



A Look at...

Fourth Grade in California Public Schools

and the
Common Core State Standards



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Contents



	Page
Fourth-Grade Curriculum	4.1
English Language Arts	4.2
Overview	4.2
What Fourth-Grade Students Should Know	4.2
What Students Learn in Fourth Grade	4.3
Reading	4.3
Writing	4.5
Speaking and Listening	4.5
Language	4.6
Extra Support for Struggling Readers	4.7
Support for English Learners	4.8
The Standards	4.14
Mathematics	4.22
Overview	4.22
What Fourth-Grade Students Should Know	4.22
What Students Learn in Fourth Grade	4.23
Operations and Algebraic Thinking	4.23
Number and Operations in Base Ten	4.23
Number and Operations—Fractions	4.24
Measurement and Data	4.24
Geometry	4.25
Support for English Learners	4.25
Use of Calculators	4.26
The Standards	4.26
CCSS Domains	4.31
History–Social Science	4.32
Overview	4.32
What Fourth-Grade Students Should Know	4.33

What Students Learn in Fourth Grade	4.33
Physical and Human Geographic Features That Define California.....	4.33
Pre-Columbian Settlements and People.....	4.33
European Exploration and Colonial History.....	4.33
Missions, Ranchos, and the Mexican War for Independence.....	4.34
The Gold Rush and Statehood	4.34
California as an Agricultural and Industrial Power	4.35
Modern California: Immigration, Technology, and Cities	4.36
Local, State, and Federal Governments	4.37
The Education and the Environment Initiative	4.37
Support for English Learners	4.38
The Standards.....	4.38
Science	4.43
Overview	4.43
What Fourth-Grade Students Should Know	4.43
What Students Learn in Fourth Grade	4.44
Physical Sciences.....	4.44
Life Sciences (Standard Set 2).....	4.44
Life Sciences (Standard Set 3).....	4.45
Earth Sciences (Rocks and Minerals).....	4.45
Earth Sciences (Waves, Wind, Water, and Ice).....	4.45
Investigation and Experimentation	4.45
The Education and the Environment Initiative.....	4.46
Science Across the Content Areas	4.46
Support for English Learners.....	4.47
The Standards.....	4.47
Visual and Performing Arts	4.50
Overview	4.50
What Fourth-Grade Students Should Know	4.50
What Students Learn in Fourth Grade	4.50
Dance	4.50
Music.....	4.50
Theatre	4.51

Visual Arts	4.51
The Standards.....	4.51
Key Content Standards	4.52
Health	4.60
Overview	4.60
What Fourth-Grade Students Should Know	4.60
What Students Learn in Fourth Grade	4.61
Nutrition and Physical Activity	4.61
Injury Prevention and Safety	4.61
Alcohol, Tobacco, and Other Drugs	4.62
Support for English Learners	4.62
The Standards.....	4.63
Physical Education	4.69
Overview.....	4.69
What Fourth-Grade Students Should Know	4.69
What Students Learn in Fourth Grade	4.70
Overarching Standard 1: Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.....	4.70
Overarching Standard 2: Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performance of physical activities.	4.70
Overarching Standard 3: Students assess and maintain a level of physical fitness to improve health and performance.	4.71
Overarching Standard 4: Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.	4.71
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.	4.71
Support for English Learners	4.72
Support for Students with Special Needs.....	4.72
The Standards.....	4.73
World Languages	4.77
Overview	4.77
What Fourth-Grade Students Should Know	4.77
What Students Learn in Fourth Grade	4.77

Organization of the Standards.....	4.78
Content	4.78
Communication	4.78
Cultures	4.79
Structures	4.79
Settings	4.79
Stages of Proficiency	4.79
The Standards.....	4.80
School Library	4.82
Overview	4.82
What Fourth-Grade Students Should Know	4.82
What Students Learn in Fourth Grade	4.83
The Standards.....	4.84

Fourth-Grade Curriculum



What will my child learn in fourth grade?

I've been teaching first grade, and this year I've been reassigned to fourth grade. What does the fourth-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 fourth-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 fourth grade. Each section includes a brief overview of what the student should have learned before entering fourth grade, followed by a description of the fourth-grade standards. Each subject concludes with a list of the fourth-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>.



Overview

Students in fourth grade are in a new stage of reading and learning. Traditionally, fourth grade marks the transition from learning to read (in kindergarten through grade three) to reading to learn (in grade four and beyond). This stage can be categorized as reading and learning for life, a stage in which students begin to acquire and apply a full and complex range of lifelong language and literacy skills. From fourth grade on, students must be able to recognize increasingly complex words accurately and automatically in grade-level text and materials ranging from classical literature to online information. They must also develop their vocabulary knowledge and skills in more sophisticated ways, including through their own research and by reading informational texts in fourth-grade content areas.

