

A Look at..

Sixth Grade

in California Public Schools

and the **Common Core State Standards**



CURRICULUM FRAMEWORKS AND INSTRUCTIONAL RESUMES DIVISION INSTRUCTION AND LEARNING SUPPORT BRANCH CALIFORNIA DEPARTMENT OF EDUCATION

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Sixth-Grade Curriculum



What will my child learn in sixth grade?

I've been teaching second grade, and this year I've been reassigned to sixth grade. What does the sixth grade curriculum look like?

I'm the principal of a small private elementary school, and I want to be sure my students are meeting the state's standards. How can I find out what students are expected to learn at each grade?

In August 2010, the state adopted the Common Core State Standards for English language arts and mathematics. How will the new standards enhance sixth-grade curriculum?

This chapter is organized by sections for each subject, describing what students should know and be able to do by the end of sixth grade. Each section includes a brief overview of what the student should have learned before entering sixth grade, followed by a description of the sixth-grade standards. Each subject concludes with a list of the sixth-grade standards for that content area. The English language arts and mathematics sections include the new Common Core State Standards (CCSS), with California additions.

For a more in-depth discussion of each subject, please consult the state-adopted curriculum frameworks for kindergarten through grade twelve. The frameworks are posted on the CDE Curriculum and Instruction Web page at http://www.cde.ca.gov/ci/cr/cf/allfwks.asp.

English Language Arts

F. E.

Overview

Students in sixth grade focus on active engagement with text. They are required to analyze, identify, define, explain, integrate, evaluate, compare, contrast, and cite supportive evidence—developing and building upon those skills that were required in fifth grade. Deeper analysis of literature and informational text continues to be

the focus of sixth-grade instruction, although reading fluently and accurately remains a goal for all students. Students' understanding of the precise meaning of words, English language conventions, structural features of informational text and materials, and fundamental elements of literature all support greater comprehension of what they read, see, and hear.

Standards-based instruction is critical to developing students' literacy and proficiency in English language arts.

Standards-based instruction is critical to developing students' literacy and proficiency in English language arts. The standards describe what students are expected to know and be able to do by the end of the school year. In 2010, California adopted new standards in English language arts: the Common Core State Standards (CCSS), with California additions. The CCSS integrate the strands of English language arts: Reading, Writing, Speaking

and Listening, and Language. The new standards will be implemented gradually over the next several years as curriculum frameworks, instructional materials, and assessments based on the CCSS are adopted.

There are many similarities between the CCSS and the 1997 California English language arts standards, but there are also some notable differences. For instance, in the CCSS, the standards in sixth grade are divided into strands: Reading, Writing, Speaking and Listening, and Language. In the 1997 California English language arts standards, the standards are organized around domains: Reading, Writing, Written and Oral English Language Conventions, and Listening and Speaking. An organizational change in the CCSS for grades six through twelve is the inclusion of another set of standards: Reading and Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects. These standards are not intended to replace existing standards in those content areas; instead, they supplement instruction and provide consistency in expectations across the curriculum.

This section provides an overview of the new CCSS for sixth-grade English language arts. It includes a review of the important English language arts skills and concepts from fifth grade (prerequisite skills) and guidance to ensure success for English learners. A complete list of the sixth-grade CCSS for English language arts, with California additions, can be found at the end of this section. A complete listing of sixth-grade 1997 California English language arts standards is located on the CDE Content Standards Web page at http://www.cde.ca.gov/be/st/ss/documents/elacontentstnds.pdf.

What Sixth-Grade Students Should Know

In grade five, students read and analyzed a variety of historical and culturally significant works of literature and focused more attention on comprehension of complex and narrative texts. Students read grade-level text fluently and accurately and mastered foundational reading skills in preparation for grades six and beyond. (Grade five is the last grade in which the CCSS include specific standards in foundational reading skills.) Students analyzed how structure, point of view, visual elements, and figurative language contribute to the meaning or tone of text. They expanded their comprehension and analysis skills to compare, contrast, and integrate information from two or more texts; determined the theme or thesis; and used details and supporting evidence from the text to draw conclusions.

Students learned academic language and domain-specific vocabulary through their reading and used it in their writing and speaking. In writing, students learned to group related information logically; used words, phrases, and clauses to link opinions to reasons and related ideas; and incorporated narrative techniques to develop a story line or characters. They wrote in both extended and short time frames for a range of content-specific tasks, purposes, and audience. Technology played a larger role in students' production and publishing of writing. Students also used technology to gather information for research projects and interact or collaborate with others.

In fifth grade, students engaged effectively in collaborative discussions, identified and analyzed logical fallacies in speakers' presentations or from media sources, and learned to plan and deliver presentations. They incorporated the conventions of standard English grammar and usage, capitalization, punctuation, and spelling to support their speaking and writing.

What Students Learn in Sixth Grade

Students read and analyze a wide range of literature from different times and cultures, with an increasing emphasis on analyzing informational text on grade-level topics in all sixth-grade subject areas. The emphasis in sixth grade is on students' comprehension of complex narrative and informational texts. Students read two or more texts on a topic and use a variety of comprehension strategies to compare, contrast, and integrate information from the texts. They analyze how structure, point of view, visual elements, and figurative language contribute to the meaning or tone of texts. As their analysis skills deepen, students can identify key individual events and details and use them as evidence to support their analysis and



to distinguish claims that are supported by an author from those that are not. Additional analysis skills call for students to compare and contrast one author's presentation of events with another interpretation. They learn academic language and domain-specific vocabulary through their reading and use it in their writing and speaking.

In their writing, students in sixth grade develop more sophisticated skills, such as using evidence from a variety of sources to support their purpose or conclusion. They revise, edit, and rewrite their compositions and learn to try new approaches and use technology to improve their writing product. Students conduct research projects that provide them with practice in gathering information, using print and digital sources, and paraphrasing or summarizing information. Integrating reading and writing across the different content areas is emphasized through the addition of the standards for literacy in history/social studies, science, and technical subjects.

Students engage effectively in collaborative discussions with diverse partners and in different groupings on sixth-grade topics and texts. They can identify and analyze logical fallacies in speakers' presentations or from media sources. They learn to present an argument and support it with a logical sequence of evidence. They also learn to use expression and nonverbal elements for effect and to engage the audience. To support their writing and speaking, they learn conventions of standard English grammar and usage, capitalization, spelling, and punctuation, such as using commas to set off parenthetical clauses. In sixth grade, the proper use of pronouns is emphasized. Developing academic as well as domain-specific vocabulary is highlighted. Students learn to distinguish between words with similar meanings and to use common affixes and roots as clues to the meaning of words. They also use the relationships between certain words (e.g., cause/effect or part/whole) to help understand each word.

Reading

The following section is organized according to two areas of the reading standards: reading standards for literature and for informational text.

Reading Standards for Literature

Students in sixth grade read and analyze a wide range of literature, selected from different periods and cultures, including stories, drama, and poetry. In both the 1997 California English language arts standards and the CCSS, students analyze the structures and elements of literary works in order to comprehend the texts. The CCSS extend comprehension by having students compare and contrast reading a piece of literature with listening to or watching an audio, video, or live version of the text. In addition, students compare and contrast texts in different forms or genres in relationship to different approaches to similar themes or topics. Both the 1997 standards and the CCSS ask students to identify a central idea or theme, using supporting evidence and details. Adding to those skills, the CCSS call for students to analyze how a certain sentence, chapter, scene, or stanza contributes to the development of the theme, setting, or plot. Students must also provide a summary of the text without including their personal opinions.

There are similar word-analysis standards in the 1997 California English language arts standards and the CCSS. For example, students understand figurative language and similar or related words as they are used in text. Although recognition of frequently used foreign words is unique to the 1997 standards, this practice may continue in the CCSS as students analyze the impact of a specific word on meaning and tone.

Reading Standards for Informational Text

By sixth grade, over 50 percent of reading time and activities should focus on informational text. As students face increased reading demands in all sixth-grade content areas, improved comprehension becomes critical to their academic success.

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In both the 1997 California English language arts standards and the CCSS, students use their knowledge of text structure, organization, and purpose to comprehend essential ideas and integrate information from different formats and types of text. They identify key individual events and details as evidence to support analysis the text. Students learn to evaluate whether an author's conclusion is supported by evidence or not.

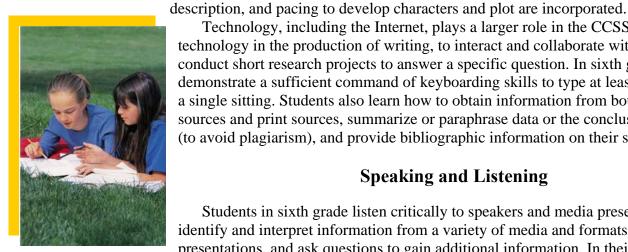
The CCSS emphasize additional analysis skills that call for students to compare and contrast one author's presentation of events with another interpretation—such as a personal diary by and a biography of the same person. To aid in the comprehension of text, the 1997 California English language arts standards call for students to connect main ideas based on their relationship to other sources and topics. The CCSS extend this skill by asking students to integrate information presented in different media or formats, such as in charts or graphs, as well as in words, to clarify their understanding of a topic. To support their comprehension of texts on sixth-grade topics in all subject areas, students determine the meaning of words and phrases, including content-related vocabulary, or words with technical meanings.

Writing

Students in sixth grade demonstrate sophisticated writing skills from their use of specific vocabulary and syntax to a more cohesive organization of ideas that incorporate a range of content and a variety of sources. Their writing demonstrates a command of the conventions of the English language, familiarity with organizational features, and a clear style of writing appropriate for an identified purpose and audience, and experience with the stages of the writing process (e.g., prewriting, drafting, revising, editing). Students use technology to compose and publish documents and to find resources and gather information to support their main idea.

Both the 1997 California English language arts standards and the CCSS call for students in sixth grade to write multiparagraph texts with a central idea or theme, relevant supporting details, precise words and visual imagery, and a conclusion. The purposes of writing that students produce are similar under each set of standards. Students write responses to literature, persuasive compositions, research reports, expository compositions, and narratives under the 1997 California English language arts standards.

Under the CCSS, students write routinely in both extended and short time frames for a range of disciplinespecific tasks, purposes, and audiences. The CCSS for writing arguments and informative/explanatory pieces delineate more detail to the expectations, setting more specified and challenging criteria. In their arguments, students clearly organize the reasons and relevant evidence, and support claims with credible sources. For informative or explanatory texts, they use an extended array of organizational strategies to aid comprehension: definition, classification, compare/contrast, cause/effect, graphics, and multimedia resources. In their narrative writing, students learn how to organize events so the sequence unfolds naturally and use transition words and phrases for sequencing and shifting from one time frame to another. Narrative techniques such as dialogue,



Technology, including the Internet, plays a larger role in the CCSS. Students use technology in the production of writing, to interact and collaborate with others, and to conduct short research projects to answer a specific question. In sixth grade, students demonstrate a sufficient command of keyboarding skills to type at least three pages in a single sitting. Students also learn how to obtain information from both digital sources and print sources, summarize or paraphrase data or the conclusions of others (to avoid plagiarism), and provide bibliographic information on their sources.

Speaking and Listening

Students in sixth grade listen critically to speakers and media presentations, identify and interpret information from a variety of media and formats, deliver presentations, and ask questions to gain additional information. In their oral

presentations, they use the structures found in the literature and informational text they read and in their own writing (e.g., a central idea or theme supported by facts, descriptive details, or observations). Students apply the same conventions of standard English when speaking that they use in their writing.

Both the 1997 California English language arts standards and the CCSS focus on students' listening and comprehension skills and their formal oral presentation skills. Students identify and analyze logical fallacies in a speaker's presentation or from a media source. When they present claims for findings, they sequence ideas logically, use appropriate facts and relevant details to support the main idea or theme, and speak clearly. They learn to use nonverbal elements to accentuate main ideas and themes and to use appropriate eye contact.

There are notable differences between the 1997 California English language arts standards and the CCSS. The 1997 California English language arts standards focus on analyzing oral presentations and media communications. For example, the 1997 California English language arts standards ask students to relate a speaker's verbal communication with the nonverbal message, analyze the use of rhetorical devices, identify persuasive and propaganda techniques, and follow or restate multiple-step oral directions.

The CCSS emphasize collaborative discussions on sixth-grade topics and texts with diverse partners and in different groupings (one-on-one, in groups, or teacher-led). In these discussions, students come prepared to add to the discussion by referencing evidence reflecting ideas being discussed. Students follow rules for collegial discussions with specific goals, deadlines, and individual roles. They make comments that contribute to the discussion and elaborate on the remarks of others, pose or respond to questions, and demonstrate understanding of a variety of viewpoints through reflection and paraphrasing.

Multimedia components, sources of information and complements to oral presentations, are another focus of the CCSS. Students in sixth grade interpret information presented in diverse media and formats, (e.g., visual, quantitative, oral) and explain its contribution to the topic. They also can distinguish a speaker's argument that is supported by reasons from claims that are not. Multimedia components (e.g., graphics, images, music, sound) and visual displays are used to clarify information in their presentations. Students learn to adapt their speech to a variety of contexts and tasks and are able to use formal English when it is appropriate.

Language

Students in sixth grade continue to build on language skills initiated in earlier grades and are introduced to new rules for grammar, usage, and punctuation. The specific rules or conventions they learn vary between the 1997 California English language arts standards and the CCSS. Students use their knowledge of language and its conventions when writing, speaking, listening, and reading.

Both sets of standards call for students to vary sentence patterns to promote understanding and expression. In punctuation, under the 1997 California English language arts standards, students begin to use colons and semicolons, a skill that appears later in the CCSS. Under the CCSS, students begin to use punctuation marks (e.g., commas, dashes, parentheses) to set off parenthetical elements. Also, students learn how to recognize variations from standard English in their own writing and speaking, as well as in others.

The use of pronouns is emphasized in both the CCSS and the 1997 English language arts standards; the CCSS are more specific in types and usage. Students learn to use all types of pronouns properly, to recognize and correct shifts in pronoun number or person, to correct vague pronouns, and ensure pronouns are in the proper case (subjective, objective, possessive).

In the 1997 California English language arts standards, vocabulary development standards are found in the Reading strand. In the CCSS, standards for vocabulary acquisition and use are found in the Language strand. Both the 1997 standards and the CCSS cover a range of strategies for vocabulary acquisition, though in sixth grade independent reading is the primary means by which students increase their vocabulary. Under both sets of standards, students choose from a range of strategies to determine the meaning of words. Students understand and can explain figurative language and can distinguish among words with similar meanings (e.g., stingy, scrimping, thrifty). In addition, the CCSS emphasize using relationships between certain words (e.g., cause/effect, part/whole) to better understand words. Using common Greek or Latin affixes and roots for clues to word meanings is included as part of the CCSS in sixth grade, but was introduced in fourth grade in the 1997 standards.

The CCSS emphasize students' use of both print and digital reference materials (e.g., dictionaries, glossaries, thesauruses) to pronounce words, clarify the precise meaning of key words, or determine the part of speech.

Standards for Literacy in History/Social Studies, Science, and Technical Subjects

Unique to the CCSS in grades six through twelve is the addition of standards for literacy in history/social studies, science, and technical subjects. (In kindergarten through grade five, the standards for literacy are embedded in the four strands of the standards.) The addition of these standards for literacy recognizes the role of English language arts teachers in developing students' literacy skills while clarifying that teachers in other content areas also share that responsibility. The standards for literacy recognize the need for students to be proficient in reading complex informational text and writing persuasive and explanatory text in a specific discipline.

In the CCSS, the standards for literacy in history/social studies, science, and technical subjects focus on reading and writing and are divided into three parts reading standards for literacy in history/social studies; reading standards for literacy in science and technical subjects; and writing standards for literacy in history/social studies, science, and technical subjects. Standards in each part are organized into

The addition of these standards for literacy recognizes the role of **English language arts** teachers in developing students' literacy skills while clarifying that teachers in other content areas also share that responsibility.

grade spans (six through eight, nine and ten, and eleven and twelve) and follow the same set of anchor standards used in English language arts (see Appendix A).

The shared responsibility of developing reading and writing across all content areas is not a new topic of discussion. Over the past 15 years, California's content standards and frameworks have advocated and supported the idea that all teachers share the responsibility for developing student literacy. For example, guiding principles from the Science Framework for California Public Schools (California Department of Education

2004) identify what effective science programs: (1) use standards-based connections with other core subjects to reinforce science teaching and learning; (2) develop students' command of academic language; and (3) use technology to teach students, assess their knowledge, develop information resources, and enhance computer literacy. California's history—social science standards include historical and social science analysis skills. Examples of the skills from grades six through eight are as follows: (1) students frame questions that can be answered by historical study and research; (2) students distinguish fact from opinion in historical narratives and stories; and (3) students understand and distinguish cause, effect, sequence, and correlation in historical events, including the long- and short-term causal relations.

These same skills are identified in the CCSS reading standards in history/social studies and science and technical subjects. The CCSS emphasize the need to use specific textual evidence to support analysis of text and compare and contrast information from different sources (i.e., primary versus secondary sources or doing an experiment versus reading about it). The CCSS highlight the importance of determining the meaning of content-related or domain-specific words as they are used in a specific historical or scientific context.

As noted in the English language arts writing section above, the writing standards for literacy in CCSS extend the types of writing from the 1997 standards. Students are expected to write arguments based on content in a specific discipline, supporting the topic with relevant and accurate data and evidence. Informative or explanatory texts could include writing about a scientific procedure or retelling a historical event. All students' writing should be well organized and developed by using key facts or details. Students are expected to conduct research projects to answer a specific question, paraphrase or summarize others' work without plagiarizing, and to write consistently within both short and extended time frames.

Extra Support for Struggling Readers

By the end of sixth grade, students are expected to be fluent, independent readers who engage in the analysis of literature and informational text. Students who are not proficient in word-analysis skills are likely to

Students who are not proficient in wordanalysis skills are likely to experience academic difficulties. experience academic difficulties. Early screening and intervention address specific areas of instruction in a timely manner. Struggling readers—any students experiencing difficulty leaning to read, which may include those who use nonstandard English, English learners, and students with disabilities—should be provided with additional support to participate with their peers and to become proficient in sixth-grade reading skills. Instructional support for students should include:

- flexible groupings for differentiated instruction;
- opportunities to preteach key skills, strategies, and concepts;
- intensive, explicit instruction in decoding and word-recognition skills, which may include materials at the reading level of students that are age-appropriate;
- preteaching and reteaching the use of Greek and Latin affixes and roots as clues to determine meaning of unknown words;
- additional direct, explicit instruction in using informational text to analyze overall text structure and features;
- additional direct, explicit instruction in using informational text to cite evidence as required in text analysis;

- direct, explicit instruction in language development to address grammatical structures of oral and written standard English;
- vocabulary instruction embedded in context, including academic language and domain-specific vocabulary;
- building of background knowledge;
- reinforcement and extension of the regular classroom program.

For those students whose reading achievement is two or more years below grade level, placement in an Intensive Intervention Program in Reading/Language Arts should be considered. These intensive, stand-alone, accelerated programs are designed to address the instructional needs of students in grades four through eight whose reading achievement is two or more years below grade level. (For additional information on state-adopted intensive intervention programs, see Chapter 9 of the *Reading/Language Arts Framework for California Public Schools* [California Department of Education 2007b] and the list of adopted instructional materials on the CDE Reading/Language Arts Web page at http://www.cde.ca.gov/ci/rl/im/rlaadoptedlist.asp.)

Support for English Learners

English-language development (ELD) is a critical component of the language arts program for English learners and comes with direct, explicit, and systematic instruction in reading and writing. Instructional programs for English learners should be planned according to the students' assessed level of literacy (reading

and writing) in English and their primary language as well as their proficiency in English (listening, speaking, reading, and writing). Students with strong literacy skills in their primary language are at an advantage: They can concentrate on learning English rather than on receiving initial instruction in reading and writing.

Students in sixth grade are expected to conduct deep analysis of literature and informational text on grade-level topics in all subject areas. English learners benefit from preteaching as they learn how to analyze the structure of informational text and how text features contribute to the development of the ideas in text. With guided instruction, students will also learn how to cite evidence to support their statements in their analysis of text.

When provided with differentiated instruction using informational text, English learners can acquire and practice using academic language as well as domain-specific words in different content areas. As English learners participate and engage in collaborative discussions, they are given ample opportunities to hear vocabulary acquired from their reading. They can practice using this vocabulary by expressing themselves during one-on-one, small group, or teacher-led discussions.

As English learners participate and engage in collaborative discussions, they are given ample opportunities to hear vocabulary acquired from their reading. They can practice using this vocabulary by expressing themselves during one-on-one, small group, or teacher-led discussions.

Providing explicit writing instruction, as well as models of research reports, on how to write research reports will expand English learners writing skills. Students develop as writers by receiving close guidance in organization, searching for appropriate reference materials, incorporating and correctly using quotations and citations, and revising their research reports. Because English learners are still developing proficiency in English, students benefit from positive and corrective feedback from teachers on writing and grammatical errors. English learners may need additional time and practice in writing for a variety of purposes and audiences to further their writing abilities.

English learners develop oral and written language through formal linguistic instruction that includes learning common phrases, idiomatic expressions, and language patterns, as well as phonological, morphological, syntactical, and semantic structures of English.

Explicit instruction on the rules of grammar and functions of pronouns help students use pronouns correctly, including intensive pronouns (e.g., *myself*, *ourselves*). Students may need additional instructional support to recognize and correct their own errors in pronoun use. They are provided with multiple opportunities to practice these skills both in speaking and writing and receive corrective teacher feedback. (For a more extensive list of grammatical conventions, refer to the "Transition to the Common Core State Standards with California Additions: Planning ELD Instruction" chart that follows.)

