations on these relationships to draw conclusions, (4) interpreting the results of the mathematics in terms of the original situation, (5) validating the conclusions by comparing them with the situation, and then either improving the model or, if it is acceptable, (6) reporting on the conclusions and the reasoning behind them. Choices, assumptions, and approximations are present throughout this cycle.

In descriptive modeling, a model simply describes the phenomena or summarizes them in a compact form. Graphs of observations are a familiar descriptive model—for example, graphs of global temperature and atmospheric CO_2 over time.

Analytic modeling seeks to explain data on the basis of deeper theoretical ideas, albeit with parameters that are empirically based; for example, exponential growth of bacterial colonies (until cut-off mechanisms such as pollution or starvation intervene) follows from a constant reproduction rate. Functions are an important tool for analyzing such problems.

Graphing utilities, spreadsheets, computer algebra systems, and dynamic geometry software are powerful tools that can be used to model purely mathematical phenomena (e.g., the behavior of polynomials) as well as physical phenomena.

Modeling Standards *Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol* (*).

Mathematics | High School—Geometry

An understanding of the attributes and relationships of geometric objects can be applied in diverse contexts—interpreting a schematic drawing, estimating the amount of wood needed to frame a sloping roof, rendering computer graphics, or designing a sewing pattern for the most efficient use of material.

Although there are many types of geometry, school mathematics is devoted primarily to plane Euclidean geometry, studied both synthetically (without coordinates) and analytically (with coordinates). Euclidean geometry is characterized most importantly by the Parallel Postulate, that through a point not on a given line there is exactly one parallel line. (Spherical geometry, in contrast, has no parallel lines.)

During high school, students begin to formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs. Later in college some students develop Euclidean and other geometries carefully from a small set of axioms.

The concepts of congruence, similarity, and symmetry can be understood from the perspective of geometric transformation. Fundamental are the rigid motions: translations, rotations, reflections, and combinations of these, all of which are here assumed to preserve distance and angles (and therefore shapes generally). Reflections and rotations each explain a particular type of symmetry, and the symmetries of an object offer insight into its attributes—as when the reflective symmetry of an isosceles triangle assures that its base angles are congruent.

In the approach taken here, two geometric figures are defined to be congruent if there is a sequence of rigid motions that carries one onto the other. This is the principle of superposition. For triangles, congruence means the equality of all corresponding pairs of sides and all corresponding pairs of angles. During the middle grades, through experiences drawing triangles from given conditions, students notice ways to specify enough measures in a triangle to ensure that all triangles drawn with those measures are congruent. Once these triangle congruence criteria (ASA, SAS, and SSS) are established using rigid motions, they can be used to prove theorems about triangles, quadrilaterals, and other geometric figures.

Similarity transformations (rigid motions followed by dilations) define similarity in the same way that rigid motions define congruence, thereby formalizing the similarity ideas of "same shape" and "scale factor" developed in the middle grades. These transformations lead to the criterion for triangle similarity that two pairs of corresponding angles are congruent.

The definitions of sine, cosine, and tangent for acute angles are founded on right triangles and similarity, and, with the Pythagorean Theorem, are fundamental in many real-world and theoretical situations. The Pythagorean Theorem is generalized to non-right triangles by the Law of Cosines. Together, the Laws of Sines and Cosines embody the triangle congruence criteria for the cases where three pieces of information suffice to completely solve a triangle. Furthermore, these laws yield two possible solutions in the ambiguous case, illustrating that Side-Side-Angle is not a congruence criterion.

Analytic geometry connects algebra and geometry, resulting in powerful methods of analysis and problem solving. Just as the number line associates numbers with locations in one dimension, a pair of perpendicular axes associates pairs of numbers with locations in two dimensions. This correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof. Geometric transformations of the graphs of equations correspond to algebraic changes in their equations.

Dynamic geometry environments provide students with experimental and modeling tools that allow them to investigate geometric phenomena in much the same way as computer algebra systems allow them to experiment with algebraic phenomena.