Traditionally, fourth grade marks the transition from learning to read (in kindergarten through grade three) to reading to learn (in grade four and beyond).

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 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 some notable differences. For instance, in the CCSS, the standards in kindergarten through grade six are divided into strands: Reading, Writing, Speaking and Listening, and Language. The 1997 California English language arts standards are organized around domains: Reading, Writing, Written and Oral English Language Conventions, and Listening and Speaking. The CCSS often extend or enhance the content of the 1997 California English language arts standards. For example, the CCSS focus more on informational text, text-analysis skills for reading comprehension, opinion pieces and informative/explanatory compositions, and collaborative discussions about grade-level texts and topics.

This section provides an overview of the new CCSS for fourth-grade English language arts. It includes a review of the important English language arts skills and concepts from third grade (prerequisite skills) and guidance to ensure success for struggling readers, including English learners. A complete list of the fourth-grade CCSS for English language arts, with California additions, can be found at the end of this section. A complete list of the fourth-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 Fourth-Grade Students Should Know

Instruction in third grade emphasized vocabulary acquisition, comprehension strategies, text analysis, language conventions, and writing. By the end of third grade, instruction in phonics was no longer a focal point of the formal curriculum. Students learned foundational decoding skills and basic features of language and applied their knowledge to reading literature and informational text. Students who mastered the skills and strategies taught in kindergarten through third grade are able to read fluently, effortlessly, and independently.

In third grade, students learned to use context as an independent vocabulary development strategy. They referred to information in the text when asking and answering questions about text they read and applied text-

analysis strategies to determine the theme or central message of text. They learned about subject and verb agreement and verb tenses and used that knowledge to write and speak in correct, complete sentences. As students learned more English language conventions and acquired new vocabulary, they used this knowledge in their writing assignments and discussions about grade-level topics.

What Students Learn in Fourth Grade

Students in fourth grade read a wide range of literature in different genres and reflecting different cultures and times. They study the structural elements of poems, prose, and dramas than in previous years and learn to summarize text in a concise manner. As they analyze informational text, students consider its overall structure and organization, the differences between first- and secondhand accounts, and how the author uses evidence to support points in the text. There is more focus on academic language and domain-specific vocabulary, which supports reading and listening comprehension, writing, and speaking. Students learn and practice a range of strategies for acquiring vocabulary independently.

In their writing, students learn to create organizational structures that support their purpose; write longer, detailed informational/explanatory texts with headings, illustrations, definitions, and quotations; and write narratives that orient the reader to the situation and unfold in a natural sequence of events. They learn to use technology to find information, interact and collaborate with others, and produce and publish writing. Students participate in collaborative discussions on fourth-grade topics and texts, paraphrase information presented in diverse media and formats, and deliver formal narrative presentations. They learn conventions of standard English grammar and usage, capitalization, punctuation, and spelling to support their writing and speaking. These conventions include the use of prepositional phrases and progressive verb tenses, recognition and correction of fragments and run-ons, and appropriate use of commas and quotation marks to indicate direct speech.

Reading



The following section is organized according to three major areas: reading standards for literature, for informational text, and in foundational skills.

Reading Standards for Literature

In fourth grade, students read and analyze stories, dramas, and poems. As they become more proficient readers, they appreciate the richness and complexity of the materials they read. In both the 1997 California English language arts standards and the CCSS, reading comprehension is based on students' understanding and analysis of the structures and elements of literary works.

Students in fourth grade deepen their learning about the elements of narratives (e.g., plot, setting, characters, theme) and describe them in more depth than in previous grades. Students explore a character's thoughts and motivations to determine the reasons for that character's actions. They learn the definitions of figurative language (e.g., simile, metaphor) and to recognize its use in literature. Students use a compare-and-contrast strategy to find similarities between stories from different cultures and to comprehend the connection between their themes.

The CCSS introduce additional skills and strategies for analyzing and comprehending literature. For example, one 1997 California English language arts standard calls for students to describe the structural differences of various forms of imaginative literature (e.g., myths, legends, fairy tales). A comparable standard

from the CCSS builds on this analysis skill by asking students to explain the major differences between poems, dramas, and prose and refer to the structural elements of poems (e.g., verse, meter) and dramas (e.g., cast of characters, stage directions) in their speaking and writing.