For those students whose academic achievement is two or more years below grade level, placement in an Intensive Intervention Program for English Learners should be considered. These intensive, stand-alone, accelerated programs are designed for English learners in grades four through eight whose academic achievement is two or more years below grade level. (For additional information on state-adopted intensive intervention programs for English Learners, see Chapter 9 of the *Reading/Language Arts Framework for California Public Schools* [California Department of Education 2007b]) and the list of adopted instructional materials on the CDE Reading/Language Arts Web page at http://www.cde.ca.gov/ci/rl/im/rlaadoptedlist.asp.)

Specially designed academic instruction in English (SDAIE) is one instructional strategy to meet the needs of English learners. For additional resources to support the teaching of English learners, please visit the CDE English Learners Web page at http://www.cde.ca.gov/sp/el/. The CDE has published an excellent resource, http://www.cde.ca.gov/sp/el/. The CDE has published an excellent resource, Improving Education for English Learners: Research-Based Approaches (2010b), that provides the most comprehensive and up-to-date strategies to serve English learners. Guidelines for using ELD and SDAIE strategies, as well as recommended instructional practices, are provided. Information on the publication is available through the CDE Press Web page at http://www.cde.ca.gov/re/pn/rc/.

English learners need additional time for appropriate instructional support. The CCSS set rigorous expectations for student learning, and ELD instruction must accommodate these enhanced expectations. The following chart illustrates the enhancements in the CCSS for English language arts that may affect ELD instruction. This chart provides teachers with initial guidance in planning effective ELD instruction.

Transition to the Common Core State Standards with California Additions Planning ELD Instruction: Sixth Grade

Reading Standards for Literature

- 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.
- 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. (See grade 6 Language standards 4-6 for additional expectations.)
- 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.
- 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.

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. 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. Reading 1. Cite textual evidence to support analysis of what the text says explicitly as well as Standards for inferences drawn from the text. **Informational** 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. 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). 4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. (See grade 6 Language standards 4-6 for additional expectations.) 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. a. Analyze the use of text features (e.g., graphics, headers, captions) in popular media. 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. 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. 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). 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. Writing 1. Write arguments to support claims with clear reasons and relevant evidence. Standards 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.
- 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 <u>or thesis statement</u>; 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.
- 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.
 - 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.
- 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.)
- 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.
- 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.
- 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").
- 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.

Speaking and Listening Standards

- 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.

- 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.
- 3. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
- 4. Present claims and findings (e.g., argument, narrative, informative, response to literature presentations), sequencing ideas logically and using pertinent descriptions, facts, and details and nonverbal elements to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
 - a. Plan and deliver an informative/explanatory presentation that: develops a topic with relevant facts, definitions, and concrete details; uses appropriate transitions to clarify relationships; uses precise language and domain specific vocabulary; and provides a strong conclusion.
- 5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

Language Standards

- 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 <u>all pronouns, including</u> intensive pronouns (e.g., *myself, ourselves*), **correctly**.
 - 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.
- 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.
- 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.
- 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.
 - 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).
- 5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - 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*).
- 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.

Note: California additions are in bold typeface and underlined.

The Standards

The CCSS, with California additions, that follow are the prepublication version of the standards prepared by the Sacramento County Office of Education (SCOE), updated on October 15, 2010. Content that is unique to California and was added by California to the multistate common core standards is in **bold typeface and underlined**. The SCOE document is available online at

http://www.scoe.net/castandards/agenda/2010/ela ccs recommendations.pdf (Outside Source). The grade-six CCSS for English Language Arts and Literacy in History/Social Studies, Science and Technical Education were adopted by the California State Board of Education on August 2, 2010. The CCSS College and Career Readiness (CCR) Anchor Standards (Appendix A) define the literacy expectations for students entering college and careers and provide the foundation for the K–12 English language arts standards. Although the CCR Anchor Standards were not part of the State Board of Education action in August, they are essential to understanding the structure and cohesive nature of the CCSS.

A complete list of the grade-six 1997 California English language arts standards is located on the CDE Content Standards Web page at http://www.cde.ca.gov/be/st/ss/documents/elacontentstnds.pdf.

	Common Core State Standards with California Additions English Language Arts: Grade Six
	Reading Standards for Literature
Key Io	deas and Details
1.	Cite textual evidence to support 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.
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.
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. (See grade 6 Language standards 4-6 for additional expectations.)
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.
6.	Explain how an author develops the point of view of the narrator or speaker in a text.
Integr	ation 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.

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. 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. Reading Standards for Informational Text **Key Ideas and Details** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn 1. 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. 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). **Craft and Structure** Determine the meaning of words and phrases as they are used in a text, including figurative, 4. connotative, and technical meanings. (See grade 6 Language standards 4-6 for additional expectations.) Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text 5. and contributes to the development of the ideas. a. Analyze the use of text features (e.g., graphics, headers, captions) in popular media. 6. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text. **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. 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. 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). 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.

Writing Standards

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.
- 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 <u>or thesis statement</u>; 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.
- 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.

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.)
- 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.)
- 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.

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.
- 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.
- 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").

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.

Speaking and Listening Standards

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.
- 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.
- 3. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.

Presentation of Knowledge and Ideas

- 4. Present claims and findings (e.g., argument, narrative, informative, response to literature presentations), sequencing ideas logically and using pertinent descriptions, facts, and details and nonverbal elements to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
 - a. Plan and deliver an informative/explanatory presentation that: develops a topic with relevant facts, definitions, and concrete details; uses appropriate transitions to clarify relationships; uses precise language and domain specific vocabulary; and provides a strong conclusion.
- 5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
- 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 for specific expectations.)

Language Standards

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 <u>all pronouns</u>, <u>including</u> intensive pronouns (e.g., *myself*, *ourselves*), <u>correctly</u>.

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.* 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. **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. * **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.

* The following skills are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking. See "Language Progress Skills Chart, by Grade" on page 47 in CCSS.

inferred meaning in context or in a dictionary).

a. Interpret figures of speech (e.g., personification) in context.

5.

d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the

Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

	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., <i>stingy</i> , <i>scrimping</i> , <i>economical</i> , <i>unwasteful</i> , <i>thrifty</i>).
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.

Common Core State Standards With California Additions Reading Standards for Literacy in History/Social Studies, Science, and Technical Subjects Grades Six: Eight

	Reading Standards for Literacy in History/Social Studies	
Key Ideas and Details		
1.	Cite specific textual evidence to support analysis of primary and secondary sources.	
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.	
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).	
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.	
5.	Describe how a text presents information (e.g., sequentially, comparatively, causally).	
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).	
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.	
8.	Distinguish among fact, opinion, and reasoned judgment in a text.	
9.	Analyze the relationship between a primary and secondary source on the same topic.	

and comprehend history/social studies texts in the grades 6–8 text ently and proficiently. for Literacy in Science and Technical Subjects ce to support analysis of science and technical texts. or conclusions of a text; provide an accurate summary of the text ge or opinions. p procedure when carrying out experiments, taking measurements, or symbols, key terms, and other domain-specific words and phrases as cientific or technical context relevant to grades 6–8 texts and topics.
ce to support analysis of science and technical texts. or conclusions of a text; provide an accurate summary of the text ge or opinions. p procedure when carrying out experiments, taking measurements, or symbols, key terms, and other domain-specific words and phrases as
or conclusions of a text; provide an accurate summary of the text ge or opinions. p procedure when carrying out experiments, taking measurements, or symbols, key terms, and other domain-specific words and phrases as
or conclusions of a text; provide an accurate summary of the text ge or opinions. p procedure when carrying out experiments, taking measurements, or symbols, key terms, and other domain-specific words and phrases as
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symbols, key terms, and other domain-specific words and phrases as
elemente of teenment context fele valit to grades of texts and topics.
thor uses to organize a text, including how the major sections to an understanding of the topic.
se in providing an explanation, describing a procedure, or discussing a
chnical information expressed in words in a text with a version of that ally (e.g., in a flowchart, diagram, model, graph, or table).
asoned judgment based on research findings, and speculation in a text
nformation gained from experiments, simulations, video, or multimediom reading a text on the same topic.
mplexity
and comprehend science/technical texts in the grades 6–8 text ently and proficiently.
for Literacy in History/Social Studies, Science, and Technical Subjects
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.
	 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, 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.
	 Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
	 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.
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.

Productio	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.	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.	
6.	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	
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.	
8.	Gather relevant information from multiple print and digital sources (primary and secondary), 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 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.	

 $\it Note$: California additions are in bold typeface and underlined.

[Note: This section will be updated to reflect the modifications made to the CA CCSSM in January 2013]

Mathematics

Overview

Effective mathematics education provides students with a balanced instructional program. In such a program, students become proficient in basic computational skills and procedures, develop conceptual understandings, and become adept at problem solving. Standards-based mathematics instruction starts with basic material and increases in scope and content as the years progress. It is like an inverted pyramid, with the entire weight of the developing subject, including readiness for algebra, resting on the foundations built in the early grades.



In August 2010, California adopted new standards in mathematics: the Common Core State Standards (CCSS), with California additions. The CCSS comprise standards developed by the state-led CCSS Initiative and material taken from the 1997 California mathematics standards. The new standards will be implemented gradually over the next several years as curriculum frameworks, instructional materials, and assessments based on the CCSS are adopted.

There are many similarities between the CCSS and the 1997 California mathematics standards, but there are also a few noteworthy differences. For instance, the CCSS are organized by "domains" that add grade-level focus and vary slightly by grade. The domains for sixth grade are Ratios and Proportional Relationships, the Number System, Expressions and Equations, Geometry, and Statistics and Probability. Furthermore, the CCSS do not include "key standards" as in the 1997 California mathematics standards. Instead, the CCSS are designed to have a greater focus at each grade and to develop mathematics topics in depth. In the early grades, the CCSS continue to emphasize concepts necessary for the study of more advanced mathematics in later years. To ensure that students have adequate time to achieve mastery, some of the 1997 California mathematics standards familiar to California's sixth-grade teachers will be taught in different grades after the CCSS are fully implemented.

This section provides an overview of the new CCSS for sixth-grade mathematics, including some highlights of how the sixth-grade curriculum, based on the 1997 California mathematics standards, changes with the implementation of the new CCSS. It includes a review of the important mathematical concepts and skills from fifth grade (prerequisite skills) and guidance on areas of mathematics that may be challenging for some English learners. A complete list of the sixth-grade CCSS for mathematics can be found at the end of this section. A complete list of the sixth-grade 1997 California mathematics standards is located on the CDE Content Standards Web page at http://www.cde.ca.gov/be/st/ss/documents/mathstandards.pdf.

What Sixth-Grade Students Should Know

Students entering sixth grade who have met the fifth-grade CCSS for mathematics are able to write and evaluate simple numerical expressions including those that contain parentheses, brackets, or braces. Students are able to express whole numbers in the range 2–50 as a product of its prime factors. They can form ordered pairs from numerical patterns generated from given rules and graph the ordered pairs on a coordinate plane.

By the start of sixth grade, students can fluently calculate multi-digit addition, subtraction, multiplication, and division of positive whole numbers. Students can find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors. They demonstrate an understanding of operations with decimals

as they accurately add, subtract, multiply, and divide decimals to hundredths. Students entering sixth grade are able to use whole-number exponents to denote powers of 10.

Students have an understanding of equivalent fractions and can add and subtract fractions with unlike denominators, and multiply a fraction or whole number by a fraction. They interpret a fraction as division of the numerator by the denominator $(a/b = a \div b)$ and can divide unit fractions by whole numbers and whole numbers by unit fractions.

While in fifth grade, students learned to convert among different-sized standard measurement units within a given measurement system and solve related problems. They displayed data in graphs and interpreted the meaning of the data to solve problems.

Students entering grade six understand the relationship between the formulas for the area of a triangle, parallelogram, and rectangle and can use these formulas to solve problems. They can apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms with whole-number edge lengths. Students can solve problems related to the sum of the angles of a triangle or a quadrilateral. They are able to graph points in the first quadrant of the coordinate plane to solve real-world and mathematical problems.

What Students Learn in Sixth Grade

Sixth-grade students develop an understanding of the concept of a ratio and use ratio reasoning to solve a variety of real-world and mathematical problems, including those involving unit pricing and constant speed.

Students extend their understanding of operations with fractions to include dividing fractions by fractions. Students extend their understanding of operations with fractions to include dividing fractions by fractions. Sixth-graders compute fluently with multi-digit numbers and decimals and find the greatest common factor and least common multiples of certain whole numbers.

Students expand their scope of numbers to the system of rational numbers, which includes negative rational numbers and integers. They locate rational numbers on a number line, add and subtract negative numbers, and graph points in all four quadrants

of the coordinate plane. Students write expressions and equations with variables and apply the properties of operations to generate equivalent expressions.

Students begin to think statistically as they summarize numerical data sets by quantitative measures of center and variability. They build upon the foundation of area to determine area and volume of more complex shapes.

Ratios and Proportional Relationships

In both the 1997 California mathematics standards and the CCSS, sixth-grade students develop an understanding of ratio concepts and use ratio reasoning to solve problems. They use ratio language to describe a 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." Students use appropriate language to associate a unit rate a/b with a ratio a:b with $b \ne 0$ (b not equal to zero). For example, "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger." (Expectations for unit rates in this grade are limited to noncomplex fractions.)

Students use tables and graphs to compare ratios and solve problems involving rates and proportions, including problems about 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 moved in 35 hours? At what rate were lawns being moved?

With full implementation of the CCSS, some concepts in the 1997 California standards will be covered at different grades. For example, in the sixth-grade CCSS, students find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity) and solve problems using ratios and rates, a topic found at fifth grade in the 1997 California standards. However, solving problems involving discounts, interest,

and tips and representing proportional relationships with equations, which is a sixth-grade 1997 standard, will be covered in seventh grade in the CCSS.

The Number System

Conceptual understanding and fluency with operations involving whole numbers, fractions, and decimals are critical for students' success in mathematics at later grades. In both the 1997 California mathematics standards and the CCSS, sixth-grade students relate previous knowledge about multiplication and division to explain and compute problems involving division of fractions by fractions. They find the greatest common factor (or greatest common divisor) and the least common multiple of two whole numbers, concepts that play a

role in the teaching of fractions. Division of a fraction by a fraction is introduced at grade five in the 1997 California standards.

In both the 1997 California mathematics standards and the CCSS, sixth-grade students use the standard algorithms to fluently add, subtract, multiply, and divide multi-digit numbers and decimals. In the CCSS, sixth-grade students apply and extend their previous understanding of numbers to the system of rational numbers, which includes negative numbers. Students reason about the order of rational numbers and use numbers to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level). Students find and position rational numbers on a number line and plot points in the coordinate plane with negative number coordinates. Students also

In both the 1997 California mathematics standards and the CCSS, sixth-grade students use the standard algorithms to fluently add, subtract, multiply, and divide multidigit numbers and decimals.

analyze the relative position of two numbers on a number line to interpret statements of inequality. In the 1997 California standards, negative integers are introduced in fourth grade and developed in fifth grade in a similar way.

Sixth-graders apply properties of operations to add and subtract rational numbers. They 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. Students show that a number and its opposite have a sum of 0 (are additive inverses) and they understand subtraction of rational numbers as adding the additive inverse.

With full implementation of the CCSS, some topics covered at other grades in the 1997 California standards will be addressed at sixth grade: for example, addition and subtraction with negative numbers and graphing points in all four quadrants of the coordinate plane (both topics from grade five) and the absolute value of a rational number (a topic from grade seven). In addition, multiplication and division with negative integers, covered in sixth grade in the 1997 California standards, will move to seventh grade in the CCSS.

Expressions and Equations

In the CCSS, students apply and extend their previous understandings of arithmetic to algebraic expressions as they evaluate numerical expressions with whole-number exponents and write, read, and evaluate expressions in which letters stand for numbers. Both concepts are introduced in fifth grade in the 1997 California standards. Sixth-grade students identify parts of an expression using mathematical terminology (e.g., *coefficient* and *term*)—a concept covered in seventh grade in the 1997 California standards. In addition, students apply the properties of operations to generate equivalent expressions. For example, students apply the distributive property to the expression 3(2 + x) to produce the equivalent expression 6 + 3x; and they apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y). The use of the distributive property in expressions with variables is covered in fifth grade in the 1997 California standards.

Students in sixth grade solve equations and inequalities using substitution to determine whether a given number makes an equation or inequality true. Solving inequalities is covered at grade seven in the 1997 California standards. Students also write and solve equations in the form x + p = q and px = q for cases in which

p, q, and x are all nonnegative rational numbers. The concept of writing and solving equations involving linear functions is introduced at grade five in the 1997 California standards.

In both the 1997 California standards and the CCSS, students represent two quantities in a real-world problem that change in relationship to one another as they write an equation to express one quantity (dependent variable) in terms of the other quantity (independent variable). Students use graphs and tables to analyze the relationship between dependent and independent variables and relate these to the equation. With full implementation of the CCSS, students will solve problems using the four operations with positive and negative integers, in seventh grade—a concept covered in sixth grade in the 1997 California standards.

Geometry

In the CCSS, sixth-grade students solve problems involving area, surface area, and volume. They know and use the formulas for the area and circumference of a circle. Students find the areas of triangles, special quadrilaterals, and polygons by composing shapes into rectangles or decomposing shapes into triangles and other shapes. Students reason about the volume of a right rectangular prism with fractional edge lengths and then apply the formulas $V = l \times w \times h$ and $V = b \times h$ to solve related problems. Sixth-grade students use nets made up of rectangles and triangles to find the surface areas of three-dimensional figures. Students prepare for work on scale drawings in later grades by drawing polygons in the coordinate plane when given coordinates for the vertices. Students also draw geometric shapes with given conditions (such as triangles from three measures

of angles).

R circumference 2π

With full implementation of the CCSS, some sixth-grade topics in the 1997 California standards will be covered at different grades: for example, the volume of triangular prisms (will be addressed in seventh grade) and the volume of cylinders (will be covered in eighth grade). Similarly, some topics addressed at other grades in the 1997 California standards will move to sixth grade in the CCSS: for example, the concept of radius and diameter of a circle (a fourth-grade topic), and how to calculate the surface area of three-dimensional objects (a fifth-grade topic).

Statistics and Probability

Sixth-grade students begin to develop their ability to think statistically. They understand that a set of data (collected to answer a question) will have a distribution, which can be described by its center, spread, and shape. Students calculate the median, mean, and variability of a set of data and relate these to the overall shape of the distribution. Students display, summarize and describe numerical data sets, considering the context in which the data were collected. In the CCSS, students use number lines, dot plots, histograms, and box plots to display numerical data. In the 1997 California standards, students in grade five calculate the median and mean and use histograms to display data, and in grade seven they use box plots to display data.

With full implementation of the CCSS, several sixth-grade topics in the 1997 California standards will be covered in seventh grade. Some examples include the use of random sampling to collect information about a given population and the use of theoretical and experimental probabilities to make predictions about events.

Support for English Learners

Students need to develop knowledge of mathematics as a language. However, the academic language of mathematics instruction and the specialized vocabulary of mathematics can create particular challenges for English learners.

The language of mathematics is precise compared with the English used in common discourse. English learners need opportunities to develop their knowledge of the features of language that are used to teach mathematics, such as *semantics* (how to translate the words of a problem into a symbolic representation), *syntax* (the order of words and phrases), and *mathematical discourse* (writing or talking about mathematical terms, concepts, and so on). The specialized vocabulary of mathematics should be explicitly taught and reinforced throughout the year.

The following points address areas that may pose special challenges for English learners in the early grades:

- At an early stage, students may have difficulty with English words such as *first, second, last, before*, *every, each, more*, and *equal*. Students may be unfamiliar with *sum, difference, solve, length*, and *value*.
- The different meanings of multiple-meaning words should be explicitly taught. These words may have a meaning in common discourse that is different from the meaning in mathematics—such as *table* or *face* (as in the *face* of a clock).
- The place value of some numbers between 10 and 20 is not obvious from their names (e.g., the number 16 is called *sixteen* in English, but "ten plus six" in other languages).
- The narrative descriptions of a word problem may require language skills that students have not yet mastered, particularly when the language of a word problem is ambiguous or includes idioms (e.g., a dime a dozen), comparatives (greater than, less than, most often, least often), or position words (behind, below, in front of, to the right or left of).
- Students may have learned different symbols and procedures that may result in the same answer. In some countries, students are expected to do most steps mentally instead of writing out each step.

Instruction in mathematics, along with critical-thinking skills, should be promoted despite low literacy or limited proficiency in the English language. Specially designed academic instruction in English (SDAIE) is one instructional strategy to meet the needs of English learners. For additional resources to support the teaching of English learners, please visit the CDE English Learners Web page at http://www.cde.ca.gov/sp/el/.

Use of Calculators

Although not discussed in the CCSS, the use of calculators plays a special role in mathematics teaching and learning. Initially, it is important that students in the early grades develop a facility with basic arithmetic skills without reliance on calculators. In later grades, when students are ready to use calculators to their advantage, calculators can provide a very useful tool not only for solving problems in various contexts but also for broadening students' mathematical horizons.

The Standards

The CCSS, with California additions, that follow are the prepublication version of the standards prepared by the Sacramento County Office of Education (SCOE), updated on October 18, 2010. Content that is unique to California and was added to the multistate common core standards is in **bold typeface and underlined**. The SCOE document is available online at

http://www.scoe.net/castandards/agenda/2010/math_ccs_recommendations.pdf (Outside Source). These grade-six CCSS for mathematics were adopted by the California State Board of Education on August 2, 2010.

A complete list of the grade-six 1997 California mathematics standards is located on the CDE Content Standards Web page at http://www.cde.ca.gov/be/st/ss/documents/mathstandards.pdf.

