



COMMON CORE STATE STANDARDS FOR
English Language Arts
&
Literacy in
History/Social Studies,
Science, and Technical Subjects

Appendix B:
Grades 6-8
Text Exemplars and
Sample Performance Tasks
(Excerpted for Content Teachers)

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.

This document contains text excerpted from the CCSS ELA Appendix B.

Table of Contents

Informational Texts: History/Social Studies	5
United States. Preamble and First Amendment to the United States Constitution.	5
Lord, Walter. <i>A Night to Remember</i>	5
Isaacson, Phillip. <i>A Short Walk through the Pyramids and through the World of Art</i>	5
Murphy, Jim. <i>The Great Fire</i>	6
Greenberg, Jan, and Sandra Jordan. <i>Vincent Van Gogh: Portrait of an Artist</i>	6
Partridge, Elizabeth. <i>This Land Was Made for You and Me: The Life and Songs of Woody Guthrie</i> . ..	7
Monk, Linda R. <i>Words We Live By: Your Annotated Guide to the Constitution</i>	7
Freedman, Russell. <i>Freedom Walkers: The Story of the Montgomery Bus Boycott</i>	8
Informational Texts: Science, Mathematics, and Technical Subjects	9
Macaulay, David. <i>Cathedral: The Story of Its Construction</i>	9
Mackay, Donald. <i>The Building of Manhattan</i>	9
Enzensberger, Hans Magnus. <i>The Number Devil: A Mathematical Adventure</i>	9
Peterson, Ivars and Nancy Henderson. <i>Math Trek: Adventures in the Math Zone</i>	10
Katz, John. <i>Geeks: How Two Lost Boys Rode the Internet out of Idaho</i>	11
Petroski, Henry. “The Evolution of the Grocery Bag.”	11
“Geology.” <i>U*X*L Encyclopedia of Science</i>	12
“Space Probe.” <i>Astronomy & Space: From the Big Bang to the Big Crunch</i>	12
“Elementary Particles.” <i>New Book of Popular Science</i>	13
California Invasive Plant Council. <i>Invasive Plant Inventory</i>	13
Sample Performance Tasks for Informational Texts:	
History/Social Studies & Science, Mathematics, and Technical Subjects	14

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 an 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.

From A SHORT WALK AROUND THE PYRAMIDS & THROUGH THE WORLD OF ART by Philip M. Isaacson, copyright © 1993 by Philip M. Isaacson. Used by permission of Alfred A. Knopf, an imprint of Random House Children's Books, a division of Random House, Inc. All rights reserved. Any additional use of this text, such as for classroom use or curriculum development, requires independent permission from Random House, Inc.

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 were 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?Trq=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.

From UXL ENCY SKI V10, 2E. © Gale, a part of Cengage Learning, Inc. Reproduced by permission.

“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.

From ASTRONOMY & SPACE V2, 1E. © 1997 Gale, a part of Cengage Learning, Inc. Reproduced by permission.

“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]