Under the CCSS, students learn the difference between first- and third-person narrations. They use their understanding of these differences to compare and contrast the point of view from which stories are narrated. Students also make connections between the text of a story or drama and a visual or oral presentation of the same story or drama, identifying where the specific descriptions in the presentation reflect the text.

Reading Standards for Informational Text

Comprehension of grade-level informational text focuses on the structure of informational text and using facts, details, and examples from the text to understand its content. At this new stage of reading to learn, students read more informational text in English language arts and other grade-level subject areas than in earlier grades and become more independent readers. As students read more across the content areas, reading comprehension plays an essential role in their academic success.

...students read more informational text in English language arts and other grade-level subject areas than in earlier grades and are becoming more independent readers.

Under both the 1997 California English language arts standards and the CCSS, students talk and write about informational text in terms of its overall structure (e.g., compare and contrast, cause and effect, chronology). They build on their knowledge of comprehension skills and strategies from previous grades such as identifying the main idea and significant details, reading for different purposes,

distinguishing between cause and effect, and comparing information on the same topic in two or more texts.

The 1997 California English language arts standards also call for students to distinguish between fact and opinion in informational (expository) text and to evaluate new information and hypotheses by testing them against known information and ideas. A related CCSS asks students to explain how an author uses reasons and evidence to support particular points in a text.

The CCSS incorporate analytical skills and strategies not found in the 1997 California English language arts standards. For example, students compare and contrast a first- and a secondhand account of the same event and describe the differences in focus and the information provided. Students also learn to integrate information from two texts on the same topic in order to write or speak more knowledgeably. They learn to interpret information presented in charts, graphs, diagrams, timelines, animations, and interactive elements on Web pages. They also learn and can explain how this kind of information, which is presented visually, orally, or quantitatively, contributes to their understanding of the text.

Reading Standards in Foundational Skills

In fourth grade, students who are fluent and accurate readers make the transition from learning to read to reading to learn in subject-matter content. Both the 1997 California English language arts standards and the CCSS call for students to be able to decode words fluently and accurately. Students in fourth grade decode words by using their knowledge of all letter-sound correspondences, syllabication patterns, affixes, and root words.

Fluency expectations continue as students learn to read grade-level narrative, prose, poetry, and informational text with accuracy, appropriate pacing, and expression. The CCSS expand on these expectations by also calling for students to read with purpose and understanding and use context to confirm or self-correct word recognition and understanding.

Writing

Students in fourth grade use all stages of the writing process—prewriting, drafting, revising, and editing—to produce clear, coherent writing suited to the purpose and audience. Students develop proficiency in each form of writing by having opportunities to practice their writing and by receiving prompt feedback from their teacher. They learn about the links between reading different types of text structures and writing using those same structures, drawing on what they have read as examples of how to write.

The 1997 California English language arts standards and the CCSS call for students in fourth grade to write multiparagraph texts with a central idea, supporting details, and a concluding paragraph. Students learn to use the organizational structure (e.g., cause and effect, chronological order) that best fits the purpose of their composition. They learn and use keyboarding and other basic computer skills to produce and publish at least one page of writing in a single sitting.

Students learn to draw evidence from literary and informational texts to support their main idea with facts, details, and explanations. They use multiple sources of information, including online resources. They also learn to quote and paraphrase relevant information, and cite the source of information correctly.

Differences between the 1997 California English language arts standards and the CCSS in fourth grade are primarily due to the emphasis on different genres. Under the 1997 California English language arts standards, students write narratives, responses to literature, and reports in which they frame a central question about an issue or situation. Under the CCSS, students write opinion pieces, informative/explanatory texts, and narratives. They also conduct short research projects that build knowledge through investigation of different aspects of a topic.

The expectations for students' writing are explicitly delineated in the CCSS. For example, students learn to write informational/explanatory texts in which they group related information into paragraphs and use formatting (e.g., headings), illustrations, and multimedia to aid comprehension. They learn how to link ideas within categories of information using words or phrases such as *another*, *because*, and *for example*. They use domain-specific vocabulary to explain or provide information about a topic, as well as how to use precise language in their informational/explanatory writing.

Students practice taking notes, paraphrasing, and categorizing the information they gather from print and digital sources. They also learn how to develop a list of their resources. Through the school year, students write routinely over both extended time frames (several days or weeks with time for research, reflection, revision) and shorter time frames (a single sitting or a day or two). They write for a range of discipline-specific tasks, purposes, and audiences on topics and texts in all fourth-grade subjects.