Common Core State Standards with California Additions Mathematics: Grade Six

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."
- 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 moved in 35 hours? At what rate were lawns being moved?
 - 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.

¹ Expectations for unit rates in this grade are limited to non-complex fractions.

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).

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.
- 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. (Common Core Standard 7NS-1)
 - 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. (Common Core Standard 7NS-1a)
 - 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. (Common Core Standard 7NS-1b)
 - 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. (Common Core Standard 7NS-1c)
 - d. <u>Apply properties of operations as strategies to add and subtract rational numbers.</u> (Common Core Standard 7NS-1d)
- 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.
- 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 $V = l \times w \times h$ and $V = b \times h$ 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.
- 5. 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.

 (Common Core Standard 7G-2)
- 6. 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. (Common Core Standard 7G-4)

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.

Standards for Mathematical Practice

- 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 CCSS for Mathematical Practice describe ways in which students of mathematics ought to engage with the subject matter as they grow in mathematical maturity and expertise. For a complete description of the eight Standards for Mathematical Practice, see Appendix B.

CCSS Domains

The CCSS are organized by domains. The following table lists all of the domains that apply to kindergarten through grade eight, and it identifies which domains are addressed in kindergarten through grade six. The shaded row indicates a domain to be covered at later grades.

Domains	Kindergarten	Grade	Grade	Grade	Grade	Grade	Grade
		One	Two	Three	Four	Five	Six
Counting and Cardinality (CC)	X						
Operations and Algebraic Thinking (OA)	X	X	X	X	X	X	
Number and Operations in Base Ten (NBT)	X	X	X	X	X	X	
Measurement and Data (MD)	X	X	X	X	X	X	
Geometry (G)	X	X	X	X	X	X	X
Number and Operations – Fractions (NF)				X	X	X	
Ratios and Proportional Relationships (RP)							X
The Number System (NS)							X
Expressions and Equations (EE)							X
Statistics and Probability (SP)							X
Functions (F)							

History-Social Science

Overview

Students in sixth-grade world history and geography classrooms learn about the lives of the earliest humans, the development of tools, the gathering way of life, agriculture, and the emergence of civilizations in Mesopotamia, Egypt, the Indus River valley, China, and the Mediterranean basin. With the guidance of their teachers, students review the geography of the ancient and contemporary worlds and recognize that these civilizations were not static societies but continually experienced change. In addition to developing basic geography skills, students are introduced to patterns, systems, and processes of physical and human geography. Students will study the fundamental aspects of this period:

Students in sixth-grade world history and geography classrooms learn about the lives of the earliest humans, the development of tools, the gathering way of life, agriculture, and the emergence of civilizations in Mesopotamia, Egypt, the Indus River valley, China, and the Mediterranean basin.

- The movement of early humans across continents and their adaptations to the geography and climate of new regions
- The rise of diverse civilizations, characterized by economies of surplus, centralized states, social hierarchies, cities, networks of trade, art and architecture, and systems of writing
- The growth of urban societies as well as links with one another through trade, diplomacy, migration, conquest, and the diffusion of goods and ideas
- The development of new political institutions (monarchy, empire, democracy) and new ideas (citizenship, freedom, morality, law)
- The birth and spread of religious and philosophical systems (Judaism, Greek thought, Hinduism, Buddhism, Confucianism, Christianity), and changes in societies (social class divisions, slavery, divisions of labor between men and women)

In studying this earliest history of humankind, students will have the opportunity to explore different kinds of source documents, such as the Hebrew Bible, Mesopotamian laws, the Homeric epics, Greek drama, the Bhagavad Gita, the Analects of Confucianism, the New Testament, and a range of visual images.

What Sixth-Grade Students Should Know

Students leave grade five with an understanding of the history of colonial America, through the American Revolution and the first decades of the new nation. They have spent several years learning about the Constitution and fundamental American civic virtues and have been exposed to some of the basic principles of economics. In sixth grade and seventh grade they will focus on the broader scope of world history, but they will return to the narrative of U.S. history in grade eight.

Students entering grade six should already have a good understanding of the skills needed to study and understand history. The Historical and Social Sciences Analysis Skills for kindergarten through grade five emphasized chronological and spatial thinking, including basic map skills; the use of primary and secondary sources to support arguments; and interpreting historical events by understanding cause and effect, and the costs and benefits of human action. These skills will be put to good use by students as they gain an understanding of world history in grades six and seven.

Early Humankind and the Development of Human Societies

This unit aims to advance student understanding of the broad sweep of history from the beginning of tool making to the appearance of farming. This unit aims to advance student understanding of the broad sweep of history from the beginning of tool making to the appearance of farming. The knowledge of this long era depends on evidence from material remains, especially from bones and stone tools, and, more recently, on research in human DNA and long-term climatic and geological changes.

For millions of years, the genetic ancestors of humans, known as *hominins* (or *hominids*), used stone tools and lived on foods found by gathering and hunting. Archeological evidence shows students that the earliest forebearers evolved in

eastern Africa and that small bands of those ancestors migrated into Eurasia about 1.9 million years ago. Perhaps around 800,000 years ago, early humans discovered how to control fire, which enabled them to cook food, keep away predators, and burn areas of land in order to flush out game.

Homo sapiens, that is, anatomically modern humans, almost certainly evolved in Africa, appearing 200,000 or more years ago. Modern humans adapted well to new environments, developing increasingly diverse stone and bone tools for collecting and processing food. Probably some time after 100,000 years ago, the human species developed the capacity for language. Once this happened, technological change began to accelerate. People could more readily teach one another complex skills, such as how to make tools or shelters. Language made complex social cooperation easier. People could pass down ideas from one generation to the next and could also talk about their world, the past, the future, and the cosmos. Religious beliefs may well have developed along with language.

Students may trace the routes by which *Homo sapiens* peopled the world. The earliest bands probably first ventured beyond Africa 90,000 to 100,000 years ago. Humans may have reached Australia 60,000 or more years ago and Europe 40,000 years ago. Early humans reached the Americas from Eurasia at least 12,000 years ago, possibly earlier. Teachers may ask students to consider how human bands advanced southward along the western coasts of North and South America as far as Chile. Clearly, human migrants adjusted successfully to many different climatic environments. They continually came up with new ideas for living in unfamiliar climates. For example, they learned to stitch animal skins together to make warm clothing, fashion stone tools with finer cutting blades, and build stronger huts.

Students investigate the dramatic changes that took place when some humans began to settle in one place year-round. Archaeological evidence indicates that in the Middle East, and probably Egypt, foraging bands settled near stands of edible grasses—the genetic ancestors of wheat and other grains. Men and women began to deliberately sow plants that had favorable qualities (for example, varieties that were large, tasty, and easy to cook). In this way, they gradually domesticated those plants. Domesticated plants and animals became increasingly important to human diets regionally and turned people into farmers—that is, *producers* of food rather than simply *collectors* of it. Therefore, they could live in larger settlements and accumulate more material goods than when they foraged for a living. Teachers may emphasize that agriculture involved not only the act of farming but also a new way of life based on food production. On a global scale, however, hunting and gathering remained an important way of making a living for thousands of years.

Students may identify the different parts of the world where agricultural societies appear to have emerged independently of one another between about 12,000 and 5,000 years ago. Early farmers gradually developed more varieties of stone tools (e.g., sickles to cut grain and grinding stones to make flour). They used fire to transform clay into durable pottery. They wove wool, cotton, and linen into textiles. Because the early millennia of agriculture involved more sophisticated stone tools, it is known as the Neolithic, or New Stone Age.

The Early Civilization of Mesopotamia, Egypt, and Kush

Between 10,000 and 4,000 BCE, farming spread widely across Africa and Eurasia. Startling changes began to take place in the valleys of the Tigris and Euphrates (Fertile Crescent) and Nile rivers. In this unit, students learn that people who lived near the banks of those rivers began to use irrigation techniques to control water and extend farming, despite an extremely arid climate. A similar process got under way in the Indus River valley in India and in the Huang He (Yellow) River valley in northern China some centuries later. When communities began to intensify farming with new techniques, they were able to produce surplus food. Students may query the possible relationship between surpluses and rapid population growth and the rise of more complex social, economic, and political systems in those valleys.

The civilizations of Mesopotamia (today Iraq), in the valley of the Euphrates and Tigris rivers, and Egypt, along the Nile River, both arose in the fourth millennium BCE. Kush, a civilization in the upper Nile River region south of Egypt, emerged in the second millennium BCE. All these societies depended on their river locations to build dense agricultural societies. Nevertheless, they took somewhat different courses. Students analyze the geographic factors, such as climate, topography, and flood patterns, which influenced the organization, economies, and belief systems in which those civilizations developed. Map resources can be used to show students the geographic features that affected the development of the Mesopotamian, Egyptian, and Kushan civilizations.

In the third millennium BCE, Mesopotamia was divided most of the time into a number of kingdoms. Beginning in Sumer, the region of southern Mesopotamia, those early kingdoms were dominated by large walled cities, each enclosing a royal palace and a temple dedicated to the local god, along with densely packed housing for the population. By around 3,000 BCE, a second cluster of cities arose in what is today Syria and in northern Mesopotamia. In both areas, the rulers claimed to possess authority divinely bestowed by their city's god or goddess. The monarchs' wives sometimes controlled their own estates. The city-states of Mesopotamia frequently fought one another over resources, but they also formed alliances. Students may analyze why people in this region built cities with walls around them. Trade was extensive, not only among the Mesopotamian kingdoms, but also between Mesopotamia and surrounding regions.

Students are introduced to Mesopotamia's numerous technological and social innovations, including the wheel, the wooden plow, the seed drill, and improved bronze metallurgy, as well as advances in mathematics, astronomical measurement, and law. Students learn about Mesopotamians' complex legal system and written laws, of which Hammurabi's are the best preserved, though not the earliest. Essential to the functioning of the legal system and of the administrative structure of Mesopotamian kingdoms was the cuneiform writing system, which was written on clay tablets and could be used to phonetically represent many ancient languages, including Sumerian and Akkadian, the languages of Mesopotamia. Students analyze why the Mesopotamians invented and used a writing system.



Students consider why Egypt, in contrast to Mesopotamia, was usually united under a single king during the period from 3000 to 1500. Egyptian kings claimed not only to have divine approval but to be deities themselves. Indeed, the Egyptians built immense tomb pyramids and numerous temples. The Egyptians prized order (*ma'at*) in all aspects of life, emphasizing social rules and even making careful preparations for the afterlife. Students may analyze the Egyptian writing system in comparison with Mesopotamian cuneiform. Both represented the sounds of their languages, but the Egyptians used papyrus and stone as writing surfaces rather than clay tablets. Students may also take account of the daily lives of farmers, artisans, and families reflected in surviving tomb and temple art.

Around 1500 BCE, Egypt entered the era known as the New Kingdom. Kings such as Thutmose III expanded the Egyptian empire far up the Nile River into what is now Sudan, and into the Levant, that is, the

coastal region at the eastern end of the Mediterranean. Teachers may exemplify this period by highlighting Queen Hatshepsut (ca. 1479–1458 BCE) and King Ramses II, also known as Ramses the Great (1279–1212 BCE). During Hatshepsut's reign, as throughout the whole New Kingdom, Egyptian art and architecture flourished, and trade with distant lands brought enormous wealth into Egypt. Ramses II's long reign was a time of great prosperity. He fought battles to maintain the Egyptian Empire and built innumerable temples and monuments throughout Egypt.

Egypt held long trade connections in Eurasia and Africa. Representatives of the king sailed up the Nile to Kush and penetrated the Red Sea coasts to obtain incense, ivory, and ebony wood. To the northeast, they acquired timber from the forests of Lebanon.

The African civilization of Kush lay in the upper Nile Valley, where rainfall was higher and where farm and cattle land stretched far beyond the banks of the river. Students may construct a chronological table of Kush's complex relations with Egypt. In some periods, Egyptian pharaohs dominated Kush, taxing the population and extracting goods, particularly gold. After the New Kingdom faded, Kush reasserted its independence, though it maintained close contacts with Egypt. Merchants of Kush also traded with the Arabian Peninsula, India, and equatorial Africa. Teachers may introduce comparisons between the societies of Kush and Egypt—for example, by using pictorial representations of the two architectural traditions or by highlighting how the kings of Kush built pyramids, although they were smaller than Egypt's structures. In the first millennium BCE, however, Kush developed a distinctive cultural style that included painted pottery, the elephant as an artistic motif, an alphabetic writing system, and a flourishing iron industry. In the eighth century BCE, Kush's ruler took advantage of political weakness in Egypt to conquer it, uniting a huge stretch of the Nile Valley under the twenty-fifth dynasty for nearly a century. The Kush state did not seriously decline until the fourth century CE.

The Ancient Israelites (Hebrews)

The ancient Israelites, also known as the Hebrew people, emerged in the eastern Mediterranean coastal

region about the twelfth century BCE. This was a period of turmoil that marked the end of Egypt's New Kingdom empire and that scholars associate with destructive invasions by groups known as "Sea People." The Israelites organized the kingdom of Israel east of the Mediterranean shore by the eleventh century BCE. Founding a capital in the city of Jerusalem, they terraced the hillsides in their land and built up an agricultural economy. Their religion became known as Judaism. In studying the early Jewish faith, students learn the distinction between religions in monotheistic and polytheistic traditions.

One of the principal roots of Western civilization can be found in the enduring contributions of the ancient Israelites to moral and ethical thought and literature.

The early traditions of the Jews are reflected in the Hebrew Bible (Tanakh), which includes the Torah, the first five books. Christians refer to the Tanakh as the

Old Testament. Jewish scholars continued to write religious texts such as the Mishnah and the Commentaries. One of the principal roots of Western civilization can be found in the enduring contributions of the ancient Israelites to moral and ethical thought and literature. Teachers may introduce students to biblical literature as a part of the literary heritage and ethical teachings of Western civilization. These traditions may be seen, for example, in teachings about Abraham, Moses, the Exodus, the Ten Commandments, Naomi, Ruth, and David. The main teachings of Judaism include the belief in one God, love of neighbor, a weekly day of rest, observance of law, practice of righteousness and justice, and commitment to study.

The Hebrew Bible contains narratives based upon the political history of ancient Israel. It tells of the early Israelite Exodus from Egypt, an event of great significance to Jewish law and belief, especially the concept of a special relationship or covenant between the Israelites and God. After the Exodus, Saul, David, and Solomon—three successive kings who probably lived in the eleventh and tenth centuries BCE—united the land of Israel. After Solomon's reign, the unified kingdom split into two: Israel in the north and Judah (from which we get the words *Judaism* and *Jews*) in the south.

Teachers set the history of the Israelite states in the broader regional context of western Asia, especially the rise and domination, between the tenth and sixth centuries BCE, of Assyria and Babylonia. Those states successively absorbed all of Mesopotamia, some of Anatolia, and the Levant, including the two Jewish states, into their huge empires. The Babylonians deported many Jews to Mesopotamia, but in 539 BCE, Cyrus the Great, emperor of the new state of Persia, allowed the exiled Jews to return home. In later times, Jews lived under both Greek and Roman rulers. In 70 CE, the Roman army destroyed the Jewish temple in Jerusalem. Subsequently, many Jews left the region, dispersing to lands throughout the Middle East, North Africa, and Europe. They carried with them the beliefs, traditions, and laws that served them in constituting new social and economic communities in many lands. Jewish sages, such as Yohanan ben Zaccai, who lived in the first century CE, did much to preserve and develop religious and legal principles.

Ancient Greece

In this unit students learn about the ancient Greek world, which was centered on the Aegean Sea, including both the Greek peninsula and the west coast of Anatolia (modern Turkey). An elongated coastline and numerous islands stimulated seaborne trade, as well as easy communication between one community and another. The peninsula's interior of mountains and deep valleys, by contrast, encouraged the independence of small communities and states.

The ancient Aegean world comes into sharper focus in the second millennium BCE. On the island of Crete, the Minoans created a robust civilization, and on the Greek peninsula the



Mycenaeans, whose distant ancestors may have come from Central Asia, built numerous palaces and walled cities. Students may read selections from the *Iliad* and the *Odyssey*, the two Greek epic poems of Homer, regarded as foundational works of Western literature. These texts, plus archaeological evidence, shed light on the Mycenaean world of fearless warriors who valued public competition and individual glory.

The eastern Mediterranean region experienced a long period of tumult and insecurity between about 1100 and 800 BCE in connection with the aggressive migrations of Sea People. In the eighth century, however, Greek-speaking populations achieved major expansion. They developed more productive agriculture, traded olive oil and wine to distant ports, and founded colonies around the Black Sea and in Sicily and southern Italy. Students learn that these developments contributed to an increasing sense of shared Greek identity, as well as the interchange of ideas and goods with Egyptians, Phoenicians, and other neighboring peoples.

After 800 BCE, the city-state, or *polis*, emerged. Central government authority, control of surrounding farmland, and the concept of citizenship characterized this form of civic organization. In most city-states, the earliest rulers were wealthy aristocrats, but they were eventually replaced by tyrants, or personal dictators, and later by oligarchies, that is, small groups of privileged males. A major exception to this pattern was Athens, where a series of reforms in the sixth century broadened the base of civic participation and paved the way for democracy in the following century.

Teachers may help students understand Greek history by situating it in the broader context of western Asia. In the mid-sixth century BCE, the Persians, a people whose state was centered in present-day Iran, conquered Mesopotamia, Syria, Egypt, and Anatolia. The rulers of the Persian Achaemenid Empire represented themselves as agents of Ahuramazda, the supreme god in the regionally important religion of Zoroastrianism. Students may compare the types of government represented by the polis and by large empires such as the Achaemenid. The Persians subjugated the Greek city-states of western Anatolia, but three attempts to invade the Greek peninsula and defeat the Greeks—including the citizens of Athens and Sparta, the most powerful city-states—failed. Teachers may ask students to read selections from Herodotus (ca 484–425 BCE), the Greek scholar who wrote a vivid narrative of these events in *The Persian Wars*.

In political and cultural terms, Athens in the fifth century BCE was a highly innovative city. Students may compare its system of direct democracy with modern representative democracy. In Athens, every adult male citizen could vote on legislation, and citizens were chosen for key offices by lot. These principles ensured that decision making lay mostly in the hands of average citizens. Students may analyze the advantages and limits of this system. For example, women, foreigners, and slaves were excluded from all political participation. The cultural achievements of Athens were numerous. The city produced several philosophers (Socrates, Plato,

Students may consider examples of ways in which Greek culture has had an enduring influence on modern society. Aristotle), historians (Herodotus, Thucydides), and orators (Demosthenes, Pericles). It also nurtured drama, both tragedy (Sophocles, Euripides) and comedy (Aristophanes). The Greek art and architecture of the era emphasized naturalistic representations of human forms and buildings of beautiful proportions. The rich tales of Greek mythology influenced all forms of literature and art. Students may consider examples of ways in which Greek culture has had an enduring influence on modern society.

Fighting between Greek city-states was chronic. The Peloponnesian War (431–404 BCE) involved a direct confrontation between Athens and Sparta. Students may assess the contrasting political styles of these two city-states. In contrast to democratic Athens, Sparta was nearly the equivalent of a permanent army base, its male citizens obligated to full-time military training and rigorous discipline. Athens at that time ruled large areas of the Aegean basin, but Sparta's victory in the war brought the Athenian empire to an end.

Prolonged conflict among the city-states contributed to the military success of Philip II and his son Alexander (ruled 336–323 BCE), rulers of Macedonia, a mountainous kingdom north of Greece. After subduing the peninsula, Alexander led a campaign of unprecedented scope, conquering the Persian Empire, Egypt, and even northwestern India. Following his death, his generals and their sons carved his short-lived empire into separate states. The following two centuries are known as the Hellenistic period. "Hellenistic" refers to the influence of Greek cultural forms in regions far beyond the Aegean, though in fact a lively interchange of products and ideas took place in the broad region from the Mediterranean to India. Athenian democracy did not survive, but Greek ideas, such as language, sculpture, and city planning, mingled creatively with the cultural styles of Egypt, Persia, and India. The Hellenistic era also brought innovations in science and mathematics—for example, the principles of geometry came from Euclid, who lived in the Hellenistic Egyptian city of Alexandria. Teachers may encourage students to assess why Greek ideas and art had such wide appeal. Eventually, the Hellenistic kingdoms west of Persia succumbed to the greater military power of Rome, which in turn absorbed many aspects of Greek culture.

The Early Civilizations of India

In this unit students learn about ancient societies in India. The earliest urban civilization, known as Harappan civilization for one of its cities, was centered in the Indus River valley, though its cultural style spread widely from present-day Afghanistan to west-central India. Teachers may guide students in comparing this region with Mesopotamia and Egypt. The Indus River and its tributaries flow from the Himalaya mountains. It then travels southward across the plain called the Punjab and finally fans out to form the alluvial delta of Sind before emptying into the Arabian Sea. The spring flow of the Indus was fairly predictable, but excessive summer floods could still drown whole cities. On the other hand, the valley soil was not only rich but extended over about 250,000 square miles, twice the arable land area of Mesopotamia or the Nile Valley.

In the Indus River region, dense farming populations and urban centers developed a few centuries later than in Mesopotamia and Egypt. Harappan civilization attained its zenith between about 2600 and 1900 BCE. Teachers may inform students that no one knew of the existence of this urban society until the 1920s, when archaeological work started. Digs have revealed that several Indus cities, including Harappa and Mohenjo-daro, had streets laid out in grids, large brick platforms, well-engineered sewers, and a written script (which has not been deciphered). Archaeologists have also turned up evidence of active commercial exchange between the Indus River region and Mesopotamia by way of the Arabian Sea and Persian Gulf.