Connections to Equations. The correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof.

Geometry Overview

Congruence

- Experiment with transformations in the plane
- Understand congruence in terms of rigid motions
- Prove geometric theorems
- Make geometric constructions

Similarity, Right Triangles, and Trigonometry

- Understand similarity in terms of similarity transformations
- Prove theorems involving similarity
- Define trigonometric ratios and solve problems involving right triangles
- Apply trigonometry to general triangles

Circles

- Understand and apply theorems about circles
- Find arc lengths and areas of sectors of circles

Expressing Geometric Properties with Equations

- Translate between the geometric description and the equation for a conic section
- Use coordinates to prove simple geometric theorems algebraically

Geometric Measurement and Dimension

- Explain volume formulas and use them to solve problems
- Visualize relationships between two-dimensional and three-dimensional objects

Modeling with Geometry

- Apply geometric concepts in modeling situations

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Congruence G-CO

Experiment with transformations in the plane

1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
2. Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

Understand congruence in terms of rigid motions

6. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

Prove geometric theorems

9. Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
10. Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
11. Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*

Make geometric constructions

12. Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*
13. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Similarity, Right Triangles, and Trigonometry — G-SRT

Understand similarity in terms of similarity transformations

1. Verify experimentally the properties of dilations given by a center and a scale factor:

   a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.

   b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.

2. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

Prove theorems involving similarity

4. Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*

5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Define trigonometric ratios and solve problems involving right triangles

6. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

7. Explain and use the relationship between the sine and cosine of complementary angles.

8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★

Apply trigonometry to general triangles

9. (+) Derive the formula $A = 1/2\ ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.

10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.

11. (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).

Circles — G-C

Understand and apply theorems about circles

1. Prove that all circles are similar.

2. Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*

3. Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.

4. (+) Construct a tangent line from a point outside a given circle to the circle.

Find arc lengths and areas of sectors of circles

5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.

Expressing Geometric Properties with Equations G-GPE

Translate between the geometric description and the equation for a conic section

1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
2. Derive the equation of a parabola given a focus and directrix.
3. (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

Use coordinates to prove simple geometric theorems algebraically

4. Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, $\sqrt{3}$) lies on the circle centered at the origin and containing the point (0, 2).*
5. Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).
6. Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
7. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.★

Geometric Measurement and Dimension G-GMD

Explain volume formulas and use them to solve problems

1. Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
2. (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.★

Visualize relationships between two-dimensional and three-dimensional objects

4. Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

Modeling with Geometry G-MG

Apply geometric concepts in modeling situations

1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).★
2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).★
3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★

Mathematics | High School—Statistics and Probability★

Decisions or predictions are often based on data—numbers in context. These decisions or predictions would be easy if the data always sent a clear message, but the message is often obscured by variability. Statistics provides tools for describing variability in data and for making informed decisions that take it into account.

Data are gathered, displayed, summarized, examined, and interpreted to discover patterns and deviations from patterns. Quantitative data can be described in terms of key characteristics: measures of shape, center, and spread. The shape of a data distribution might be described as symmetric, skewed, flat, or bell shaped, and it might be summarized by a statistic measuring center (such as mean or median) and a statistic measuring spread (such as standard deviation or interquartile range). Different distributions can be compared numerically using these statistics or compared visually using plots. Knowledge of center and spread are not enough to describe a distribution. Which statistics to compare, which plots to use, and what the results of a comparison might mean, depend on the question to be investigated and the real-life actions to be taken.

Randomization has two important uses in drawing statistical conclusions. First, collecting data from a random sample of a population makes it possible to draw valid conclusions about the whole population, taking variability into account. Second, randomly assigning individuals to different treatments allows a fair comparison of the effectiveness of those treatments. A statistically significant outcome is one that is unlikely to be due to chance alone, and this can be evaluated only under the condition of randomness. The conditions under which data are collected are important in drawing conclusions from the data; in critically reviewing uses of statistics in public media and other reports, it is important to consider the study design, how the data were gathered, and the analyses employed as well as the data summaries and the conclusions drawn.