Speaking and Listening

Fourth-grade students listen critically to speakers and media presentations, summarize what they have heard, make narrative presentations, and ask and answer questions with appropriate elaboration. They learn to recognize that the structures used in making oral presentations (e.g., reporting on a topic or text, telling a story) are the same ones found in the literature and informational text they read and in their own writing. In their oral presentations, they see how a central idea or theme is supported by facts, descriptive details, or observations in the same manner that a central idea or theme is supported in their writing. Students correctly use the same conventions of standard English when speaking and writing.

Both the 1997 California English language arts standards and the CCSS focus on students' listening and comprehension skills and their formal oral-presentations skills. Students learn to ask thoughtful questions about the topic or text being discussed and to respond to questions with relevant information. They learn to paraphrase the major ideas and supporting evidence of a text read aloud to them or in a formal presentation. Students also

learn to plan and deliver narrative presentations that relate ideas, observations, or recollections. The presentations also provide a clear context and insight into why an event or experience is memorable. Students report on a topic or text, tell a story, or recount an experience in an organized manner, using facts and details to support main ideas or themes. Students practice speaking clearly with pacing that supports understanding.

The 1997 California English language arts standards emphasize skills related to the delivery of oral presentations. For example, students learn to use volume, pitch, phrasing, pace, modulation and gestures to enhance meaning. They also learn to emphasize significant points in ways that help the listener to follow and understand the important concepts. Students practice using clear diction, tempo, volume, and phrasing when reciting brief poems, soliloquies, or dramatic dialogues. Under the 1997 California English language arts standards, students also learn to give precise directions and instructions. They also learn how language usage (e.g., sayings and expressions) reflects regions and cultures.

The CCSS emphasize collaborative discussions on fourth-grade topics and texts, with diverse partners and in different groupings (one-on-one, in groups, or teacher-led). Students learn and practice both speaking and listening skills in collaborative conversations. They build on others' ideas and express their own ideas clearly, and they learn how to explicitly draw on materials they have read or studied to explore the topic or ideas under discussion. Students demonstrate their understanding of the importance of each person's contribution to the group discussion by following agreed-on rules and carrying out their assigned roles. They learn to make comments that contribute to the conversation and link to the remarks of others and can also identify the key ideas expressed during the discussion and explain their own ideas to others.

They build on others' ideas and express their own ideas clearly, and they learn how to explicitly draw on materials they have read or studied to explore the topic or ideas under discussion.

The CCSS also call for students to learn how and when it is appropriate to use audio recordings and visual displays to enhance the development of the main ideas or themes of a presentation. They learn to paraphrase information presented in diverse media and formats, including visually, quantitatively, and orally. Students also learn to differentiate between situations that call for formal English (e.g., presenting ideas) and those where informal discourse is appropriate (e.g., small-group discussion).

Language

Students are expected to demonstrate in their writing and speech a command of the conventions of standard English grammar and usage, spelling, capitalization, punctuation, and spelling appropriate to their grade level. They demonstrate their knowledge in their writing and speaking. They also should write fluidly and legibly in cursive or joined italics.

Students in fourth grade learn new rules for grammar and usage, capitalization, punctuation, and spelling, though the specific rules they learn vary between the 1997 California English language arts standards and the CCSS. For example, under the 1997 California English language arts standards, students learn to use simple and compound sentences in writing and speaking. Students not only learn to produce complete sentences, but also to recognize and correct inappropriate fragments and run-ons.

There are more standards for English language conventions in the CCSS than in the 1997 California English language arts standards, and they cover a broader range of conventions in grammar and usage, capitalization, punctuation, and spelling. Students learn how to use interrogative, relative pronouns (*who, whose, whom, which, that*), relative adverbs (*where, when, why*), and progressive verb tenses (e.g., *I was walking, I am walking, I will be walking*). They learn the conventional patterns for the order of adjectives in sentences (e.g., *a small red bag* rather than *a red small bag*). Students learn to use commas and quotation marks to indicate direct speech and quotations from a text. They consult references to help them spell grade-level words correctly.

Students use their knowledge of language conventions when writing, speaking, reading, and listening. They can use punctuation for effect and choose words and phrases to convey ideas precisely. They also learn to

recognize frequently confused words (e.g., *to, too, two*) and to select the correct word when writing. As students learn the conventions of standard English, they also learn when to use formal English and when informal discourse is appropriate.

Understanding academic language and domain-specific vocabulary takes on a new importance in fourth grade as students read to learn. Students read more independently than in previous grades and may be reading in a broader range of subjects. Extensive independent reading is a primary means for increasing students' vocabulary in fourth grade and beyond. To comprehend grade-level literature and informational texts across the content areas, students need strategies to understand the words they read and hear.