Harappan civilization steadily declined after 1900 BCE, perhaps due to ecological factors such as salt buildup in the soil and persistent drought. Indian history then entered the Vedic period (ca. 1500–500 BCE), an era named for the Vedas, a group of political and religious texts written in Sanskrit. In this period, a group known historically as Indo-Aryans (also Aryans) came to control much of India. Most scholars argue on the basis of linguistic and archaeological evidence that people speaking languages in the large Indo-European family entered India from Central Eurasia in the second millennium BCE; others have argued against this view. The languages of the Aryans were ancestral to such modern South Asian tongues as Hindi. These newcomers were most likely animal herders at first. They may have arrived in India in scattered bands, later intermarrying with the more established populations. Students consider how the diffusion and distribution of languages illuminates human migrations in the distant past.

In the Vedic period, new commercial towns arose along the Ganges, India's second great river system. In this era, Brahmanism emerged as a belief system that combined Indo-Aryan beliefs with those of older populations. Brahmins, that is, priestly families who claimed Indo-Aryan ancestry, assumed authority over complex devotional rituals. The brahmin class expounded the idea of the oneness of all living things and of Brahman as the divine principle of being. Indians also venerated thousands of deities (e.g., Vishnu, preserver of the world, and Shiva, creator and destroyer of the world). These gods could be seen as aspects of Brahman. Brahmanism gradually built up a rich body of spiritual and moral teachings that formed the foundation of Hinduism. Students may read excerpts from texts that set forth these ideas, including the Upanishads and, later, the Bhagavad Gita. Students also learn about some of this belief system's core concepts, notably karma, reincarnation, and dharma (personal duty).

As in all early civilizations, Indian society witnessed the development of a system of social classes. The main social categories, known as *varnas*, were priests; warriors; farmers, artisans, and merchants; dependent laborers; and, by 500 CE or earlier, *dalits*, or "untouchables." This class system became distinctive over the centuries for being especially complex and formal, involving numerous prohibitions that kept groups ritually separated from one another. Because these divisions became particularly rigid, scholars have classified the hierarchy as a caste system.

Through the story of his life, his Hindu background, and his search for enlightenment, students may learn about Buddhism's fundamental ideas: unselfishness; compassion for suffering; tolerance; and the prohibition of killing, lying,

Buddhism emerged in the sixth century BCE in the life and moral teachings of Siddhartha Gautama, or the Buddha. Through the story of his life, his Hindu background, and his search for enlightenment, students may learn about Buddhism's fundamental ideas: unselfishness; compassion for suffering; tolerance; and the prohibition of killing, lying, stealing, and gossiping. The influence of Buddhism in India waned later in the first millennium CE as the Hindu tradition experienced resurgence. Buddhist monks, nuns, and merchants, however, carried their religion to Sri Lanka (Ceylon), Central Asia, China, and Southeast Asia. In India, Jainism, a religion that encouraged the idea of *ahimsa*, or nonviolence, paralleled the rise of Buddhism. It has

continued to play a role in modern India, notably in Mohandas Gandhi's ideas

of nonviolent disobedience.

stealing, and gossiping.

In the late fourth century BCE, India moved toward unification because of the conquests of the warlord Chandragupta Maurya. Teachers may note that the Maurya dynasty (321–184 BCE) was contemporary with the Hellenistic kingdoms to the west and had diplomatic and commercial relations with them. The Maurya empire reached its peak under the rule of Ashoka (268–232 BCE), who unified nearly all of India. Unlike most other ancient rulers, he aimed to govern on the basis of moral and ethical principles. Grounding his approach in the teachings of Buddhism, he instructed his subjects to commit themselves to nonviolence, family harmony, and tolerance.

The Maurya empire broke up in the early second century BCE, but the monarchs of the Gupta state reunified much of the subcontinent in the fourth century CE. The Gupta dynasty (280–550 CE) presided over a rich period of scientific development, including development of a base-10 numerical system that incorporated positional notation and the concept of zero. Students should also learn about other enduring contributions of

ancient Indian civilization, including agriculture (cotton and cane sugar), architecture, metallurgy, collections of parables, and games (chess).

The Early Civilizations of China

In this unit students learn the roots of early Chinese civilization, which germinated in the Huang He (Yellow) River valley with the Shang dynasty (ca.1750–1040 BCE). It later spread south to incorporate the territory around the Yangzi River. The Huang He could be a capricious river, exposing populations to catastrophic floods. On the other hand, farmers supported dense populations and early cities by cultivating the valley's *loess*, that is, the light, fertile soil that yielded bountiful grain crops. Shang society made key advances in bronze-working and written language. By considering the evidence of the Shang, students learn that some of the knowledge comes from "oracle bones," that is, records of divination inscribed on animal bones.



The Zhou dynasty (1122–256 BCE), the longest lasting in China's history, grew much larger than the Shang by subjecting local princes and chiefs of outlying territories to imperial authority. By the eighth century BCE, however, many of these subordinate officers built up their own power bases, partly by perfecting iron technology to make armaments. The Zhou gradually weakened, plunging China into a long period of political instability and dislocation, especially during the Warring States Period, which lasted nearly two centuries. In those times of trouble, the scholar Confucius (551–479 BCE) lived and wrote. He tried to make sense of the disrupted world he saw, and he proposed ways for individuals and society to achieve order and goodness. In Confucian teachings, which were elaborated by other scholars in later centuries, good people practice moderation in conduct and emotion, keep their promises, honor traditional ways, respect elders, and improve themselves through education. Confucianism promoted the dignity and authenticity of humanity. He also, however, instructed women to play entirely subordinate roles to husbands, fathers, and brothers, though some educated

Chinese women produced Confucian literary works. By examining selections from the Analects, or "sayings" of Confucius, students learn that, as with Socrates and Jesus, his ideas were written down by others at a later time. Lao-tzu, another Chinese sage who, according to Chinese tradition, lived around the same time as Confucius, developed an alternative set of teachings, known as *Daoism*. It emphasized simple living, shunning of ambition, harmony with nature, and the possibility of a blissful afterlife.

China's long era of division ended when Shi Huangdi (221–210 BCE), a state-builder of great energy, unified China from the Yellow River to the Yangzi River. In less than a dozen years, he laid the foundations of China's powerful imperial bureaucracy. He imposed peace and regularized laws. He also severely punished anyone who defied him, including Confucian scholars, and he uprooted tens of thousands of peasant men and women to build roads, dykes, palaces, the first major phase of the Great Wall, and an enormous tomb for himself. Teachers may introduce students to the excavations of this immense mausoleum, which have yielded a veritable army of life-sized terra cotta soldiers and horses. Shi Huangdi is also well known for employing scholars to standardize and simplify the Chinese writing system, which provided the empire with a more uniform system of communication. Students may analyze how the Chinese logographic script differs from the alphabetic systems that developed in other parts of the world.

Shi Huangdi prefigured the longer-lasting Han dynasty (206 BCE–220 CE), which unified even more territory and placed central government in the hands of highly educated bureaucrats. Immersed in Confucian teachings, these scholar–officials promoted the idea that peace in society requires people to think and do the right thing as mapped out by tradition. Harmony in the family was seen by Confucians as the key to harmony in the world, especially filial piety, the respect of children for their parents. Ethical principles should uplift the state. Rulers should govern righteously because when they do they enjoy the trust of their subjects. The benevolent ruler demonstrates that he possesses divine approval, or the "mandate of heaven," an idea that first

emerged in Zhou dynasty times. But if the monarch is despotic, he risks losing that mandate, bringing misfortune on his people and justifiable rebellion. Students may query why this idea might have provided a basis for stable government. In the first century CE, Han officials governed about 60 million people, the great majority of them productive farmers. Major technological advances of the era include new iron farm tools, the collar harness, the wheelbarrow, silk manufacturing, and the cast-iron plow, which cultivators used to open new and extensive rice-growing lands in southern China. Students identify the locations of new towns and cities that appeared during the Han era.

Han emperors extended the reach of the empire far to the north and west, facilitating caravan business on the "silk roads" that extended westward across Central Asia. Map study shows students that even though the Himalayas impeded direct travel between China and India, routes across the inner Eurasian steppes channeled luxury trade that linked East Asia with India, Persia, Rome, and East Africa. Maritime commerce along the chain of seas that ran from the East China Sea to the Red Sea also developed rapidly in that era. In addition to trade, the silk routes were a conduit for Buddhism, which became an important factor in Chinese religious life, especially in the climate of insecurity that followed the fall of the Han empire. From that time forward, Buddhist belief and practice evolved in the context of Chinese society, custom, and art. For example, Buddhist and

Map study shows students that even though the Himalayas impeded direct travel between China and India, routes across the inner Eurasian steppes channeled luxury trade that linked East Asia with India, Persia, Rome, and East Africa.

Daoist ideas mingled in the arenas of ritual and moral behavior. Han power declined in the second century CE, as regional warlords increasingly broke away from centralized authority, leading to some 400 years of Chinese disunity.

The Development of Rome

In this unit, students will learn about the ancient Romans. Students will note that Rome is located on the central west coast of the Italian peninsula. Although Rome's empire was initially on the edge of the prosperous eastern Mediterranean sphere dominated by Greeks, Egyptians, and peoples of the Levant, it eventually encompassed the entire Mediterranean basin and much of its hinterland, especially in Europe.

Students may consult the Roman tradition, recorded in Vergil's *Aeneid* and the works of the historian Livy, that Romulus, a descendant of the Trojan Aeneas, founded the city in 753 BCE. According to these sources, Romulus killed his twin brother Remus during the founding of the city and created both the Roman legions and the senate. The Romans believed that kings first ruled the city and that a republic replaced the monarchy in 509 BCE. They idealized the virtue of public service, as depicted in the story of Cincinnatus, who according to Roman sources was living on a farm when he was chosen to serve as dictator during a hostile invasion in 458 BCE. Cincinnatus gave up his power after the defeat of the enemy, an action that inspired later leaders such as George Washington.

During the Early Republic (509–264 BCE), the Roman political community was nearly destroyed by social and political conflict between the patricians, a hereditary elite, and the plebeians, who accounted for everyone else. A more stable balance of power finally prevailed, the plebeians gaining legal protections against patrician power and access to high political offices. The Early Republic also witnessed the conquest of the Italian peninsula, whose fertile valleys and coastal plains produced bountiful harvests of wheat, wine, olive oil, and wool. Rome defeated its nearby neighbors in a series of wars and partially incorporated them into the young state, which ensured a steady supply of soldiers for the growing army.

Expansion around the Mediterranean rim began in the third century BCE, when Rome defeated the maritime state of Carthage in the Punic Wars. By devastating Carthage, Rome gained thousands of square miles of wheat land in Sicily and North Africa, as well as a windfall of Spanish silver. In the decades before and after the turn of the millennium, Rome also conquered the Hellenistic kingdoms of Greece and Egypt.

As a result of this expansion, which came to encompass the entire Mediterranean basin, massive wealth from trade and spoils, as well as large numbers of slaves, poured into Italy. This increased the divide between

wealthy and poor and put great strain on the Roman political system. Rome's constitution distributed power among elected officials, the citizen body, and the oligarchic senate, but students will discover that in practice decision making lay with the senate, especially with its most influential members. By the Late Republic (133–31 BCE), political competition between senators became intense and increasingly violent. A succession of ambitious generals used the loyal armies to challenge each other and, increasingly, the authority of the entire senate, which the statesman and author Cicero symbolized. This discord culminated in the dictatorship of Julius Caesar and, under his successor Augustus (31 BCE–14 CE), in the establishment of what was in essence a monarchy and a new ruling dynasty. About the time that the Augustan regime replaced the Republic, large-scale imperial expansion came to a halt and administration of the empire became more systematic. For much of the first three centuries CE, the Roman Empire enjoyed political and territorial stability, and the provinces benefited from new roads, a standardized currency, economic growth, and peaceful conditions.

According to the New Testament of Christianity, Jesus, a Jewish carpenter from the small Judean city of Nazareth, began to preach a message of peace and divine salvation through love. He taught that God loved all his creation, regardless of status or circumstance, and that humans should reflect that love in relations with one another. Jesus proclaimed one God, a feature that distinguished both Judaism and Christianity from the polytheistic religions of the Greeks and Romans. The Roman authorities in Judea executed Jesus. But under the leadership of his early followers, notably Paul, a Jewish scholar from Anatolia, Christians took advantage of Roman roads and sea lanes to travel widely, preaching to both Jews and others. Between the first and fourth centuries, Christian communities multiplied around the Mediterranean and as far east as Persia. Through selections from the New Testament Bible, students may explore the principal sources regarding the life of Jesus and the career of Paul as missionary and church organizer.

The Romans granted cities in the empire a high degree of local self-government, including in religious affairs. Religious tolerance, however, did not always extend to Jews or Christians. The Roman authorities regarded Jewish rebellions against the empire as a threat to its integrity. The refusal of the Christians to participate in Roman civic rituals led to charges of disloyalty to the empire. Students learn that both groups suffered from Roman repression. Many Jews were dispersed from their homeland in Judea, obliging them to build new communities far and wide. Christians underwent a series of increasingly systematic persecutions. In the fourth century CE, however, Christianity gained acceptance under the rule of Constantine and later gained status as Rome's state religion.

Roman culture absorbed many Greek and Hellenistic traditions. Students may use texts and visual sources to compare Roman contributions in art, architecture, engineering, political thought, religion, and philosophy with those of the earlier Greeks. They will discover that Rome's innovations included advances in architectural design, technologically sophisticated road building, and a body of laws that has had immense influence on legal systems in Europe, the United States, and other parts of the world. Students may also consider ways in which modern writers, artists, and political leaders have appropriated Greek and Roman ideals, values, and cultural forms as worthy models for civil society.

The Education and the Environment Initiative

The following sixth-grade units from the Education and the Environment Initiative (EEI) Curriculum can be used to provide instruction in the history–social science standards listed below.

Grade Six				
Standard Number	Standard Text	EEI Curriculum Unit Name		

6.1.1.	Describe the hunter-gatherer societies, including the development of tools and the use of fire.	Paleolithic People: Tools, Tasks, and Fire
6.1.2.	Identify the locations of human communities that populated the major regions of the world and describe how humans adapted to a variety of environments.	Paleolithic People: Adapting to Change
6.2.1.	Locate and describe the major river systems and discuss the physical settings that supported permanent settlement and early civilizations.	River Systems and Ancient Peoples
6.2.2.	Trace the development of agricultural techniques that permitted the production of economic surplus and the emergence of cities as centers of culture and power.	Agricultural Advances in Ancient Civilizations
6.2.6.	Describe the role of Egyptian trade in the eastern Mediterranean and Nile valley.	Egypt and Kush: A Tale of Two Civilizations
6.2.8.	Identify the location of the Kush civilization and describe its political, commercial, and cultural relations with Egypt.	Egypt and Kush: A Tale of Two Civilizations
6.5.1.	Locate and describe the major river system and discuss the physical setting that supported the rise of this civilization.	The Rivers and Ancient Empires of China and India
6.6.1.	Locate and describe the origins of Chinese civilization in the Huang-He Valley during the Shang Dynasty.	The Rivers and Ancient Empires of China and India

For more information about EEI instructional units, visit the California Environmental Protection Agency Web page at http://www.californiaeei.org/(Outside Source).

Support for English Learners

History–social science is particularly challenging for English learners. They must simultaneously develop fluency in a second language and also gain content and analysis skills in a complex subject area with high literacy demands. To learn English and achieve mastery of the history–social science content standards, students must participate in instructional programs that combine critical content knowledge and skill development in both English-language proficiency and the content standards and analysis skills contained in the *History–Social Science Framework for California Public Schools* (California Department of Education 2005).

All students should have an opportunity to actively engage with the history–social science content standards regardless of their proficiency in the English language. Effective instructional practices foster English-language development (ELD) and at the same time teach history–social science content. Early instruction in English literacy and content knowledge across all disciplines must be incorporated into ELD programs. In a structured English immersion program, history–social science for English learners continues to be taught while students are mastering English. In fact, most studies promote instruction in the content areas, despite low literacy or limited proficiency in the English language, along with the critical-thinking and analysis skills and the particular reading strategies of the disciplines.

Teachers should align history—social science instruction with the grade-level expectations in the four domains (reading, writing, speaking and listening, and language) described in the CCSS for English language arts. Before classroom instruction, teachers need to determine what they want the students to learn, their students' English-language proficiency, and the language demands of each lesson's instructional materials.

Specially designed academic instruction in English (SDAIE) is one instructional strategy to meet the needs of English learners. For additional resources to support the teaching of English learners, please visit the CDE English Learners Web page at http://www.cde.ca.gov/sp/el/.

The Standards

The following sixth-grade history—social science content standards were adopted by the California State Board of Education on October 9, 1998. In addition, the CCSS adopted in 2010 include standards for literacy in history/social studies. These standards do not replace the history—social science content standards but supplement them by setting specific requirements for reading and writing informational texts, including history—social science documents. The new standards will be implemented over the next several years as curriculum frameworks, instructional materials, and assessments based on the CCSS are adopted. See the English language arts section for more information about the CCSS for sixth grade.

History-Social Science Content Standards Grade Six: World History and Geography: Ancient Civilizations

- 6.1 Students describe what is known through archaeological studies of the early physical and cultural development of humankind from the Paleolithic era to the agricultural revolution.
 - 1. Describe the hunter-gatherer societies, including the development of tools and the use of fire.
 - 2. Identify the locations of human communities that populated the major regions of the world and describe how humans adapted to a variety of environments.
 - 3. Discuss the climatic changes and human modifications of the physical environment that gave rise to the domestication of plants and animals and new sources of clothing and shelter.
- 6.2 Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of Mesopotamia, Egypt, and Kush.
 - 1. Locate and describe the major river systems and discuss the physical settings that supported permanent settlement and early civilizations.
 - 2. Trace the development of agricultural techniques that permitted the production of economic surplus and the emergence of cities as centers of culture and power.
 - 3. Understand the relationship between religion and the social and political order in Mesopotamia and Egypt.
 - 4. Know the significance of Hammurabi's Code.
 - 5. Discuss the main features of Egyptian art and architecture.

- 6. Describe the role of Egyptian trade in the eastern Mediterranean and Nile valley.
- 7. Understand the significance of Queen Hatshepsut and Ramses the Great.
- 8. Identify the location of the Kush civilization and describe its political, commercial, and cultural relations with Egypt.
- 9. Trace the evolution of language and its written forms.

6.3 Students analyze the geographic, political, economic, religious, and social structures of the Ancient Hebrews.

- 1. Describe the origins and significance of Judaism as the first monotheistic religion based on the concept of one God who sets down moral laws for humanity.
- 2. Identify the sources of the ethical teachings and central beliefs of Judaism (the Hebrew Bible, the Commentaries): belief in God, observance of law, practice of the concepts of righteousness and justice, and importance of study; and describe how the ideas of the Hebrew traditions are reflected in the moral and ethical traditions of Western civilization.
- 3. Explain the significance of Abraham, Moses, Naomi, Ruth, David, and Yohanan ben Zaccai in the development of the Jewish religion.
- 4. Discuss the locations of the settlements and movements of Hebrew peoples, including the Exodus and their movement to and from Egypt, and outline the significance of the Exodus to the Jewish and other people.
- 5. Discuss how Judaism survived and developed despite the continuing dispersion of much of the Jewish population from Jerusalem and the rest of Israel after the destruction of the second Temple in A.D. 70.

6.4 Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of Ancient Greece.

- 1. Discuss the connections between geography and the development of city-states in the region of the Aegean Sea, including patterns of trade and commerce among Greek city-states and within the wider Mediterranean region.
- 2. Trace the transition from tyranny and oligarchy to early democratic forms of government and back to dictatorship in ancient Greece, including the significance of the invention of the idea of citizenship (e.g., from *Pericles' Funeral Oration*).
- 3. State the key differences between Athenian, or direct, democracy and representative democracy.
- 4. Explain the significance of Greek mythology to the everyday life of people in the region and how Greek literature continues to permeate our literature and language today, drawing from Greek mythology and epics, such as Homer's *Iliad* and *Odyssey*, and from *Aesop's Fables*.
- 5. Outline the founding, expansion, and political organization of the Persian Empire.

- 6. Compare and contrast life in Athens and Sparta, with emphasis on their roles in the Persian and Peloponnesian Wars.
- 7. Trace the rise of Alexander the Great and the spread of Greek culture eastward and into Egypt.
- 8. Describe the enduring contributions of important Greek figures in the arts and sciences (e.g., Hypatia, Socrates, Plato, Aristotle, Euclid, Thucydides).

6.5 Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of India.

- 1. Locate and describe the major river system and discuss the physical setting that supported the rise of this civilization.
- 2. Discuss the significance of the Aryan invasions.
- 3. Explain the major beliefs and practices of Brahmanism in India and how they evolved into early Hinduism.
- 4. Outline the social structure of the caste system.
- 5. Know the life and moral teachings of Buddha and how Buddhism spread in India, Ceylon, and Central Asia.
- 6. Describe the growth of the Maurya empire and the political and moral achievements of the emperor Asoka.
- 7. Discuss important aesthetic and intellectual traditions (e.g., Sanskrit literature, including the *Bhagavad Gita;* medicine; metallurgy; and mathematics, including Hindu-Arabic numerals and the zero).

6.6 Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of China.

- 1. Locate and describe the origins of Chinese civilization in the Huang-He Valley during the Shang Dynasty.
- 2. Explain the geographic features of China that made governance and the spread of ideas and goods difficult and served to isolate the country from the rest of the world.
- 3. Know about the life of Confucius and the fundamental teachings of Confucianism and Taoism.
- 4. Identify the political and cultural problems prevalent in the time of Confucius and how he sought to solve them.
- 5. List the policies and achievements of the emperor Shi Huangdi in unifying northern China under the Qin Dynasty.
- 6. Detail the political contributions of the Han Dynasty to the development of the imperial

bureaucratic state and the expansion of the empire.