Random processes can be described mathematically by using a probability model: a list or description of the possible outcomes (the sample space), each of which is assigned a probability. In situations such as flipping a coin, rolling a number cube, or drawing a card, it might be reasonable to assume various outcomes are equally likely. In a probability model, sample points represent outcomes and combine to make up events; probabilities of events can be computed by applying the Addition and Multiplication Rules. Interpreting these probabilities relies on an understanding of independence and conditional probability, which can be approached through the analysis of two-way tables.

Technology plays an important role in statistics and probability by making it possible to generate plots, regression functions, and correlation coefficients, and to simulate many possible outcomes in a short amount of time.

Connections to Functions and Modeling. Functions may be used to describe data; if the data suggest a linear relationship, the relationship can be modeled with a regression line, and its strength and direction can be expressed through a correlation coefficient.

Statistics and Probability Overview

Interpreting Categorical and Quantitative Data

- Summarize, represent, and interpret data on a single count or measurement variable
- Summarize, represent, and interpret data on two categorical and quantitative variables
- Interpret linear models

Making Inferences and Justifying Conclusions

- Understand and evaluate random processes underlying statistical experiments
- Make inferences and justify conclusions from sample surveys, experiments and observational studies

Conditional Probability and the Rules of Probability

- Understand independence and conditional probability and use them to interpret data
- Use the rules of probability to compute probabilities of compound events in a uniform probability model

Using Probability to Make Decisions

- Calculate expected values and use them to solve problems
- Use probability to evaluate outcomes of decisions

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Interpreting Categorical and Quantitative Data S-ID

Summarize, represent, and interpret data on a single count or measurement variable

1. Represent data with plots on the real number line (dot plots, histograms, and box plots).
2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

Summarize, represent, and interpret data on two categorical and quantitative variables

5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
   a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.*
   b. Informally assess the fit of a function by plotting and analyzing residuals.
   c. Fit a linear function for a scatter plot that suggests a linear association.

Interpret linear models

7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
8. Compute (using technology) and interpret the correlation coefficient of a linear fit.
9. Distinguish between correlation and causation.

Making Inferences and Justifying Conclusions S-IC

Understand and evaluate random processes underlying statistical experiments

1. Understand statistics as a process for making inferences about population parameters based on a random sample from that population.
2. Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*

Make inferences and justify conclusions from sample surveys, experiments, and observational studies

3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.
6. Evaluate reports based on data.

Conditional Probability and the Rules of Probability — S-CP

Understand independence and conditional probability and use them to interpret data

1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").
2. Understand that two events *A* and *B* are independent if the probability of *A* and *B* occurring together is the product of their probabilities, and use this characterization to determine if they are independent.
3. Understand the conditional probability of *A* given *B* as *P*(*A* and *B*)/*P*(*B*), and interpret independence of *A* and *B* as saying that the conditional probability of *A* given *B* is the same as the probability of *A*, and the conditional probability of *B* given *A* is the same as the probability of *B*.
4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.*
5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*

Use the rules of probability to compute probabilities of compound events in a uniform probability model

6. Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A,* and interpret the answer in terms of the model.
7. Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model.
8. (+) Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model.
9. (+) Use permutations and combinations to compute probabilities of compound events and solve problems.

Using Probability to Make Decisions — S-MD

Calculate expected values and use them to solve problems

1. (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.
2. (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.

3. (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*

4. (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?*

Use probability to evaluate outcomes of decisions

5. (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.

    a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.*

    b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*

6. (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).

7. (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Note on courses and transitions

The high school portion of the Standards for Mathematical Content specifies the mathematics all students should study for college and career readiness. These standards do not mandate the sequence of high school courses. However, the organization of high school courses is a critical component to implementation of the standards. To that end, sample high school pathways for mathematics – in both a traditional course sequence (Algebra I, Geometry, and Algebra II) as well as an integrated course sequence (Mathematics 1, Mathematics 2, Mathematics 3) – will be made available shortly after the release of the final Common Core State Standards. It is expected that additional model pathways based on these standards will become available as well.