- 7. Cite the significance of the trans-Eurasian "silk roads" in the period of the Han Dynasty and Roman Empire and their locations.
- 8. Describe the diffusion of Buddhism northward to China during the Han Dynasty.

6.7 Students analyze the geographic, political, economic, religious, and social structures during the development of Rome.

- 1. Identify the location and describe the rise of the Roman Republic, including the importance of such mythical and historical figures as Aeneas, Romulus and Remus, Cincinnatus, Julius Caesar, and Cicero.
- 2. Describe the government of the Roman Republic and its significance (e.g., written constitution and tripartite government, checks and balances, civic duty).
- 3. Identify the location of and the political and geographic reasons for the growth of Roman territories and expansion of the empire, including how the empire fostered economic growth through the use of currency and trade routes.
- 4. Discuss the influence of Julius Caesar and Augustus in Rome's transition from republic to empire.
- 5. Trace the migration of Jews around the Mediterranean region and the effects of their conflict with the Romans, including the Romans' restrictions on their right to live in Jerusalem.
- 6. Note the origins of Christianity in the Jewish Messianic prophecies, the life and teachings of Jesus of Nazareth as described in the New Testament, and the contribution of St. Paul the Apostle to the definition and spread of Christian beliefs (e.g., belief in the Trinity, resurrection, salvation).
- 7. Describe the circumstances that led to the spread of Christianity in Europe and other Roman territories.
- 8. Discuss the legacies of Roman art and architecture, technology and science, literature, language, and law.

The intellectual skills noted below are to be learned through, and applied to, the content standards for grades six through eight. They are to be assessed *only in conjunction with* the content standards in grades six through eight.

In addition to the standards for grades six through eight, students demonstrate the following intellectual reasoning, reflection, and research skills:

Chronological and Spatial Thinking

- 1. Students explain how major events are related to one another in time.
- 2. Students construct various time lines of key events, people, and periods of the historical era they are studying.
- 3. Students use a variety of maps and documents to identify physical and cultural features of neighborhoods, cities, states, and countries and to explain the historical migration of people, expansion and disintegration of empires, and the growth of economic systems.

Research, Evidence, and Point of View

- 1. Students frame questions that can be answered by historical study and research.
- 2. Students distinguish fact from opinion in historical narratives and stories.
- 3. Students distinguish relevant from irrelevant information, essential from incidental information, and verifiable from unverifiable information in historical narratives and stories.
- 4. Students assess the credibility of primary and secondary sources and draw sound conclusions from them.
- 5. Students detect the different historical points of view on historical events and determine the context in which the historical statements were made (the questions asked, sources used, author's perspectives).

Historical Interpretation

- 1. Students explain the central issues and problems from the past, placing people and events in a matrix of time and place.
- 2. Students understand and distinguish cause, effect, sequence, and correlation in historical events, including the long-and short-term causal relations.
- 3. Students explain the sources of historical continuity and how the combination of ideas and events explains the emergence of new patterns.
- 4. Students recognize the role of chance, oversight, and error in history.
- 5. Students recognize that interpretations of history are subject to change as new information is uncovered.
- 6. Students interpret basic indicators of economic performance and conduct cost-benefit analyses of economic and political issues.

Science



Overview

In each grade—kindergarten through grade five—the science content standards cover the areas of physical, life, and earth sciences in approximately equal measures. In each of the middle grades, however, the content standards emphasize an individual area. This organization permits students to study each area in greater depth. In sixth grade, the content standards focus on earth sciences.

Effective science programs reflect a balanced, comprehensive approach that includes the teaching of investigation and experimentation skills along with direct instruction. Key elements of a balanced science program include explicit teaching of science content and concepts, identifying students' prior knowledge, and addressing student misconceptions. Investigation skills should also be highlighted, with students encouraged to find answers or reach conclusions using their own experiences or observations. High-quality science instruction should also develop students' command of the academic language of science and use standards-based connections with other core subjects to reinforce science teaching and learning.

Key elements of a balanced science program include explicit teaching of science content and concepts, identifying students' prior knowledge, and addressing student misconceptions.

Safety should always be the foremost consideration in teacher modeling, the design of demonstrations, investigation and experiments, and science projects. Safety must be taught. Knowing and following safe practices in science are a part of understanding the nature of science and scientific enterprise. Everyone involved in science education should become familiar with the *Science Safety Handbook for California Public Schools* which is posted on the CDE page at j w < by y y &f g&c0 qx lr f lec lue lf qewo gpwluckuchgdqqn42360 f h """"

The publication contains specific and useful information relevant to teachers, administrators, parents/guardians, and students.

What Sixth-Grade Students Should Know

Students who have achieved proficiency in the science standards for kindergarten through grade five have had numerous experiences with sixth-grade science topics. In grade four, they studied the processes of weathering and erosion and learned that these processes continually form sediments that form new rocks as a part of the constant recycling of Earth's crust. They have been introduced to the idea that waves, wind, water, and ice shape and reshape Earth's land surface and that moving water erodes landforms. Students know that some changes in the earth are due to slow processes, such as erosion, while others are due to rapid processes such as landslides, volcanic eruptions, and earthquakes. In grade four, students also learned about food chains and webs; they explored the relationships between producers, consumers, and decomposers in an ecosystem.

In grade five, students learned about the causes of large- and small-scale movements in the atmosphere. They know that uneven heating of Earth by the Sun results in temperature differences that create convection currents in the oceans and the atmosphere. They are familiar with the hydrologic cycle (water cycle) and have been introduced to the concept that the availability of natural resources can be extended by recycling and conservation practices.

Students entering sixth grade have also had numerous experiences with investigation and experimentation and have practiced observation, measurement, and recordkeeping skills, including creating graphs and making drawings to record, organize, interpret, and display data. In fifth grade, they learned to develop testable questions, conduct simple investigations, and write basic scientific reports. Students can identify dependent and

controlled variables in an investigation. They can identify a single, independent variable in a scientific investigation and explain how this variable can be used to collect information and answer a question about the results of an experiment. They have selected appropriate tools, made quantitative observations, recorded data, made inferences based on the data, and drawn conclusions based on evidence.

What Students Learn in Sixth Grade

The science curriculum in sixth grade emphasizes the study of earth sciences. The standards in sixth grade present many of the foundations of geology and geophysics, including plate tectonics and earth structure, topography, and energy. The material is linked to resource management and ecology, building on what students have learned in previous grades.

Sixth-grade science topics are organized into six standard sets: Plate Tectonics and Earth's Structure, Shaping Earth's Surface, Heat (Thermal Energy) (Physical Sciences), Energy in the Earth System, Ecology (Life Sciences), Resources, and Investigation and Experimentation. As students learn the content defined by the standards in the Life, Earth, and Physical Science strands, they are also practicing investigation and experimentation skills. That is, the investigation and experimentation standards should be infused throughout science instruction.

Plate Tectonics and Earth's Structure



Plate tectonics is a unifying geologic theory that explains the formation of major features of Earth's surface and important geologic events. Sixth-grade students learn about the evidence of past plate tectonic movement and about landforms and topographic features—such as volcanoes, mountains, valleys, and mid-ocean ridges—generated by plate movement. They discover that major geologic events, such as earthquakes, volcanic eruptions, and mountain building, result from plate movement and often occur at the boundaries of the plates.

Students also learn that Earth is composed of three distinct layers: the lithosphere, the mantle, and the core. They understand that the flow of heat and material within Earth drive the movement of lithospheric plates, and they apply an understanding of plate tectonics to explain the major features of California geology.

Students study earthquakes in some detail and understand that the effects of an earthquake on a region may vary depending on the size of the earthquake, the distance between the region and the earthquake's epicenter, the local geology, and the type of construction in the region.

Shaping Earth's Surface

Surface water flow, glaciers, wind, and ocean waves all contribute to the continual reshaping of the surface of the land. Students study in greater depth the processes that help shape the landscape, including mechanical and chemical weathering and erosion. They understand that flowing water transports sediment and that the final destination for this sediment is usually the ocean.

Students also learn that events such as earthquakes, volcanic eruptions, landslides, and floods can change human and wildlife habitats and that decisions regarding construction and human habitation should take into account the types of geologic events likely to occur in a given area.

Heat (Thermal Energy) (Physical Sciences)

Students learn that heat moves in a predictable flow from warmer objects to cooler objects until all objects are the same temperature. They learn that energy may be carried from one place to another by heat flow (the transfer of energy from a warmer object to a cooler object), by waves (water, light, and sound), or by moving objects.

Students understand that when fuel is consumed, most of the energy released becomes heat energy. They begin to build an understanding of the kinetic molecular theory of heat transfer and know that heat flows in solids by conduction and in fluids by conduction and convection. In either case, heat transfer is measured by changes in temperature. Students also discover that heat energy may be transferred between objects by radiation: the emission and absorption of electromagnetic waves.

Energy in the Earth System

The Sun is the primary source of energy for phenomena on Earth's surface; students discover that it powers winds, ocean currents, and the water cycle. They understand that solar energy, mostly in the form of light, reaches Earth through radiation. Students learn that convection currents distribute heat in the atmosphere and oceans and revisit the concept that differences in pressure, heat, air movement, and humidity all result in changes of weather. They also learn that although heat from Earth's interior moves toward the cooler surface, very little is transferred due to the poor conductivity of rock. The small amount of heat that does reach the surface and the atmosphere is transferred through convection.

Ecology (Life Sciences)

Students deepen their understanding of the relationships between the living organisms in an ecosystem, exploring the transfer of heat and matter in dynamic systems. They know that energy enters an ecosystem as sunlight, is transferred into chemical energy by producers, and is then transferred from one organism to another. This transfer may be represented by a food web. Students know that populations of organisms can be categorized by their functions in the ecosystem (producers; primary, secondary, and tertiary consumers; decomposers; and scavengers) and that different types of organisms may play similar roles in similar biomes. They also learn that the number and types of organisms supported by an ecosystem depend on the resources available and abiotic factors, such as light, water, temperature, and soil composition.

Resources

Students study sources of energy and materials and understand that these resources differ in amounts, distribution, usefulness, and the time required for their formation. They classify resources as renewable or nonrenewable. They consider the factors that are involved in converting energy sources to useful forms as well as the consequences of the conversion process and develop the concept of nonmonetary costs of energy. Students also learn more about the natural origins of commonly used goods and consider the complexities involved in creating them and making them available.

Students study sources of energy and materials and understand that these resources differ in amounts, distribution, usefulness, and the time required for their formation.

Investigation and Experimentation

In the context of activities that support mastery of the science content standards, sixth-grade students learn to formulate a hypothesis for the first time. They build upon all of their prior experiences with investigation and experimentation to select and use appropriate tools and technology (including calculators, computers, balances,

spring scales, microscopes, and binoculars) to perform tests, collect data, and display data. They develop qualitative statements about relationships between variables and use written reports and oral presentations to communicate their work and the results. They learn to read topographic and geologic maps and can interpret events by sequence and time from natural phenomena (e.g., the relative ages of rocks and intrusions).

The Education and the Environment Initiative

Sixth-grade science instruction continues to build environmental literacy as students better understand how they influence the environment and how it influences them. The following sixth-grade units from the Education and the Environment Initiative (EEI) Curriculum can be used to provide instruction in the science standards listed below.

Grade Six				
Standard Number	Standard Text	EEI Curriculum Unit Name		
6.2.b	Students know rivers and streams are dynamic systems that erode, transport sediment, change course, and flood their banks in natural and recurring patterns.	The Dynamic Nature of Rivers		
6.5.c	Students know populations of organisms can be categorized by the functions they serve in an ecosystem.	Energy: Pass it On!		
6.5.d	Students know different kinds of organisms may play similar ecological roles in similar biomes.	Playing the Same Role		
6.6.a	Students know the utility of energy sources is determined by factors that are involved in converting these sources to useful forms and the consequences of the conversion process.	Energy: It's Not All the Same To You!		
6.6.b	Students know different natural energy and material resources, including air, rocks, minerals, petroleum, fresh water, wildlife, and forests, and know how to classify them as renewable or nonrenewable.	Energy and Material Resources: Renewable or Not?		
6.6.c	Students know the natural origin of the materials used to make common objects.	Made From Earth: How Natural Resources Become Things We Use		

For more information about EEI instructional units, visit the California Environmental Protection Agency Web page at http://www.californiaeei.org/ (Outside Source).

Science Across the Content Areas

The sixth-grade science standards are readily integrated with other academic content standards. For example, in mathematics, students collect, categorize and analyze data using graphs or charts. These skills are paralleled in, and reinforced by, the study of science. Students read, write, and discuss expository texts and develop written and oral language skills as they record observations, participate in research activities, and engage in discussions about science topics.

In 2010, California adopted Common Core State Standards (CCSS), including standards for literacy in science. These standards do not replace the science content standards, but supplement them by setting specific requirements for reading and writing informational texts, including science documents. For kindergarten through grade five, the literacy standards are embedded into the standards for English language arts. However, for grades six through twelve, the standards for reading and writing in science are included in a separate section of the document, reinforcing the expectation that developing student proficiency in reading and writing across the content areas is a responsibility shared by all members of a school community.

The standards for literacy in science emphasize the need for students to be proficient in reading complex informational text and writing clear explanatory text. Across the content areas, students learn to use specific textual evidence to support analysis of text and compare and contrast information from different sources. They are expected to conduct research projects to answer a specific question, determine the meaning of domain-specific words as they are used in a specific scientific context, and write consistently within both short and extended time frames. Refer to the English language arts section for more information about the CCSS for sixth grade.

Support for English Learners

All students, regardless of English language proficiency, should have access to high-quality science instruction. With its focus on domain-specific vocabulary acquisition and utilization of hands-on, collaborative activities, a balanced sixth-grade science program provides many opportunities for English-language development (ELD). However, science instruction may still present challenges for some English learners. Specific challenges include learning science-related terms and academic vocabulary. Directions may be complex and contain multiple steps. Visual information may not be easily comprehensible.

Some strategies that may help students understand new science concepts and processes include connecting to students' background knowledge, experiences, and familiar terminology; focusing on key science terms before, during, and after a lesson; and utilizing different formats (e.g., charts, graphs, pictures).

Students benefit from clear and consistent classroom routines, group or peer interaction to share information, processes, and activities that are relevant and meaningful. ELD is especially enhanced by (1) opportunities for structured conversations about content and concepts; (2) modeling of the appropriate use of equipment; and (3) an adequate amount of wait time for student response.

The Standards

The following sixth-grade science content standards were adopted by the California State Board of Education on October 9, 1998.

Science Content Standards Grade Six					
	Focus on Earth Sciences				
Plate 7	Plate Tectonics and Earth's Structure				
1.	Plate tectonics accounts for important features of Earth's surface and major geologic events. As a basis for understanding this concept:				
1.a.	Students know evidence of plate tectonics is derived from the fit of the continents; the location of earthquakes, volcanoes, and midocean ridges; and the distribution of fossils, rock types, and ancient climatic zones.				
1.b.	Students know Earth is composed of several layers: a cold, brittle lithosphere; a hot, convecting mantle; and a dense, metallic core.				
1.c.	Students know lithospheric plates the size of continents and oceans move at rates of centimeters per year in response to movements in the mantle.				
1.d.	Students know that earthquakes are sudden motions along breaks in the crust called faults and that volcanoes and fissures are locations where magma reaches the surface.				
1.e.	Students know major geologic events, such as earthquakes, volcanic eruptions, and mountain building, result from plate motions.				
1.f.	Students know how to explain major features of California geology (including mountains, faults, volcanoes) in terms of plate tectonics.				
1.g.	Students know how to determine the epicenter of an earthquake and know that the effects of an earthquake on any region vary, depending on the size of the earthquake, the distance of the region from the epicenter, the local geology, and the type of construction in the region.				
Shaping Earth's Surface					
2.	Topography is reshaped by the weathering of rock and soil and by the transportation and deposition of sediment. As a basis for understanding this concept:				
2.a.	Students know water running downhill is the dominant process in shaping the landscape, including California's landscape.				
2.b.	Students know rivers and streams are dynamic systems that erode, transport sediment, change course, and flood their banks in natural and recurring patterns.				

2.c. Students know beaches are dynamic systems in which the sand is supplied by rivers and moved along the coast by the action of waves. 2.d. Students know earthquakes, volcanic eruptions, landslides, and floods change human and wildlife habitats. **Heat (Thermal Energy) (Physical Sciences)** 3. Heat moves in a predictable flow from warmer objects to cooler objects until all the objects are at the same temperature. As a basis for understanding this concept: Students know energy can be carried from one place to another by heat flow or by waves, including 3.a. water, light and sound waves, or by moving objects. 3.b. Students know that when fuel is consumed, most of the energy released becomes heat energy. 3.c. Students know heat flows in solids by conduction (which involves no flow of matter) and in fluids by conduction and by convection (which involves flow of matter). 3.d. Students know heat energy is also transferred between objects by radiation (radiation can travel through space). **Energy in the Earth System** 4. Many phenomena on Earth's surface are affected by the transfer of energy through radiation and convection currents. As a basis for understanding this concept: Students know the sun is the major source of energy for phenomena on Earth's surface; it powers 4.a. winds, ocean currents, and the water cycle. 4.b. Students know solar energy reaches Earth through radiation, mostly in the form of visible light. 4.c. Students know heat from Earth's interior reaches the surface primarily through convection. 4.d. Students know convection currents distribute heat in the atmosphere and oceans. 4.e. Students know differences in pressure, heat, air movement, and humidity result in changes of weather. **Ecology (Life Sciences) 5.** Organisms in ecosystems exchange energy and nutrients among themselves and with the environment. As a basis for understanding this concept: 5.a. Students know energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis and then from organism to organism through food webs. 5.b. Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment. Students know populations of organisms can be categorized by the functions they serve in an 5.c. ecosystem.

5.d. Students know different kinds of organisms may play similar ecological roles in similar biomes. 5.e. Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, a range of temperatures, and soil composition. Resources 6. Sources of energy and materials differ in amounts, distribution, usefulness, and the time required for their formation. As a basis for understanding this concept: Students know the utility of energy sources is determined by factors that are involved in converting 6.a. these sources to useful forms and the consequences of the conversion process. 6.b. Students know different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, and forests, and know how to classify them as renewable or nonrenewable. 6.c. Students know the natural origin of the materials used to make common objects. **Investigation and Experimentation** 7. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will: 7.a. Develop a hypothesis. 7.b. Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data. 7.c. Construct appropriate graphs from data and develop qualitative statements about the relationships between variables. 7.d. Communicate the steps and results from an investigation in written reports and oral presentations. 7.e. Recognize whether evidence is consistent with a proposed explanation. 7.f. Read a topographic map and a geologic map for evidence provided on the maps and construct and interpret a simple scale map. Interpret events by sequence and time from natural phenomena (e.g., the relative ages of rocks and 7.g. intrusions). 7.h. Identify changes in natural phenomena over time without manipulating the phenomena (e.g., a tree limb, a grove of trees, a stream, a hillslope).

Visual and Performing Arts

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Overview

Sixth-grade students are beginning to find their way in a wider setting. As they define their point of view through the arts, they also bring together basic concepts and skills learned throughout elementary school, determining how to apply those skills. Furthermore, they learn to link particular art forms to the communication of meaning. Becoming more responsible for their aesthetic choices, they want to learn the skills needed to express their individuality effectively because they are constantly comparing themselves to others. They continue to acquire skills that improve their self-confidence and increase their arts vocabulary and begin to understand how culture and the arts interact. And they are learning to be responsible to themselves and their classmates through participation in creative groups and ensembles. Through the arts, students achieve a balance leading to a healthy, creative transition to the increasingly complex academic life to come.

Students are enjoying a wealth of arts experiences as their focus shifts from self-contained elementary school classes. Some are instructed by arts specialists, such as the instrumental and vocal directors, who help students increase their ability to read, write, and perform music. In the interactive setting of a theatre class, students study, create, and perform literary works, thereby gaining additional connections with the language arts curriculum. In turn, dance instruction provides students with opportunities for increased expression through movement and spatial awareness; in the visual arts students might create a project in the tradition of the civilizations they are studying in ancient history. Through all of these rich, interrelated arts studies, students discover a greater sense of self-confidence and a deeper knowledge of their place in history and society. Focused practice in applying the elements of the arts and thoughtful descriptions of their use in artwork help students in both creative expression and artistic valuing.

Through their studies in history—social science and their performance and research in the arts, they learn more about the role of the arts in varied cultures and time periods.

In all of the arts, students are developing ideas, moods, and themes in increasingly complex dance studies, musical performances, scenes and plays, and original works of visual art. Through their studies in history–social science and their performance and research in the arts, they learn more about the role of the arts in varied cultures and time periods. Across the curriculum in each of the arts, students increase their ability to apply appropriate criteria to evaluate artwork. Doing so helps them improve their own work and become more discriminating members of the audience and viewers of the arts.

What Sixth-Grade Students Should Know

In the elementary grades, students began their study of the arts by developing their ability to appreciate art and to engage in artistic expression. By the time they reach grade six, students have developed the ability to state what they like and dislike about various forms of art, and can explain why they hold their opinions. At this age, they are growing in the ability to talk about, describe, and evaluate the arts, using specific criteria, and understand and work with complex concepts in the arts. Students have begun to improvise dance sequences, compose music, develop plots in theatre, and use perspective in the visual arts. Students leaving grade five have also begun to explore the arts in the context of history and other cultures, a connection that will continue through the middle grades, as the arts curriculum is linked to study in other topics, such as the world history sequence in sixth-grade and seventh-grade history—social science.

What Students Learn in Sixth Grade



Dance

Students apply variations of force and energy in their dance movements, demonstrating physical control and coordination as they perform different types of movement. Their dances show a variety of movements that use the principles of contrast and unity. At the same time, students' movements and dances reveal deeper expressive intent and integrate the elements of dance in more complex ways.

Music

Students use standard music symbols for pitch, meter, and rhythm. They can improvise short, simple melodies and arrange favorite musical examples for different groups of voices or instruments. They are also able to relate why specific musical works of the past are considered exemplary and can explain how music can convey mental images, feelings, and emotions. As they perform, they are able to move beyond rote performances of musical selections and employ deeper emotional subtleties.

Theatre

Students use terms such as *vocal projection* and *subtext* as they describe their theatrical experiences. As they perform, they show effective vocal and facial expressions, gestures, and timing. In writing plays and short theatrical scenes, they include monologues and dialogues showing a range of character types from a variety of cultures. Now students can use and evaluate with more confidence the makeup, lighting, props, and costumes employed in theatre.

Visual Arts

Students analyze how balance is used in two- and three-dimensional works of art. Using artwork to express a mood, a feeling, or an idea, they demonstrate more complexity and technical skill in their drawings, paintings, and sculpture. Through the use of a variety of resources, they can research and discuss the visual arts throughout history. They are also able to recognize and use art as a metaphor for abstract ideas expressed in a variety of cultures and historical periods.

The Standards

The visual and performing arts content standards provide expectations for students in four disciplines: dance, music, theatre, and visual arts. At each grade level, the standards are grouped under five strands:

- a. **Artistic perception** refers to processing, analyzing, and responding to sensory information through the use of the language and skills unique to dance, music, theatre, and the visual arts.
- b. Creative expression involves creating a work, performing, and participating in the arts disciplines.
- c. **Historical and cultural context** concerns the work students do toward understanding the historical contributions and cultural dimensions of an arts discipline.

- d. **Aesthetic valuing** includes analyzing and critiquing works of dance, music, theatre, and the visual arts.
- e. **Connections, relationships, and applications** involve connecting and applying what is learned in one arts discipline and comparing it to learning in the other arts, other subject areas, and careers.

When reading the standards at a particular grade level, one must know which standards were accomplished in all the previous grade levels to understand how expectations are based on prior learning. In addition, an examination of the standards for any of the art forms at a given grade level reveals overlaps and points of connection across the strands because the strands and the content standards for the four disciplines are intrinsically related.

Key Content Standards

Each arts discipline and artistic process has many entry points throughout the grades. Because particular ideas, concepts, and experiences are critical to student achievement at certain times in their artistic and cognitive development, the standards provide students with a picture of what is essential to know and be able to do, from kindergarten through grade eight, in each of the four arts disciplines. The key content standards provide a beginning point for standards-based instruction in each grade of elementary and middle school and focus on fundamental content that students need in order to move to the next level of understanding and expression. Like the complete standards, the key standards build up content in each successive grade level and spiral throughout the curriculum for kindergarten through grade eight. They are essential in preparing students for beginning-level high school arts courses in which they engage in more focused and independent work. Key standards are indicated in the list below with an asterisk (*).

The following sixth-grade visual and performing arts standards were adopted by the California State Board of Education on January 20, 2001.

Visual and Performing Arts Content Standards Grade Six

Component Strand 1.0 Artis	tic Perception

Dance

Processing, Analyzing, and Responding to Sensory Information Through the Language and Skills Unique to Dance

Music

Processing, Analyzing, and Responding to Sensory Information Through the Language and Skills Unique to Music

Theatre

Processing, Analyzing, and Responding to Sensory Information Through the Language and Skills Unique to Theatre

Visual Arts

Processing, Analyzing, and Responding to Sensory Information Through the Language and Skills Unique to the Visual Arts

Students perceive and respond, using the elements of dance. They demonstrate movement skills, process sensory information, and describe movement, using the vocabulary of dance.

Development of Motor Skills and Technical Expertise

- 1.1 Demonstrate focus, physical control, coordination, and accurate reproduction in performing locomotor and axial movement.
- 1.2 Incorporate a variety of force/energy qualities into executing a full range of movements.

Comprehension and Analysis of Dance Elements

- 1.3 Identify and use force/energy variations when executing gesture and locomotor and axial movements.
- 1.4* Use the principles of contrast, unity, and variety in phrasing in dance studies and dances.

Development of Dance Vocabulary

1.5 Describe and analyze movements observed and performed, using appropriate dance vocabulary.

Students read, notate, listen to, analyze, and describe music and other aural information, using the terminology of music.

Read and Notate Music

- 1.1 Read, write, and perform intervals and triads.
- 1.2* Read, write, and perform rhythmic and melodic notation, using standard symbols for pitch, meter, rhythm, dynamics, and tempo in duple and triple meters.
- 1.3 Transcribe simple aural examples into rhythmic notation.
- 1.4 Sight-read simple melodies in the treble clef or bass clef.

Listen to, Analyze, and Describe Music

- 1.5 Analyze and compare the use of musical elements representing various genres and cultures, emphasizing meter and rhythm.
- 1.6 Describe larger music forms (sonata-allegro form, concerto, theme and variations).

Students observe their environment and respond, using the elements of theatre. They also observe formal and informal works of theatre, film/video, and electronic media and respond, using the vocabulary of theatre.

Development of the Vocabulary of Theatre

1.1* Use the vocabulary of theatre, such as action/reaction, vocal projection, subtext, theme, mood, design, production values, and stage crew, to describe theatrical experiences.

Comprehension and Analysis of the Elements of Theatre

1.2 Identify how production values can manipulate mood to persuade and disseminate propaganda.

Students perceive and respond to works of art, objects in nature, events, and the environment. They also use the vocabulary of the visual arts to express their observations.

Develop Visual Arts Knowledge and Vocabulary

- 1.1 Identify and describe all the elements of art found in selected works of art (e.g., color, shape/form, line, texture, space, value).
- 1.2 Discuss works of art as to theme, genre, style, idea, and differences in media.
- 1.3 Describe how artists can show the same theme by using different media and styles.

Analyze Art Elements and Principles of Design

1.4* Describe how balance is effectively used in a work of art (e.g., symmetrical, asymmetrical, radial).

Component Strand 2.0 Creative Expression				
Dance Creating, Performing, and Participating in Dance	Music Creating, Performing, and Participating in Music	Theatre Creating, Performing, and Participating in Theatre	Visual Arts Creating, Performing, and Participating in the Visual Arts	
Students apply choreographic principles, processes, and skills to create and communicate meaning through improvisation, composition, and performance of dance. Creation/Invention of Dance Movements 2.1 Invent multiple possibilities to solve a given movement problem and develop the material into a short study. 2.2* Compare and demonstrate the difference between imitating movement and creating original material. Application of Choreographic Principles and Processes to Creating Dance 2.3 Describe and incorporate dance forms in dance studies. 2.4 Demonstrate the ability to coordinate movement with different musical rhythms and styles (e.g., ABA form, canon). 2.5 Use the elements of dance to create short studies that demonstrate the development of ideas and thematic material. Communication of Meaning in Dance Through Dance Performance 2.6 Demonstrate an awareness of the body as an instrument of expression when rehearsing and performing. 2.7 Revise, memorize, and rehearse dance studies for the purpose of performing for others. Development of Partner and Group Skills 2.8 Demonstrate an ability to cooperate and collaborate with a wide range of partners and groups (e.g.,	Students apply vocal and instrumental musical skills in performing a varied repertoire of music. They compose and arrange music and improvise melodies, variations, and accompaniments, using digital/electronic technology when appropriate. Apply Vocal and Instrumental Skills 2.1* Sing a repertoire of vocal literature representing various genres, styles, and cultures with expression, technical accuracy, good posture, tone quality, and vowel shape—written and memorized, by oneself and in ensembles (level of difficulty: 1 on a scale of 1–6). 2.2 Sing music written in two parts. 2.3* Perform on an instrument a repertoire of instrumental literature representing various genres, styles, and cultures with expression, technical accuracy, tone quality, and articulation, by oneself and in ensembles (level of difficulty: 1 on a scale of 1–6). Compose, Arrange, and Improvise 2.4 Compose short pieces in duple and triple meters. 2.5 Arrange simple pieces for voices or instruments, using traditional sources	Students apply processes and skills in acting, directing, designing, and scriptwriting to create formal and informal theatre, film/videos, and electronic media productions and to perform in them. Development of Theatrical Skills 2.1 Participate in improvisational activities, demonstrating an understanding of text, subtext, and context. Creation/Invention in Theatre 2.2* Use effective vocal expression, gesture, facial expression, and timing to create character. 2.3* Write and perform scenes or one-act plays that include monologue, dialogue, action, and setting together with a range	Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art. Skills, Processes, Materials, and Tools 2.1 Use various observational drawing skills to depict a variety of subject matter. 2.2 Apply the rules of two-point perspective in creating a thematic work of art. 2.3 Create a drawing, using varying tints, shades, and intensities. Communication and Expression Through Original Works of Art 2.4* Create increasingly complex original works of art reflecting personal choices and increased technical skill. 2.5* Select specific media and processes to express moods, feelings, themes, or ideas.	

Component Strand 3.0 Historical and Cultural Context				
Dance Understanding the Historical Contributions and Cultural Dimensions of Dance Students analyze the function and	Music Understanding the Historical Contributions and Cultural Dimensions of Music Students analyze the role of music in	Theatre Understanding the Historical Contributions and Cultural Dimensions of Theatre Students analyze the role and	Visual Arts Understanding the Historical Contributions and Cultural Dimensions of the Visual Arts Students analyze the role and	
development of dance in past and present cultures throughout the world, noting human diversity as it relates to dance and dancers.	past and present cultures throughout the world, noting cultural diversity as it relates to music, musicians, and composers.	development of theatre, film/video, and electronic media in past and present cultures throughout the world, noting diversity as it relates to theatre.	development of the visual arts in past and present cultures throughout the world, noting human diversity as it relates to the visual arts and artists.	
 Development of Dance 3.1 Compare and contrast features of dances already performed from different countries. History and Function of Dance 3.2 Explain the importance and function of dance in students' lives. Diversity of Dance 3.3* Explain the various ways people have experienced dance in their daily lives (e.g., Roman entertainments, Asian religious ceremonies, baby naming in Ghana, Latin American celebrations). 	 Role of Music 3.1 Compare music from two or more cultures of the world as to the functions the music serves and the roles of musicians. 3.2 Listen to and describe the role of music in ancient civilizations (e.g., Chinese, Egyptian, Greek, Indian, Roman). Diversity of Music 3.3 Describe distinguishing characteristics of representative musical genres and styles from two or more cultures. 3.4 Listen to, describe, and perform music of various styles from a variety of cultures. 3.5 Classify by style and genre a number of exemplary musical works and explain the characteristics that make each work exemplary. 	Role and Cultural Significance of Theatre 3.1 Create scripts that reflect particular historical periods or cultures. History of Theatre 3.2* Differentiate the theatrical traditions of cultures throughout the world, such as those in Ancient Greece, Egypt, China, and West Africa.	Role and Development of the Visual Arts 3.1* Research and discuss the role of the visual arts in selected periods of history, using a variety of resources (both print and electronic). 3.2 View selected works of art from a culture and describe how they have changed or not changed in theme and content over a period of time. Diversity of the Visual Arts 3.3 Compare, in oral or written form, representative images or designs from at least two selected cultures.	

Component Strand 4.0 Aesthetic Valuing				
Dance Responding to, Analyzing, and Making Judgments About Works of Dance	Music Responding to, Analyzing, and Making Judgments About Works of Music	Theatre Responding to, Analyzing, and Critiquing Theatrical Experiences	Visual Arts Responding to, Analyzing, and Making Judgments About Works in the Visual Arts	
Students critically assess and derive meaning from works of dance, performance of dancers, and original works based on the elements of dance and aesthetic qualities. Description, Analysis, and Criticism of Dance 4.1* Apply knowledge of the elements of dance and the craft of choreography to critiquing (spatial design, variety, contrast, clear structure). 4.2 Propose ways to revise choreography according to established assessment criteria. Meaning and Impact of Dance 4.3 Discuss the experience of performing personal work for others. 4.4 Distinguish the differences between viewing live and recorded dance performances.	Students critically assess and derive meaning from works of music and the performance of musicians according to the elements of music, aesthetic qualities, and human responses. Analyze and Critically Assess 4.1* Develop criteria for evaluating the quality and effectiveness of musical performances and compositions, including arrangements and improvisations, and apply the criteria in personal listening and performing. Derive Meaning 4.2* Explain how various aesthetic qualities convey images, feeling, or emotion. 4.3 Identify aesthetic qualities in a specific musical work.	Students critique and derive meaning from works of theatre, film/video, electronic media, and theatrical artists on the basis of aesthetic qualities. Critical Assessment of Theatre 4.1* Develop and apply appropriate criteria for evaluating sets, lighting, costumes, makeup, and props. Derivation of Meaning from Works of Theatre 4.2 Identify examples of how theatre, television, and film can influence or be influenced by politics and culture.	Students analyze, assess, and derive meaning from works of art, including their own, according to the elements of art, the principles of design, and aesthetic qualities. Derive Meaning 4.1 Construct and describe plausible interpretations of what they perceive in works of art. 4.2 Identify and describe ways in which their culture is being reflected in current works of art. Make Informed Judgments 4.3 Develop specific criteria as individuals or in groups to assess and critique works of art. 4.4* Change, edit, or revise their works of art after a critique, articulating reasons for their changes.	

Component Strand 5.0 Connections, Relationships, Applications			
Dance Connecting and Applying What Is Learned in Dance to Learning in Other Art Forms and Subject Areas and to Careers	Music Connecting and Applying What Is Learned in Music to Learning in Other Art Forms and Subject Areas and to Careers	Theatre Connecting and Applying What Is Learned in Theatre, Film/Video, and Electronic Media to Other Art Forms and Subject Areas and to Careers	Visual Arts Connecting and Applying What Is Learned in the Visual Arts to Other Art Forms and Subject Areas and to Careers
Students apply what they learn in dance to learning across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to dance. Connections and Applications Across Disciplines	Students apply what they learn in music across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to music. Connections and Applications	Students apply what they learn in theatre, film/video, and electronic media across subject areas. They develop competencies and creative skills in problem solving, communication, and time management that contribute to lifelong learning and career skills. They also learn about careers in and related to theatre. Connections and Applications	Students apply what they learn in the visual arts across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to the visual arts. Connections and Applications 5.1 Research how art was used in theatrical productions in the past and in the present. 5.2 Research how traditional characters (such
 5.1 Describe how other arts disciplines are integrated into dance performances (e.g., music, lighting, set design). 5.2 Describe the responsibilities a dancer has in maintaining health-related habits (e.g., balanced nutrition, regular exercise, adequate sleep). Development of Life Skills and Career Competencies 5.3 Identify careers in dance and dance-related fields (e.g., teacher, therapist, videographer, dance critic, choreographer, notator). 	 5.1 Describe how knowledge of music connects to learning in other subject areas. Careers and Career-Related Skills 5.2 Identify career pathways in music. 	 5.1 Use theatrical skills to communicate concepts or ideas from other curriculum areas, such as a demonstration in history–social science of how persuasion and propaganda are used in advertising. Careers and Career-Related Skills 5.2 Research career opportunities in media, advertising, marketing, and interactive Web design. 	as the trickster) found in a variety of cultures past and present are represented in illustrations. 5.3 Create artwork containing visual metaphors that express the traditions and myths of selected cultures. Visual Literacy 5.4 Describe tactics employed in advertising to sway the viewer's thinking and provide examples. Careers and Career-Related Skills 5.5 Establish criteria to use in selecting works of art for a specific type of art exhibition.

Health



Overview

Through health education, students learn skills that enable them to make healthy choices and avoid high-risk behaviors.

Through health education, students learn skills that enable them to make healthy choices and avoid high-risk behaviors. They also learn health concepts and acquire related knowledge. Students develop communication skills, decision-making and goal-setting skills, refusal techniques, and the ability to access health information and assess its accuracy. They learn health skills and content simultaneously.

Health literacy is the primary goal of health education. *Health literacy* is defined as the capacity of an individual to obtain, interpret, and understand basic health information and services and the competence to use such information and services to enhance health. The knowledge and skills that comprise health literacy are woven throughout the health education content standards.

The health education content standards provide a vision of what students need to know and be able to do to so they can adopt and maintain healthy behaviors. The eight overarching content standards are taught within the context of six content areas. For grades one through six, only three content areas are addressed each year to allow sufficient time for effective instruction. For sixth grade, the three content areas are Injury Prevention and Safety; Alcohol, Tobacco, and Other Drugs; and Mental, Emotional, and Social Health.

By the time students enter sixth grade, nearly a quarter of them have tried alcohol at some time (24 percent according to the California Healthy Kids Survey of grade-five students, fall 2007 and spring 2009 (http://chks.wested.org/reports) [Outside Source]. Such statistics make clear the need to provide students with information and skills that help them be safe, drug-free, and emotionally healthy. The sixth-grade standards for health education emphasize students' physical safety and mental, emotional, and social well-being. Both of these content areas are intimately connected to the third content area: alcohol, tobacco, and other drugs. Health concepts and skills that cross all three content areas include awareness of personal behaviors that might lead to injuries or violence, decision-making processes that focus on strategies to avoid risky situations, and communication skills to resist the pressure to engage in unsafe behaviors.

What Sixth-Grade Students Should Know

In grade five, students learned to read food nutrition labels and used the information to select healthy food. They considered changes in their eating habits and level of physical activity that would improve their health and fitness. Fifth-grade students learned about the human reproductive cycle, the changes that occur during puberty, and how to prevent the transmission of bloodborne communicable diseases. They analyzed the influence of media, peers, and culture on their food choices, physical activity level, perceptions about gender roles and body image, and personal health practices. They identified reliable sources of information and learned and practiced effective communication skills to obtain information from others. In grade five, students learned about and adopted healthy practices and behaviors. They also monitored their health behaviors and their progress toward personal health goals.

What Students Learn in Sixth Grade

In sixth grade, students learn basic first-aid and emergency procedures, how to determine a safe course of action in risky or hazardous situations, and methods to reduce conflict. They examine the risks associated with

weapons and gang involvement, learn how to respond appropriately to the presence of weapons, and analyze how their own behaviors may lead to injuries. Students in sixth grade learn about the short- and long-term effects of drug use, including the effects on their health, brain development, and physical activity. They study the internal and external influences that affect their decisions about the use of alcohol, tobacco, and other drugs. They also learn and practice persuasive communication skills to encourage others not to use alcohol, tobacco, and other drugs. Students learn about the types, causes, and effects of violent behaviors and ways to avoid people or activities that encourage violence. They learn about the causes and effects of stress, when and how to help others seek assistance with stress, and how to manage their own stress in healthy ways. They understand the importance of respecting others, setting personal boundaries, and counteracting teasing or bullying of peers.

Injury Prevention and Safety

The injury prevention and safety standards cover a broad range of information and skills. Students learn about disaster preparedness, first aid, weather- and climate-related hazards, and safety when traveling or using the Internet. This knowledge serves as the basis for students to also practice skills such as analyzing their own behaviors that might lead to injury, using a decision-making process to take a safe course of action in a



dangerous situation, setting personal goals to be safe and injury-free, and promoting safe practices in their school and community. In sixth grade, students also learn about the related dangers of weapons, gangs, and violence. Students examine the risks of gang involvement, being around weapons, and conflicts that might lead to violent behaviors. They practice communication skills to avoid gang involvement and report the presence of weapons. They learn about and practice health-enhancing behaviors such as resolving conflicts nonviolently and participating in positive alternatives to gang activities. Harassment and bullying are also topics for students in sixth grade. Students practice methods to reduce harassment, determine appropriate responses to bullying and harassment using their decision-making skills, and utilize their health-promotion skills to help create a bully-free school and community environment.

Alcohol, Tobacco, and Other Drugs

Students in sixth grade learn about many kinds of drugs, including alcohol, tobacco, inhalents, and prescription and nonprescription drugs, and they discover that even prescription drugs can be misused or result in addiction. They learn about and can explain the social, legal, and economic implications of drug use in addition to the physical effects. For example, students are able to explain the stages of drug dependence and addiction, the effects of drugs on adolescents' brains, and the dangers of secondhand smoke. In sixth grade, students analyze the internal and external influences that affect their decisions to use or not use alcohol, tobacco, and other drugs. Some of the external influences that students analyze are marketing and advertising, culture, and media. Students also analyze how impaired judgment induced by drug use negatively affects their safety, relationships, academic achievement, and attainment of their personal goals. They learn to use skills in interpersonal communication, decision making, and goal setting to resist pressure to use alcohol, tobacco, and other drugs and to encourage others to avoid using them.

Mental, Emotional, and Social Health

In sixth grade, students learn about the signs, causes, and health effects of different feelings and emotions; how their emotions may change during adolescence; and when and how to find help for mental, emotional, and social health problems. They gain more awareness of their own emotions and about how to practice healthy

ways to handle stress, anger, and depression. For example, students learn to use decision-making skills to develop a plan to prevent and manage stress. Students also learn about anger—how to manage it and the harmful effects of violent behavior that may result from angry behavior. They study the connections between different kinds of violent behavior (e.g., bullying, fighting, verbal abuse). They apply communication, decision-making, and goal-setting skills to resolve conflicts without violence, refrain from angry behavior, and avoid people and places that encourage violence. Students learn about the importance to being able to empathize with others and respect individual differences, practice ways to include others who are different from themselves, and gain an understanding of how prejudice, discrimination, and bias can lead to violence. They use their knowledge and skills to promote a school environment that is respectful of all individuals and to object appropriately to teasing or bullying of peers that is based on personal characteristics or perceived sexual orientation.