The standards themselves do not dictate curriculum, pedagogy, or delivery of content. In particular, states may handle the transition to high school in different ways. For example, many students in the U.S. today take Algebra I in the 8th grade, and in some states this is a requirement. The K-7 standards contain the prerequisites to prepare students for Algebra I by 8th grade, and the standards are designed to permit states to continue existing policies concerning Algebra I in 8th grade.

A second major transition is the transition from high school to post-secondary education for college and careers. The evidence concerning college and career readiness shows clearly that the knowledge, skills, and practices important for readiness include a great deal of mathematics prior to the boundary defined by (+) symbols in these standards. Indeed, some of the highest priority content for college and career readiness comes from Grades 6-8. This body of material includes powerfully useful proficiencies such as applying ratio reasoning in real-world and mathematical problems, computing fluently with positive and negative fractions and decimals, and solving real-world and mathematical problems involving angle measure, area, surface area, and volume. Because important standards for college and career readiness are distributed across grades and courses, systems for evaluating college and career readiness should reach as far back in the standards as Grades 6-8. It is important to note as well that cut scores or other information generated by assessment systems for college and career readiness should be developed in collaboration with representatives from higher education and workforce development programs, and should be validated by subsequent performance of students in college and the workforce.

Glossary

Addition and subtraction within 5, 10, 20, 100, or 1000. Addition or subtraction of two whole numbers with whole number answers, and with sum or minuend in the range 0-5, 0-10, 0-20, or 0-100, respectively. Example: 8 + 2 = 10 is an addition within 10, 14 – 5 = 9 is a subtraction within 20, and 55 – 18 = 37 is a subtraction within 100.

Additive inverses. Two numbers whose sum is 0 are additive inverses of one another. Example: $^3/4$ and – $^3/4$ are additive inverses of one another because $^3/4$ + (– $^3/4$) = (– $^3/4$) + $^3/4$ = 0.

Associative property of addition. See Table 3 in this Glossary.

Associative property of multiplication. See Table 3 in this Glossary.

Bivariate data. Pairs of linked numerical observations. Example: a list of heights and weights for each player on a football team.

Box plot. A method of visually displaying a distribution of data values by using the median, quartiles, and extremes of the data set. A box shows the middle 50% of the data.[1]

Commutative property. See Table 3 in this Glossary.

Complex fraction. A fraction $^A/B$ where *A* and/or *B* are fractions (*B* nonzero).

Computation algorithm. A set of predefined steps applicable to a class of problems that gives the correct result in every case when the steps are carried out correctly. *See also:* computation strategy.

Computation strategy. Purposeful manipulations that may be chosen for specific problems, may not have a fixed order, and may be aimed at converting one problem into another. *See also:* computation algorithm.

Congruent. Two plane or solid figures are congruent if one can be obtained from the other by rigid motion (a sequence of rotations, reflections, and translations).

Counting on. A strategy for finding the number of objects in a group without having to count every member of the group. For example, if a stack of books is known to have 8 books and 3 more books are added to the top, it is not necessary to count the stack all over again. One can find the total by *counting on*—pointing to the top book and saying "eight," following this with "nine, ten, eleven. There are eleven books now."

Dot plot. *See:* line plot.

Dilation. A transformation that moves each point along the ray through the point emanating from a fixed center, and multiplies distances from the center by a common scale factor.

Expanded form. A multi-digit number is expressed in expanded form when it is written as a sum of single-digit multiples of powers of ten. For example, 643 = 600 + 40 + 3.

Expected value. For a random variable, the weighted average of its possible values, with weights given by their respective probabilities.

First quartile. For a data set with median *M*, the first quartile is the median of the data values less than *M*. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the first quartile is 6.[2] *See also:* median, third quartile, interquartile range.