Support for English Learners

Teachers may need to modify instruction to meet the instructional needs of English learners. Strategies to support learning may include using graphic organizers, pictures, and other visual cues; summarizing or paraphrasing text; and additional time and providing opportunities for practice and interactions with classmates and the teacher. As in other subject areas, the academic language of health must be directly taught to all students, but English learners may need additional opportunities to use new words. For example, with students who speak Spanish, instruction that identifies cognates (e.g., *violence/violencia*, *emergency/emergencia*, *conflict/conflicto*) supports their understanding of content-specific vocabulary. The interpersonal-communication, decision-making, and health-promotion skills of health education provide opportunities for students to use the academic language necessary to gain access to health content. Comparing alternatives and justifying choices require the use of academic language and provide meaningful situations for students to practice using new vocabulary and content knowledge.

The Standards

The following sixth-grade health education content standards were adopted by the California State Board of Education on March 12, 2008.

Health Education Content Standards Grade Six

Overarching Standards

Standard 1: Essential Health Concepts

All students will comprehend essential concepts related to enhancing health.

Standard 2: Analyzing Health Influences

All students will demonstrate the ability to analyze internal and external influences that affect health.

Standard 3: Accessing Valid Health Information

All students will demonstrate the ability to access and analyze health information, products, and services.

Standard 4: Interpersonal Communication

All students will demonstrate the ability to use interpersonal communication skills to enhance health.

Standard 5: Decision Making

All students will demonstrate the ability to use decision-making skills to enhance health.

Standard 6: Goal Setting

All students will demonstrate the ability to use goal-setting skills to enhance health.

Standard 7: Practicing Health-Enhancing Behaviors

All students will demonstrate the ability to practice behaviors that reduce risk and promote health.

Standard 8: Health Promotion

All students will demonstrate the ability to promote and support personal, family, and community health.

	Injury Prevention and Safety		
Standard 1: Essential Concepts			
1.1.S	Explain methods to reduce conflict, harassment, and violence.		
1.2.S	Describe basic first aid and emergency procedures, including those for accidental loss of or injuries to teeth.		
1.3.S	Describe the risks of gang involvement.		
1.4.S	Examine disaster preparedness plans for the home and school.		
1.5.S	Examine the risks of possessing a weapon at home, at school, and in the community.		
1.6.S	Examine safety procedures when using public transportation and traveling in vehicles.		
1.7.S	Discuss safety hazards related to Internet usage.		
1.8.S	Describe hazards related to sun, water, and ice.		
1.9.S	Describe how the presence of weapons increases the risk of serious violent injuries. ²		
Standa	rd 2: Analyzing Influences		
2.1.S	Analyze the role of self and others in causing or preventing injuries.		
2.2.S	Analyze influences on both safe and violent behaviors.		
2.3.S	Analyze personal behaviors that may lead to injuries or cause harm.		
Standard 3: Accessing Valid Information			

¹ See *Education Code (EC)* Section 49330 for the legal definition of weapon (i.e., injurious object).

²*EC* Section 49330.

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3.1.S	Identify rules and laws intended to prevent injuries.
3.2.S	Demonstrate the ability to ask a trusted adult for help when feeling personally threatened or unsafe, including while using the Internet.
Standa	rd 4: Interpersonal Communication
4.1.S	Practice effective communication skills to prevent and avoid risky situations.
4.2.S	Explain the importance of immediately reporting a weapon that is found or is in the possession of peers. ³
4.3.S	Demonstrate escape strategies for situations in which weapons or other dangerous objects are present. ⁴
4.4.S	Practice communication and refusal skills to avoid gang involvement.
Standa	rd 5: Decision Making
5.1.S	Use a decision-making process to determine a safe course of action in risky situations.
5.2.S	Use a decision-making process to determine appropriate strategies for responding to bullying and harassment.
Standa	rd 6: Goal Setting
6.1.S	Develop a personal plan to remain safe and injury-free.
Standa	rd 7: Practicing Health-Enhancing Behaviors
7.1.S	Practice ways to resolve conflicts nonviolently.
7.2.S	Practice safe use of technology.
7.3.S	Practice positive alternatives to gang involvement.
7.4.S	Practice basic first aid and emergency procedures.
Standa	rd 8: Health Promotion
8.1.S	Support injury prevention at school, at home, and in the community.
8.2.S	Promote a bully-free school and community environment.
8.3.S	Encourage others to practice safe behaviors, including the proper use of safety belts when riding in cars, wearing helmets when riding bicycles, and wearing mouth guards when participating in athletic activities.

³*EC* Section 49330. ⁴*EC* Section 49330.

	Alcohol, Tobacco, and Other Drugs		
Standard 1: Essential Concepts			
1.1.A	Explain short- and long-term effects of alcohol, tobacco, inhalant, and other drug use, including social, legal, and economic implications.		
1.2.A	Identify positive alternatives to alcohol, tobacco, and other drug use.		
1.3.A	Differentiate between the use and misuse of prescription and nonprescription medicines.		
1.4.A	Identify the benefits of a tobacco-free environment.		
1.5.A	Explain the dangers of secondhand smoke.		
1.6.A	Explain the stages of drug dependence and addiction and the effects of drugs on the adolescent brain.		
1.7.A	Identify the effects of alcohol, tobacco, and other drug use on physical activity, including athletic performance.		
Standard	d 2: Analyzing Influences		
2.1.A	Describe internal influences that affect the use of alcohol, tobacco, and other drugs.		
2.2.A	Analyze the influence of marketing and advertising techniques, including the use of role models and how they affect use of alcohol, tobacco, and other drugs.		
2.3.A	Analyze how impaired judgment and other effects of using alcohol or marijuana impact personal safety, relationships with friends and families, school success, and attainment of present and future goals.		
2.4.A	Explain how culture and media influence the use of alcohol and other drugs.		
Standard	d 3: Accessing Valid Information		
3.1.A	Identify sources of valid information regarding alcohol, tobacco, and other drug use and abuse.		
Standard	Standard 4: Interpersonal Communication		
4.1.A	Use effective verbal communication skills to avoid situations where alcohol, tobacco, and other drugs are being used.		
4.2.A	Demonstrate effective verbal and nonverbal refusal skills to resist the pressure to use alcohol, tobacco, and other drugs.		
Standard	d 5: Decision Making		
5.1.A	Analyze how decisions to use alcohol, tobacco, and other drugs will affect relationships with friends and family.		

5.2.A	Analyze the kinds of situations involving alcohol, tobacco, and other drugs for which help from an adult should be requested.		
5.3.A	Analyze the legal, emotional, social, and health consequences of using alcohol and other drugs.		
Standar	ed 6: Goal Setting		
6.1.A	Develop personal goals to remain drug-free.		
Standar	Standard 7: Practicing Health-Enhancing Behaviors		
7.1.A	Practice positive alternatives to using alcohol, tobacco, and other drugs.		
Standar	Standard 8: Health Promotion		
8.1.A	Practice effective persuasion skills for encouraging others not to use alcohol, tobacco, and other drugs.		
	Mental, Emotional, and Social Health		
Standar	rd 1: Essential Concepts		
1.1.M	Describe the signs, causes, and health effects of stress, loss, and depression.		
1.2.M	Summarize feelings and emotions associated with loss and grief.		
1.3.M	Discuss how emotions change during adolescence.		
1.4.M	Describe the importance of being aware of one's emotions.		
1.5.M	Describe the importance of being empathetic to individual differences, including people with disabilities and chronic diseases.		
1.6.M	Explain why getting help for mental, emotional, and social health problems is appropriate and necessary.		
1.7.M	Describe the importance of setting personal boundaries for privacy, safety, and expressions of emotions and opinions.		
1.8.M	Describe the similarities between types of violent behaviors (e.g., bullying, hazing, fighting, and verbal abuse).		
1.9.M	Discuss the harmful effects of violent behaviors.		
Standar	Standard 2: Analyzing Influences		
2.1.M	Analyze the external and internal influences on mental, emotional, and social health.		
Standard 3: Accessing Valid Information			

3.1.M	Identify sources of valid information and services for getting help with mental, emotional, and social health problems.
3.2.M	Discuss the importance of getting help from a trusted adult when it is needed.
Standar	d 4: Interpersonal Communication
4.1.M	Practice asking for help with mental, emotional, or social health problems from trusted adults.
4.2.M	Describe how prejudice, discrimination, and bias can lead to violence.
4.3.M	Demonstrate ways to communicate respect for diversity.
4.4.M	Demonstrate the ability to use steps of conflict resolution.
Standar	d 5: Decision Making
5.1.M	Apply a decision-making process to enhance health.
5.2.M	Describe situations for which someone should seek help with stress, loss, and depression.
5.3.M	Compare and contrast being angry and angry behavior, and discuss the consequences.
Standar	d 6: Goal Setting
6.1.M	Make a plan to prevent and manage stress.
6.2.M	Describe how personal goals can be affected if violence is used to solve problems.
6.3.M	Make a personal commitment to avoid persons, places, or activities that encourage violence or delinquency.
Standar	d 7: Practicing Health-Enhancing Behaviors
7.1.M	Carry out personal and social responsibilities appropriately.
7.2.M	Practice strategies to manage stress.
7.3.M	Practice appropriate ways to respect and include others who are different from oneself.
7.4.M	Demonstrate how to use self-control when angry.
Standar	d 8: Health Promotion
8.1.M	Encourage a school environment that is respectful of individual differences.
8.2.M	Object appropriately to teasing or bullying of peers that is based on personal characteristics and perceived sexual orientation.

Physical Education

Overview

The physical education program in grades six through eight provides the opportunity to expand a student's performance and understanding of fundamental movement and motor skills to more specialized movement and motor skills used in a variety of content areas. Students learn to refine, combine, and apply a variety of movement and motor skills in different physical activity settings. In each area of physical education, students learn the critical elements for each motor skill as well as concepts and principles related to biomechanics, motor development, motor learning, and game tactics.

Physical education programs continue to emphasize the importance of physical activity and personal fitness throughout the school year. Students are provided with opportunities to improve their fitness and to understand more advanced concepts related to physical fitness and physical activity. Participation in physical activity can also be an important venue for the social, psychological, and emotional development of sixth-grade students.



State law requires that schools provide students in sixth grade with at least 200 minutes of physical

education each 10 schooldays. Recess and lunch time do not count toward the required instructional minutes. The sixth-grade physical education model content standards are organized by five overarching content standards. Under each of the overarching standards are grade-level model content standards that provide a vision of what students in grade-six should know and be able to do. The content standards represent the essential skills and knowledge that all students need to be physically active and enjoy a healthy lifestyle.

Most sixth-grade students are approaching or entering adolescence, a stage of numerous physical changes. This is the beginning of a two- to three-year growth spurt for some students that can account for 20 percent of their eventual adult stature. The heart and lungs are also increasing in size and capacity proportionate to height and weight gains. Students enjoy being active, engaging in fitness activities, assessing their own fitness levels, and creating personal fitness plans. Students at this stage learn to combine various skills in cooperative activities.

What Sixth-Grade Students Should Know

In fifth grade, students learned manipulative skills with an emphasis on improving accuracy and distance while efficiently manipulating objects using body parts or implements. For example, they stopped a kicked ball by trapping it with a foot and hit a dropped ball with a racket or paddle. They practiced offensive and defensive skills. Students created and performed dances with intentional changes in speed and direction and rhythmic routines that involved manipulating an object. They learned fitness concepts, such as the principles of training, and how to increase their aerobic capacity. They set and monitored achievable short-term and long-term goals for improved physical fitness. Students assessed their health-related physical fitness and increased the amount of time and the intensity of their physical activity. They learned to work cooperatively and learned to respect others with differing abilities.

What Students Learn in Sixth Grade

In sixth grade, the focus of instruction is providing students with experiences that help them transition to sport-skill learning with an emphasis on the application of movement and motor skills in lead-up or modified games. When students practice manipulative skills, they practice more often with partners than in earlier grades. For example, sixth-grade students volley an object repeatedly with a partner instead of volleying a tossed ball to a target as they did in grade five. Students learn new skills and patterns in folk and line dancing, and new ways to combine movement skills to create and perform tumbling and rhythmic routines with attention to the aesthetics of physical activity. They learn how to recognize and correct their own errors and to provide feedback to peers to assist them in developing movement skills. Students continue to learn about health-related physical fitness, assess their own fitness level, and develop a one-day personal fitness plan. Cooperative physical activity is another focus of instruction in sixth grade, with students learning about their own and others' roles and responsibilities in setting common goals and solving problems.

Overarching Standard 1: Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.

With the change in instructional focus from foundational manipulative skills to specialized sport skills, students learn to strike objects using body parts and implements more consistently and with greater accuracy. They learn to dribble and pass a ball to a partner while being guarded, skills that are practiced in a modified game. Students in sixth grade combine nonlocomotor, locomotor, and motor skills while incorporating qualities of movement (e.g., relationships, levels, speed, direction, and pathways) in complex physical activities. They are given learning opportunities to develop rhythmic skills as they perform folk and line dances and rhythmic routines to music. They also learn to design and perform smooth, flowing sequences of stunts, tumbling, and rhythmic patterns.

Overarching Standard 2: Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performance of physical activities.

Standard 2 represents the cognitive knowledge that supports the locomotor, nonlocomotor, and manipulative skills practiced. For example, Standard 2.6 is "Explain the role of the legs, shoulders, and forearm in the forearm pass"; and Standard 1.1 reads, "Volley an object repeatedly with a partner, using the forearm pass." Students learn about the correct technique for the forearm pass, practice the skill with a partner, and can both explain and demonstrate the role of the legs, shoulders, and forearms when asked by the teacher. In sixth grade, students learn more about the biomechanics of physical activity—in particular, the variables involved with increasing and decreasing the forces applied by the body or another object and those controlling the intended

Understanding the biomechanics of physical activities helps students achieve greater accuracy and precision with manipulative skills, such as batting a ball or striking a volleyball.

flight of an object. Understanding the biomechanics of physical activities helps students achieve greater accuracy and precision with manipulative skills, such as batting a ball or striking a volleyball. Students also improve their understanding of offensive strategies by identifying opportunities to pass or dribble while being closely guarded.

By the end of sixth grade, students can identify dance steps and rhythm patterns and explain the contribution of movement qualities to the aesthetic dimension of physical activity. Students also learn the correct type of feedback (specific positive, specific corrective) to help others learn and improve movement skills. In sixth grade, students develop and teach a cooperative movement game

that requires locomotor skills, manipulation of objects, and an offensive strategy.

Overarching Standard 3: Students assess and maintain a level of physical fitness to improve health and performance.

Students in sixth grade perform moderate to vigorous physical activities a minimum of four days each week. They assess their own level of health-related physical fitness, including the intensity of their heart rate during physical activity, and compare themselves with established, research-based standards for good health. Students use this information to generate personal goals for each fitness component (muscle strength/endurance, flexibility, aerobic capacity, and body composition). As students continue to participate in fitness activities, they monitor and evaluate changes in their fitness status.

Overarching Standard 4: Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.

Similar to the relationship between Standards 1 and 2, Standard 4 provides the cognitive information to support the fitness activities described in Standard 3. For Standard 4, students learn different methods of monitoring heart rate intensity. These methods include using heart rate monitors and placing two fingers over the wrist.

In sixth grade, students learn the long-term benefits of regular participation in physical activity and how to classify activities as aerobic or anaerobic. They also distinguish between effective and ineffective warm-ups, cool-downs, and flexibility exercises (stretches). They compile and analyze the effects of caloric intake and energy expenditures through physical activity. Students apply their knowledge by developing a one-day physical fitness plan that uses the FITT (frequency, intensity, time, and type) principles and addresses each component of health-related physical fitness.



Overarching Standard 5: Students demonstrate and utilize knowledge of psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.

With the emphasis on learning specialized sport skills through lead-up or modified games, students in sixth grade participate in many group physical activities. They identify the individual roles and responsibilities necessary to make their group successful, including their own responsibilities in cooperative physical activities. Students

develop collaborative skills as they agree on common goals and seek consensus solutions to movement problems that occur in cooperative physical activities.

Support for English Learners

The goal of physical education programs in California is to ensure universal access to high-quality curriculum and instruction so that every student can meet or exceed the state's physical education model content standards. To reach that goal, teachers design instruction to meet the instructional needs of each student. Different instructional approaches may be needed for English learners to gain access to physical education content. Specially designed academic instruction in English (SDAIE), also known as sheltered instruction, provides students with a variety of interactive and multimodal means to access information. With sheltered instruction techniques, teachers modify the language demands of the lesson. Cooperative learning with high

levels of interaction may also be an effective strategy. (See the *Physical Education Framework for California Public Schools* [California Department of Education 2009], Chapter 7, "Universal Access," for more information.)

Physical education instruction provides opportunities for students to develop their English-language skills. Students learn new vocabulary through physical activity instruction that is modeled by other students (e.g., throwing with *underhand*, *overhand*, and *sidearm* movement patterns) and explanations of manipulative skills that include visual clues (e.g., "Explain the role of the legs, shoulders, and forearm in the forearm pass"). Instruction that draws attention to cognates can help students understand domain-specific and academic vocabulary (e.g., *aerobic exercise/ejercicio aerobico*; *anaerobic exercise/ejercicio anaerobico*). Participating in small-group activities and modified team games, coaching other students, discussing rules, and speaking about and listening to physical education concepts and principles also provide opportunities for English learners to acquire academic vocabulary and practice both informal and formal English.

Support for Students with Special Needs

Successful participation in physical activities by students with special needs depends on the teacher's skill and training in providing instruction and support to all students. When systematically planned differentiation strategies are used, students with special needs can benefit from appropriately challenging curriculum and instruction. The strategies for differentiating instruction for students include pacing, complexity, depth, and novelty. Despite the modifications made, the focus is always on helping students to meet the physical education model content standards to the best of their ability and frequently assessing their progress in attaining the standards.

In helping students move from below grade to their grade level, teachers use instructional resources aligned with the standards; however, during a transitional period, students receive instruction aligned with fundamental skills and concepts from previous grade levels that support the standards for their current grade level. Some students with 504 Plans or individualized education programs (IEPs) are eligible for special education services in physical education. A student's 504 Plan or IEP often includes suggestions for techniques to ensure that the student has full access to a program that is designed to provide him or her with appropriate learning opportunities and uses instructional materials and strategies that best meet the student's needs. The 504 Plan or IEP also determines which services or combination of services best met the student's need. (See the *Physical Education Framework for California Public Schools* [California Department of Education 2009], Chapter 7, "Universal Access," for more information.)

The following sixth-grade physical education model content standards were adopted by the California State Board of Education on January 12, 2005.

patterns needed to perform a
a paddle for the forehand stroke
ravels in the intended direction
ct travels in the intended
rhand, overhand, and sidearm
omplex individual and group
g, and rhythmic patterns that

Movem	Movement Concepts		
2.1	Explain how to increase force based on the principles of biomechanics.		
2.2	Explain how impact force is reduced by increasing the duration of impact.		
2.3	Analyze and correct errors in movement patterns.		
2.4	Provide feedback to a partner to assist in developing and improving movement skills.		
2.5	Identify practices and procedures necessary for safe participation in physical activities.		
Manip	ılative Skills		
2.6	Explain the role of the legs, shoulders, and forearm in the forearm pass.		
2.7	Identify the time necessary to prepare for and begin a forehand stroke and a backhand stroke.		
2.8	Illustrate how the intended direction of an object is affected by the angle of the implement or body part at the time of contact.		
2.9	Identify opportunities to pass or dribble while being guarded.		
Rhythr	ythmic Skills		
2.10	Identify steps and rhythm patterns for folk and line dances.		
2.11	Explain how movement qualities contribute to the aesthetic dimension of physical activity.		
Combi	nations of Movement Patterns and Skills		
2.12	Develop a cooperative movement game that uses locomotor skills, object manipulation, and an offensive strategy and teach the game to another person.		
3.1	Assess the components of health-related physical fitness (muscle strength, muscle endurance, flexibility, aerobic capacity, and body composition) by using a scientifically based health-related fitness assessment.		
3.2	Compare individual physical fitness results with research-based standards for good health.		
3.3	Develop individual goals for each of the components of health-related physical fitness (muscle strength, muscle endurance, flexibility, aerobic capacity, and body composition).		
3.4	Participate in moderate to vigorous physical activity a minimum of four days each week.		

3.6	Monitor the intensity of one's heart rate during physical activity.		
ST	STANDARD 4: Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.		
4.1	Distinguish between effective and ineffective warm-up and cool-down techniques.		
4.2	Develop a one-day personal physical fitness plan specifying the intensity, time, and types of physical activities for each component of health-related physical fitness.		
4.3	Identify contraindicated exercises and their adverse effects on the body.		
4.4	Classify physical activities as aerobic or anaerobic.		
4.5	Explain methods of monitoring heart rate intensity.		
4.6	List the long-term benefits of participation in regular physical activity.		
4.7	Compile and analyze a log noting the food intake/calories consumed and energy expended through physical activity.		
	STANDARD 5: Students demonstrate and utilize knowledge of psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.		
Self-Re	Self-Responsibility		
5.1	Participate productively in group physical activities.		
5.2	Evaluate individual responsibility in group efforts.		
Social 1	Social Interaction		
5.3	Identify and define the role of each participant in a cooperative physical activity.		
Group	Group Dynamics		
5.4	Identify and agree on a common goal when participating in a cooperative physical activity.		
5.5	Analyze possible solutions to a movement problem in a cooperative physical activity and come to a consensus on the best solution.		

World Languages



Overview

To succeed in the twenty-first century, today's students need to develop linguistic and cultural literacy, including academic knowledge and proficiency in English and in world languages and cultures. California schools teach a wide variety of languages spoken throughout the world, as well as American Sign Language

California schools teach a wide variety of languages spoken throughout the world, as well as American Sign Language (ASL). (ASL). Because every language is a "foreign" language to those who do not know it, the term used in this document and in the standards is "world" languages.

Students no longer simply learn about languages and cultures; rather, they are provided with opportunities to learn languages and cultures through participation in communicative interactions that prepare them for real-world language use and global citizenship. Language learning needs to be a lifelong endeavor.

What Sixth-Grade Students Should Know

Although world language instruction is not a required subject for the elementary grades, instruction in world languages is encouraged to begin as early as possible. Some sixth-grade students may have participated in language instruction in the earlier grades, but many will have had no formal instruction in another language. However, because of the diversity of students in California, most classrooms will include students who bring a rich variety of languages and cultures with them. Students may have learned a heritage language in their homes, be recent immigrants, or acquired the ability to understand and/or produce one or more languages through contact in their communities or abroad.

What Students Learn in Sixth Grade

The variety of languages and cultures in California classrooms provides opportunities for students to learn about and celebrate the contributions of many people to the local community and reinforce lessons from sixth-grade history–social science.

California schools offer a variety of language programs, some beginning in elementary school, continuing in middle school, and most typically in comprehensive high school. Elementary programs in language instruction include the following types:

- Immersion—a program in which at least 50 percent of the core curriculum instruction is in the target language.
- Foreign Language in the Elementary School (FLES)—a program that provides instruction for a minimum of 70 minutes a week. The goal is to develop proficiency in language and culture.
- Foreign Language Experience (FLEX)—a program that exposes students to the study of a language or languages and cultures to motivate them to pursue further study of a language.

These programs differ substantially in the number of hours allocated for instruction. All programs need to be age-appropriate in order to address students' cognitive, emotional, and social needs. Programs for heritage and native speakers may include immersion, specialized courses designed to meet learner needs, and accommodations for these learners within the world language classroom.

Organization of the Standards

The world language content standards, adopted by the State Board of Education in 2009, represent a strong consensus that the study of a wide variety of world languages and cultures is part of the core curriculum. The standards present the knowledge, skills, and abilities that all learners of a world language should acquire in the

California public school system.



Because of the considerable number of languages spoken in California schools, the world language content standards were developed to accommodate all languages and the various stages a learner goes through to become proficient. Therefore, the world language content standards are not language-specific. In addition, because of the various levels of student proficiency and the variety of California's language programs, the world language content standards are not designated for specific grade levels; instead, they describe levels of linguistic and cultural acquisition. The standards provide an organizing principle to ensure the continuous development of student proficiency, regardless of the multiple points of entry and exit from California's language programs. For these reasons, this section is also general and not specific to sixth grade, focusing on the organization of the world language standards and the first two levels of language proficiency.

The standards are separated into five categories and four stages or levels of proficiency. The five categories are taught together and in practice merge into seamless instruction within the various stages. The categories are Content, Communication, Cultures, Structures, and Settings.

Content

The content of the language course includes vocabulary from a wide variety of topics that are age- and stage-appropriate. This content enables students to make connections and reinforce knowledge from other areas of the curriculum and to participate in everyday social interactions in the target language. As students develop their ability to communicate in the target language and culture, they address topics that increase in complexity.

Communication

Real-world communication occurs in a variety of ways. It may be interpersonal in which listening, reading, viewing, speaking, signing, and writing occur as a shared activity among language users. It may be interpretive in which language users listen, view, and read using knowledge of cultural products, practices, and perspectives. Or may be presentational in which speaking, signing, and writing occur. Students actively use language to transmit meaning while responding to real situations.

Cultures

To understand the connection between language and culture, students learn how a culture views the world. Students understand the ideas, attitudes, and values that shape that culture. These shared common perspectives, practices, and products incorporate not only formal aspects of a culture—such as contributions of literature, the arts, and science—but also the daily living practices, shared traditions, and common patterns of behavior

acceptable to a society. Students acquire the ability to interact appropriately with individuals in the target culture, to communicate successfully, and to make connections and comparisons between languages and cultures.

Structures

Languages vary considerably in the structures that learners use to convey meaning; therefore, the curriculum will feature language-specific structures essential to accurate communication. As they acquire vocabulary in the

target language, students grasp the associated concepts and understand the structures of the language to convey meaning. Students learn patterns in the language system, which consists of grammar rules and vocabulary and elements such as gestures and other forms of nonverbal communication. A language system also includes discourse, whereby speakers learn what to say to whom and when. As they progress in proficiency with language, students use linguistically and grammatically appropriate structures to comprehend and produce messages. Students identify similarities and differences among the languages they know.

Students learn patterns in the language system, which consists of grammar rules and vocabulary and elements such as gestures and other forms of nonverbal communication.

Settings

For students to communicate effectively, they use elements of language appropriate for a given situation. Language conveys meaning best when the setting, or context, in which it is used is known. This knowledge of context assists students not only in comprehending meaning but also in using language that is culturally appropriate. Context also helps define and clarify the meaning of language that is new to the learner. Understanding social linguistic norms will assist learners in communicating effectively in real-world encounters.

Stages of Proficiency

The world language content standards describe four levels of proficiency for each of the five categories. These levels of proficiency are based on the stages of the Language Learning Continuum, a framework developed by the College Board to indicate growth in linguistic and cultural proficiency. The stages provide benchmarks of progress:

- Stage I (Formulaic): Learners understand and produce signs, words, and phrases. (*Note:* It is common in the elementary school context for nonheritage learners to remain in Stage I for an extended period of time.)
- Stage II (Created): Learners understand and produce sentences and strings of sentences.
- Stage III (Planned): Learners understand and produce paragraphs and strings of paragraphs.
- Stage IV (Extended): Learners understand and produce cohesive texts composed of multiple paragraphs.

The Language Learning Continuum also includes Stage V (Tailored) proficiency, which represents performance typically achieved through university-level study. Stage V is not included in the standards.

The Standards

The world language content standards, adopted by the California State Board of Education on January 7, 2009, are organized by stage, not by grade level. Most sixth-grade students would be at either Stage I or Stage II, so only those two sets of standards are listed below. For a complete list of the standards for all four stages, view the world language content standards posted on the CDE Content Standards Web page at http://www.cde.ca.gov/be/st/ss/.

	World Language Content Standards Stage I		
	Content		
1.0	Students acquire information, recognize distinctive viewpoints, and further their knowledge of other disciplines.		
1.1	Students address discrete elements of daily life, including:		
	 a. Greetings and introductions b. Family and friends c. Pets d. Home and neighborhood e. Celebrations, holidays, and rites of passage f. Calendar, seasons, and weather g. Leisure, hobbies and activities, songs, toys and games, sports h. Vacations and travel, maps, destinations, and geography i. School, classroom, schedules, subjects, numbers, time, directions j. Important dates in the target culture k. Jobs l. Food, meals, restaurants m. Shopping, clothes, colors, and sizes n. Parts of the body, illness o. Technology 		
Communication			
1.0	Students use formulaic language (learned words, signs [ASL], and phrases).		
1.1	Engage in oral, written, or signed (ASL) conversations.		
1.2	Interpret written, spoken, or signed (ASL) language.		
1.3	Present to an audience of listeners, readers, or ASL viewers.		
Functions	Functions		
1.4	List, name, identify, enumerate.		

1.5 Identify learned words, signs (ASL), and phrases in authentic texts.		
1.6 Reproduce and present a written, oral, or signed (ASL) product in a culturally authentic way.		
Cultures		
1.0 Students use appropriate responses to rehearsed cultural situations.		
1.1 Associate products, practices, and perspectives with the target culture.		
1.2 Recognize similarities and differences within the target cultures and between students' own cultures.		
1.3 Identify cultural borrowings.		
Structures		
1.0 Students use orthography, phonology, or ASL parameters to understand words, signs (ASL), and phrases in context.		
1.1 Use orthography, phonology, or ASL parameters to produce words or signs (ASL) and phras in context.		
1.2 Identify similarities and differences in the orthography, phonology, or ASL parameters of the languages the students know.		
Settings		
1.0 Students use language in highly predictable common daily settings		
1.1 Recognize age-appropriate cultural or language-use opportunities outside the classroom.		

	World Language Content Standards Stage II		
	Content		
2.0	Students acquire information, recognize distinctive viewpoints, and further their knowledge of other disciplines.		
2.1	Students address topics related to self and the immediate environment, including: a. Social relationships b. People in the community c. Zoo and farm animals, fables d. Care of the home, interacting with people in the community e. Holiday customs and transition points in life		

f. Climate g. Cultural and leisure-time activities, outdoor, recreational activities, music h. Transportation, lodging, itineraries, geographic features and landmarks i. Curricular and extracurricular interests and events j. Significant historical figures k. Professions and the working world 1. Cuisine and recipes m. Clothing and fashion n. Health, medical care o. Technological advances and innovation Communication 2.0 Students use **created language** (sentences and strings of sentences). 2.1 Engage in oral, written, or signed (ASL) conversations. 2.2 Interpret written, spoken, or signed (ASL) language. 2.3 Present to an audience of listeners, readers, or ASL viewers. **Functions** 2.4 Initiate, participate in, and close a conversation; ask and answer questions. 2.5 Demonstrate understanding of the general meaning, key ideas, and some details in authentic texts. 2.6 Produce and present a simple written, oral, or signed (ASL) product in a culturally authentic way. **Cultures** 2.0 Students choose an appropriate response to a variety of situations. 2.1 Demonstrate understanding of the roles that products, practices, and perspectives play in the culture. 2.2 State similarities and differences in the target cultures and between students' own cultures. 2.3 State reasons for cultural borrowings. **Structures** 2.0 Students use sentence-level elements (morphology or syntax or both) to understand concrete and factual topics. 2.1 Use sentence-level elements (morphology or syntax or both) to produce informal communications.

2.2	Identify similarities and differences in the sentence-level elements (morphology or syntax or both) of the languages the students know.	
Settings		
2.0	Students use language in interpersonal settings.	
2.1	Participate in age-appropriate cultural or language-use opportunities outside the classroom.	

School Library

Overview



School libraries have evolved from having a focus on print materials to providing a rich selection of resources, both print and digital; from students learning how to search a card catalog to learning strategies for searching a variety of digital resources and using Web browsers; from basic literacy to information literacy (the ability to access, evaluate, and use information effectively). However, the skills learned from print transcend their use in books alone. "Students who understand systems of text organization are better equipped to use the Internet as it is today. Most notably, they expect worthy resources to have order. This may drive them to probe complex websites, which, for all their bells and whistles, are fundamentally arranged like reference books, with A-Z lists and topical divisions" (Preston 2009, 80).

California *Education Code* Section 18100 reinforces the essential role of school libraries:

The governing board of each school district shall provide school library services for the pupils and teachers of the district by establishing and maintaining school libraries or by contractual arrangements with another public agency.

The following describes what sixth-grade students should know and be able to do as a result of having an effective school library program at their school.

What Sixth-Grade Students Should Know

In grade five, students read a wide variety of grade-level-appropriate text, both in print and online. They learned the basic components of information literacy: to identify, access, evaluate, and use information effectively. Students defined the topic of a research investigation and created and used complex key-word searches to locate specific information online.

In fifth grade, students also learned how features of both print and digital text make information accessible and used these specialized text features to locate relevant information. They used appropriate reference materials including the thesaurus to obtain needed information. Fifth-grade students became comfortable locating materials in the library, including biographies, using the library catalog and the library classification system.

Scanning and skimming skills were used to locate relevant information within resources. Students determined whether the information confirmed or changed their original questions and whether more information was needed. They used more than one resource when needed to verify and determine accuracy. They also recorded bibliographic information in an acceptable format.

Media literacy continued as students described how media resources can serve as sources of information, entertainment, persuasion, interpretation of events, and transmission of culture.

Fifth-grade students used basic safety procedures when online. They demonstrated legal and ethical behavior in information use while understanding and respecting personal intellectual property. Students recognized suspicious online offers and invitations such as spam and phishing.

What Students Learn in Sixth Grade

In sixth grade, students continue to improve and apply more complex search strategies within the school library and beyond. They identify appropriate key words, terms, and synonyms for the research topic to create and perform effective key-word searches in print and online, including searches of the automated library catalog and search engines on the World Wide Web (using search engines). Students identify and locate multiple sources of information both in the school library and in outside resources, such as public libraries, colleges, or online databases. If necessary, they use interlibrary loan to borrow materials from other libraries. Students learn to use Boolean search techniques and other search limiters and expanders to retrieve targeted information.

Sixth-grade students become more sophisticated users of the Internet by following the school's rules for online use. Students practice safe use of the Internet, safe handling of personal information, and appropriate online behavior. They are able to identify uncomfortable online interactions and handle them effectively.

Students demonstrate proper and responsible use of technology. They are able to identify types of programs that can damage a computer, such as computer viruses, worms, Trojan horses, and spyware. They are aware of and can identify urban legends and hoaxes spread through e-mail. Students in sixth grade know how to use online applications such as photo organizers, presentation generators, document creators, and video conferencing. Students collaborate in person and through the use of technology. They recognize the academic uses of social networking sites and understand how to use them safely. Students demonstrate respect for others' right to freedom of speech.

Students analyze the evidence they have found to support a research question, including analyzing information from illustrations, photographs, charts, graphs, maps, and captions. They determine whether the information supports the question but does not directly answer it and whether the information is sufficient to answer the question. Students in sixth grade can explain the authority, timeliness, and accuracy of specific information resources and identify any unsupported statements in the information. They restate facts and details and organize those ideas for notetaking, using

Students analyze the evidence they have found to support a research question, including analyzing information from illustrations, photographs, charts, graphs, maps, and captions.

techniques such as outlining, webbing, and flowcharting. Students learn to accurately record citation information for each type of resource used. They choose an appropriate format to produce, communicate, and present information.

Sixth-grade students pursue information related to personal well-being. They evaluate their own research process and that of others in a respectful, cooperative, and productive way. Students continue to read a wide variety of grade-level-appropriate text, making progress toward the goal of reading one million words per year by grade eight.

An added benefit for students is when the classroom teacher and school librarian collaborate to plan and implement a lesson that addresses different content areas. A brief example of a possible sixth-grade lesson that includes health, English language arts, and school library standards is provided below.

Sample Collaborative Lesson

Standards:

- Health 3.1.A Identify sources of valid information regarding alcohol, tobacco, and other drug use and abuse.
- Health 5.3.A Analyze the legal, emotional, social, and health consequences of using alcohol and other drugs.

- ELA SL.5 Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
- ELA W.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.
- SLS 1.2.a Identify related key words, terms, and synonyms for the research topic and information needed.
- SLS 1.3.a Identify and locate multiple sources of information that provide a broad view of research topics and questions (e.g., books, reference materials, online sources, periodicals).
- SLS 1.4.b Accurately record citation information for each type of resource used.
- SLS 2.2.c Explain the authority, timeliness, and/or accuracy of specific information resources.

Students work in small groups; each group is assigned to research the legal, emotional, social, and health consequences of using a particular drug. For this lesson, the classroom teacher and the teacher librarian collaborate to identify specific resources, both within the library and available online, that students will use. Some of the resources may not be authoritative sources, accurate, or timely. The teacher librarian provides instruction on the various resources and the proper citation format for the resources that will be used, both in print and online.

Students begin by identifying the key words and terms for the drug that they are investigating. The students in each group conduct their research by using the resources provided, taking notes, and recording bibliographic citations.

Each group analyzes the information and the source to determine whether the information is valid, accurate, and timely, identifying those sources that are not valid. Students turn in the group's notes, citations for the resources used, and conclusions about the validity of the sources used.

Using multimedia and visual displays, each group prepares a presentation covering research results and the consequences of drug use.

The Standards

The model school library standards incorporate information literacy (the ability to access, evaluate, and use information effectively) and digital literacy (the ability to use digital technology, communications tools, or networks to access, manage, integrate, evaluate, create, and communicate) to enable students to function in a knowledge-based economy and society. They describe what students should know and be able to do by the end of sixth grade.

The standards are organized around four overarching concepts. Detailed standards explain what each student is expected to have successfully achieved. In addition, students are expected to have mastered the standards for previous grades and continue to use those skills and knowledge as they advance in school.

School library standards are aligned with many of the content standards in the subject areas included in the course of study and are best learned through the content. The following sixth-grade model school library content standards were adopted by the California State Board of Education on September 10, 2010.

Model School Library Content Standards Grade Six

1. Students access information.

The student will access information by applying knowledge of the organization of libraries, print materials, digital media, and other sources.

1.1 Recognize the need for information:			
1.1.a	Recognize that accurate and comprehensive information is the basis of informed decision making.		
1.1.b	Determine and use appropriate "pre-search" strategies (e.g., brainstorming, recall of prior knowledge).		
1.2 Formulate appropriate questions:			
1.2.a	Identify related key words, terms, and synonyms for the research topic and information needed.		
1.2.b	Demonstrate the ability to create effective searches in print and online by identifying appropriate key words.		
1.3 Identify and locate a variety of resources online and in other formats by using effective search strategies:			
1.3.a	Identify and locate multiple sources of information that provide a broad view of research topics and questions (e.g., books, reference materials, online sources, periodicals).		
1.3.b	Perform a search of the automated library catalog to locate resources for a particular purpose.		
1.3.c	Use the automated library catalog to locate resources in other libraries and use interlibrary loan, if available.		
1.3.d	Use the World Wide Web, including search engines and browsers, to locate information.		
1.3.e	Demonstrate proper and responsible use of technology and other library materials.		
1.3.f	Demonstrate use of outside sources to obtain information (e.g., Web sites of public libraries and colleges, online databases).		
1.3.g	Compare and contrast the benefits of using open-source media, subscription databases, print media, and visual media to answer a research question.		
1.3.h	Demonstrate knowledge of current applications available online (e.g., photo organizer, presentation generator, document creator, video conferencing).		
1.3.i	Recognize that specialized encyclopedias differ in arrangement, emphasis, and indexing.		

1.3.j	Use Boolean search techniques and other limiters or expanders to locate appropriate resources.		
1.3.k	Identify the authority of an author or sponsoring organization in print and online materials.		
1.3.1	Identify information that supports the question but may not directly answer it.		
1.3.m	Describe how articles and publications in print may appear different digitally.		
1.4 Retriev	1.4 Retrieve information in a timely, safe, and responsible manner:		
1.4.a	Understand and practice the basics of safe use of the Internet.		
1.4.b	Accurately record citation information for each type of resource used.		
1.4.c	Use several facts from visual or audio media to support a hypothesis.		
1.4.d	Restate facts and details taken from an information source (print, nonprint, or digital) and organize those ideas for notetaking by using techniques such as outlining, webbing, flowcharting, and so on.		
The student	2. Students evaluate information. The student will evaluate and analyze information to determine what is appropriate to address the scope of inquiry.		
2.1 Determ	2.1 Determine the relevance of the information:		
2.1.a	Analyze information from illustrations, photographs, charts, graphs, maps, tables, and captions.		
2.1.b	Analyze evidence to support a research question.		
2.1.c	Identify unsupported statements in resources used.		
2.2 Assess	comprehensiveness, currency, credibility, authority, and accuracy of resources:		
2.2.a	Identify how visual language creates an impression for the viewer (e.g., angle, lighting, special effects, camera movement).		
2.2.b	Recognize the importance of the publication date as an indicator of information currency.		
2.2.c	Explain the authority, timeliness, and/or accuracy of specific information resources.		
2.3 Consider the need for additional information:			
2.3.a	Evaluate whether the information is sufficient to answer the question.		
3. Students use information. The student will organize, synthesize, create, and communicate information.			

Demonstrate ethical, legal, and safe use of information in print, media, and online resources:

3.1

3.1.a	Practice safe handling of personal information online.		
3.1.b	Recognize academic uses of social networking sites and understand how to use them safely (e.g., know how to adjust privacy settings).		
3.1.c	Articulate and follow the rules for online use at school.		
3.1.d	Identify types of programs that can damage a computer (e.g., virus, worm, Trojan horse, spyware).		
3.1.e	Practice ethical behavior in online interactions.		
3.1.f	Identify what constitutes an "uncomfortable" interaction online and how to handle it effectively.		
3.1.g	Identify urban legends and hoaxes spread through e-mail and the Internet.		
3.1.h	Understand how to provide limited copyright and authorize use of original works (e.g., Creative Commons).		
3.2 Draw conclusions and make informed decisions:			
3.2.a	Analyze evidence to support a research question.		
3.3 Use information and technology creatively to answer a question, solve a problem, or enrich understanding:			
3.3.a	Choose an appropriate format to produce, communicate, and present information (e.g., written report, multimedia presentation, graphic presentation).		
	4. Students integrate information literacy skills into all areas of learning. The student will independently pursue information to become a lifelong learner.		
4.1 Read w	idely and use various media for information, personal interest, and lifelong learning:		
4.1.a	Read a good representation of grade-level-appropriate text, making progress toward the goal of reading one million words annually by grade eight (e.g., classic and contemporary literature, magazines, newspapers, online information).		
4.1.b	Participate in activities that reflect interests, talents, or desires.		
4.2 Seek, pr	4.2 Seek, produce, and share information:		
4.2.a	Respect others' right to freedom of speech.		
4.2.b	Pursue information related to personal well-being (e.g., career interests, community involvement, health matters, recreation).		
4.2.c	Collaborate in person and through technology to identify problems and seek solutions.		
4.3 Apprec	4.3 Appreciate and respond to creative expressions of information:		

4.3.a	Demonstrate a variety of methods to engage the audience when presenting information (e.g., voice modulation, gestures, questions).
4.3.b	Appreciate a range of creative forms of expression (e.g., poetry, drama, film, literature, visual arts).
4.3.c	Evaluate one's own research process and that of others in a respectful, cooperative, and productive way.