Fraction. A number expressible in the form $^a/b$ where *a* is a whole number and *b* is a positive whole number. (The word *fraction* in these standards always refers to a non-negative number.) *See also:* rational number.

Identity property of 0. See Table 3 in this Glossary.

Independently combined probability models. Two probability models are said to be combined independently if the probability of each ordered pair in the combined model equals the product of the original probabilities of the two individual outcomes in the ordered pair.

[1]Adapted from Wisconsin Department of Public Instruction, http://dpi.wi.gov/standards/mathglos.html, accessed March 2, 2010.
[2]Many different methods for computing quartiles are in use. The method defined here is sometimes called the Moore and McCabe method. See Langford, E., "Quartiles in Elementary Statistics," *Journal of Statistics Education* Volume 14, Number 3 (2006).

Integer. A number expressible in the form a or $-a$ for some whole number a.

Interquartile Range. A measure of variation in a set of numerical data, the interquartile range is the distance between the first and third quartiles of the data set. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the interquartile range is 15 – 6 = 9. *See also:* first quartile, third quartile.

Line plot. A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. Also known as a dot plot.[3]

Mean. A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.[4] Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean is 21.

Mean absolute deviation. A measure of variation in a set of numerical data, computed by adding the distances between each data value and the mean, then dividing by the number of data values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean absolute deviation is 20.

Median. A measure of center in a set of numerical data. The median of a list of values is the value appearing at the center of a sorted version of the list—or the mean of the two central values, if the list contains an even number of values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 90}, the median is 11.

Midline. In the graph of a trigonometric function, the horizontal line halfway between its maximum and minimum values.

Multiplication and division within 100. Multiplication or division of two whole numbers with whole number answers, and with product or dividend in the range 0-100. Example: 72 ÷ 8 = 9.

Multiplicative inverses. Two numbers whose product is 1 are multiplicative inverses of one another. Example: 3/4 and 4/3 are multiplicative inverses of one another because 3/4 × 4/3 = 4/3 × 3/4 = 1.

Number line diagram. A diagram of the number line used to represent numbers and support reasoning about them. In a number line diagram for measurement quantities, the interval from 0 to 1 on the diagram represents the unit of measure for the quantity.

Percent rate of change. A rate of change expressed as a percent. Example: if a population grows from 50 to 55 in a year, it grows by 5/50 = 10% per year.

Probability distribution. The set of possible values of a random variable with a probability assigned to each.

Properties of operations. See Table 3 in this Glossary.

Properties of equality. See Table 4 in this Glossary.

Properties of inequality. See Table 5 in this Glossary.

Properties of operations. See Table 3 in this Glossary.

Probability. A number between 0 and 1 used to quantify likelihood for processes that have uncertain outcomes (such as tossing a coin, selecting a person at random from a group of people, tossing a ball at a target, or testing for a medical condition).

Probability model. A probability model is used to assign probabilities to outcomes of a chance process by examining the nature of the process. The set of all outcomes is called the sample space, and their probabilities sum to 1. *See also:* uniform probability model.

Random variable. An assignment of a numerical value to each outcome in a sample space.

Rational expression. A quotient of two polynomials with a non-zero denominator.

Rational number. A number expressible in the form a/b or $-a/b$ for some fraction a/b. The rational numbers include the integers.

Rectilinear figure. A polygon all angles of which are right angles.

Rigid motion. A transformation of points in space consisting of a sequence of

[3]Adapted from Wisconsin Department of Public Instruction, *op. cit.*
[4]To be more precise, this defines the *arithmetic mean*.

one or more translations, reflections, and/or rotations. Rigid motions are here assumed to preserve distances and angle measures.

Repeating decimal. The decimal form of a rational number. *See also:* terminating decimal.

Sample space. In a probability model for a random process, a list of the individual outcomes that are to be considered.

Scatter plot. A graph in the coordinate plane representing a set of bivariate data. For example, the heights and weights of a group of people could be displayed on a scatter plot.[5]

Similarity transformation. A rigid motion followed by a dilation.

Tape diagram. A drawing that looks like a segment of tape, used to illustrate number relationships. Also known as a strip diagram, bar model, fraction strip, or length model.

Terminating decimal. A decimal is called terminating if its repeating digit is 0.

Third quartile. For a data set with median *M*, the third quartile is the median of the data values greater than *M*. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the third quartile is 15. *See also:* median, first quartile, interquartile range.

Transitivity principle for indirect measurement. If the length of object A is greater than the length of object B, and the length of object B is greater than the length of object C, then the length of object A is greater than the length of object C. This principle applies to measurement of other quantities as well.

Uniform probability model. A probability model which assigns equal probability to all outcomes. *See also:* probability model*.*

Vector. A quantity with magnitude and direction in the plane or in space, defined by an ordered pair or triple of real numbers.

Visual fraction model. A tape diagram, number line diagram, or area model.

Whole numbers. The numbers 0, 1, 2, 3, ….

[5]Adapted from Wisconsin Department of Public Instruction, *op. cit*.

TABLE 1. Common addition and subtraction situations.[6]

	Result Unknown	Change Unknown	Start Unknown
Add to	Two bunnies sat on the grass. Three more bunnies hopped there. How many bunnies are on the grass now? 2 + 3 = ?	Two bunnies were sitting on the grass. Some more bunnies hopped there. Then there were five bunnies. How many bunnies hopped over to the first two? 2 + ? = 5	Some bunnies were sitting on the grass. Three more bunnies hopped there. Then there were five bunnies. How many bunnies were on the grass before? ? + 3 = 5
Take from	Five apples were on the table. I ate two apples. How many apples are on the table now? 5 – 2 = ?	Five apples were on the table. I ate some apples. Then there were three apples. How many apples did I eat? 5 – ? = 3	Some apples were on the table. I ate two apples. Then there were three apples. How many apples were on the table before? ? – 2 = 3
	Total Unknown	**Addend Unknown**	**Both Addends Unknown[1]**
Put Together/ Take Apart[2]	Three red apples and two green apples are on the table. How many apples are on the table? 3 + 2 = ?	Five apples are on the table. Three are red and the rest are green. How many apples are green? 3 + ? = 5, 5 – 3 = ?	Grandma has five flowers. How many can she put in her red vase and how many in her blue vase? 5 = 0 + 5, 5 = 5 + 0 5 = 1 + 4, 5 = 4 + 1 5 = 2 + 3, 5 = 3 + 2
	Difference Unknown	**Bigger Unknown**	**Smaller Unknown**
Compare[3]	("How many more?" version): Lucy has two apples. Julie has five apples. How many more apples does Julie have than Lucy? ("How many fewer?" version): Lucy has two apples. Julie has five apples. How many fewer apples does Lucy have than Julie? 2 + ? = 5, 5 – 2 = ?	(Version with "more"): Julie has three more apples than Lucy. Lucy has two apples. How many apples does Julie have? (Version with "fewer"): Lucy has 3 fewer apples than Julie. Lucy has two apples. How many apples does Julie have? 2 + 3 = ?, 3 + 2 = ?	(Version with "more"): Julie has three more apples than Lucy. Julie has five apples. How many apples does Lucy have? (Version with "fewer"): Lucy has 3 fewer apples than Julie. Julie has five apples. How many apples does Lucy have? 5 – 3 = ?, ? + 3 = 5

[1]These take apart situations can be used to show all the decompositions of a given number. The associated equations, which have the total on the left of the equal sign, help children understand that the = sign does not always mean makes or results in but always does mean is the same number as.
[2]Either addend can be unknown, so there are three variations of these problem situations. Both Addends Unknown is a productive extension of this basic situation, especially for small numbers less than or equal to 10.
[3]For the Bigger Unknown or Smaller Unknown situations, one version directs the correct operation (the version using more for the bigger unknown and using less for the smaller unknown). The other versions are more difficult.

[6]Adapted from Box 2-4 of Mathematics Learning in Early Childhood, National Research Council (2009, pp. 32, 33).

TABLE 2. Common multiplication and division situations.[7]

	Unknown Product	Group Size Unknown ("How many in each group?" Division)	Number of Groups Unknown ("How many groups?" Division)
	$3 \times 6 = ?$	$3 \times ? = 18$, and $18 \div 3 = ?$	$? \times 6 = 18$, and $18 \div 6 = ?$
Equal Groups	There are 3 bags with 6 plums in each bag. How many plums are there in all? *Measurement example*. You need 3 lengths of string, each 6 inches long. How much string will you need altogether?	If 18 plums are shared equally into 3 bags, then how many plums will be in each bag? *Measurement example*. You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?	If 18 plums are to be packed 6 to a bag, then how many bags are needed? *Measurement example*. You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?
Arrays,[4] Area[5]	There are 3 rows of apples with 6 apples in each row. How many apples are there? *Area example*. What is the area of a 3 cm by 6 cm rectangle?	If 18 apples are arranged into 3 equal rows, how many apples will be in each row? *Area example*. A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?	If 18 apples are arranged into equal rows of 6 apples, how many rows will there be? *Area example*. A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?
Compare	A blue hat costs \$6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost? *Measurement example*. A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?	A red hat costs \$18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost? *Measurement example*. A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?	A red hat costs \$18 and a blue hat costs \$6. How many times as much does the red hat cost as the blue hat? *Measurement example*. A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?
General	$a \times b = ?$	$a \times ? = p$, and $p \div a = ?$	$? \times b = p$, and $p \div b = ?$

[4]The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.
[5]Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

[7]The first examples in each cell are examples of discrete things. These are easier for students and should be given before the measurement examples.

Table 3. The properties of operations. Here a, b and c stand for arbitrary numbers in a given number system. The properties of operations apply to the rational number system, the real number system, and the complex number system.

Associative property of addition	$(a + b) + c = a + (b + c)$
Commutative property of addition	$a + b = b + a$
Additive identity property of 0	$a + 0 = 0 + a = a$
Existence of additive inverses	For every a there exists $–a$ so that $a + (–a) = (–a) + a = 0$.
Associative property of multiplication	$(a \times b) \times c = a \times (b \times c)$
Commutative property of multiplication	$a \times b = b \times a$
Multiplicative identity property of 1	$a \times 1 = 1 \times a = a$
Existence of multiplicative inverses	For every $a \neq 0$ there exists $1/a$ so that $a \times 1/a = 1/a \times a = 1$.
Distributive property of multiplication over addition	$a \times (b + c) = a \times b + a \times c$

Table 4. The properties of equality. Here a, b and c stand for arbitrary numbers in the rational, real, or complex number systems.

Reflexive property of equality	$a = a$
Symmetric property of equality	If $a = b$, then $b = a$.
Transitive property of equality	If $a = b$ and $b = c$, then $a = c$.
Addition property of equality	If $a = b$, then $a + c = b + c$.
Subtraction property of equality	If $a = b$, then $a – c = b – c$.
Multiplication property of equality	If $a = b$, then $a \times c = b \times c$.
Division property of equality	If $a = b$ and $c \neq 0$, then $a \div c = b \div c$.
Substitution property of equality	If $a = b$, then b may be substituted for a in any expression containing a.

Table 5. The properties of inequality. Here a, b and c stand for arbitrary numbers in the rational or real number systems.

Exactly one of the following is true: $a < b$, $a = b$, $a > b$.
If $a > b$ and $b > c$ then $a > c$.
If $a > b$, then $b < a$.
If $a > b$, then $–a < –b$.
If $a > b$, then $a \pm c > b \pm c$.
If $a > b$ and $c > 0$, then $a \times c > b \times c$.
If $a > b$ and $c < 0$, then $a \times c < b \times c$.
If $a > b$ and $c > 0$, then $a \div c > b \div c$.
If $a > b$ and $c < 0$, then $a \div c < b \div c$.

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