Extensive independent reading is a primary means for increasing students' vocabulary in fourth grade and beyond.

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 California English language arts standards and the CCSS cover a range of strategies for vocabulary acquisition. Students learn and use common Greek and Latin roots as clues to the meaning of complex words (e.g., *telegraph, photograph, autograph*). They use a thesaurus to determine the meaning of related words and concepts and expand their knowledge of similes and metaphors to understand and explain words and phrases in context (e.g., *pretty as a picture*). Students also learn to recognize and to explain the meaning of common idioms. They learn to apply their knowledge of antonyms and synonyms to understand words by relating them to opposites or to words with similar meanings.

The CCSS focus more on the use of reference materials. In addition to using a thesaurus to determine the meaning of related words and concepts, students learn to use dictionaries and glossaries, both print and digital, to find the pronunciation of key words and phrases and to identify alternate word choices in all content areas. Students also expand their use of context clues (e.g., definitions, examples, restatements in text) to determine the meaning of words and phrases. They accurately incorporate words and phrases that signal precise actions (e.g., *quizzed, whined, stammered*), emotions, or states of being. They also learn and use words that are basic to fourth-grade topics and texts. For example, in a discussion about rocks and minerals, students use words such as *igneous, sedimentary, metamorphic, calcite, and feldspar*.

Extra Support for Struggling Readers

By the end of fourth grade, students are expected to be fluent, independent readers, reading with accuracy that supports their comprehension of literature and informational text. Students who are not proficient in word-analysis skills are likely to experience academic difficulties. Early screening and intervention address specific weaknesses in a timely manner. Struggling readers—any students experiencing difficulty learning to read, which may include those who use nonstandard English, English learners, and students with disabilities—need additional support to participate in daily lessons with their peers and to ensure they become proficient in fourth-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;
- preteaching and extended correct practice with prefixes and suffixes;

- preteaching and extended correct practice with Greek and Latin roots;
- direct, explicit instruction in language development to address accurate use of grammatical structures of oral and written standard English;
- vocabulary instruction embedded in context, including academic language;
- 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 stand-alone, intensive, 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/rladoptedlist.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 have an advantage: They can concentrate on acquiring and learning English rather than on receiving initial instruction in reading and writing.

The transition from learning to read to reading to learn subject-matter content calls for students to use and understand more sophisticated academic and content-specific vocabulary and language structures. English learners should receive intensive instruction in vocabulary development and academic language to succeed in language arts and other subjects at their grade level. English learners benefit from teachers' preteaching concepts, vocabulary, and the grammatical features of key vocabulary and opportunities to use new vocabulary in reading, speaking, and writing assignments. English learners also benefit from explicit writing instruction on how to write cohesive text by using transition phrases (e.g., *first, second, next, therefore, in conclusion*) and combining sentences. Students practice and learn to use grammatical structures such as relative clauses (e.g., *I like the girl who lives on the corner*), conditional statements (e.g., *If I were you, I would not do that*), and subordinate clauses (e.g., *She received good grades because she worked hard*). Because English learners are still developing proficiency in English, students benefit from teacher feedback on their writing and on their grammar, usage, and so forth. Peer editing and revision require special planning considerations.

English learners develop oral and written language through formal linguistic instruction. They learn common phrases, idiomatic expressions, and language patterns, as well as phonological, morphological, syntactical, and semantic structures of English. As students learn the rules of English grammar and the functions of relative pronouns, adverbs, and prepositional phrases, they benefit from opportunities to practice speaking and writing and from teacher feedback. (For a more extensive list of the conventions of grammar, refer to the

English learners benefit from teachers' pre-teaching concepts, vocabulary, and the grammatical features of key vocabulary...

“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/rladoptedlist.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 <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 are provided, as well as recommended instructional practices. Information on the publication is available at 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: Fourth Grade	
Reading Standards for Literature	<p>4. Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean). <u>(See grade 4 Language standards 4-6 for additional expectations.)</u></p> <p>7. Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.</p> <p>9. Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.</p> <p>10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.</p>
Reading Standards for Informational Text	<p>3. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.</p> <p>6. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.</p>

	<p>7. Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.</p> <p>9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.</p> <p>10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.</p>
<p>Reading Standards: Foundational Skills</p>	<p>4. Read with sufficient accuracy and fluency to support comprehension.</p> <ul style="list-style-type: none"> a. Read on-level text with purpose and understanding. b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
<p>Writing Standards</p>	<p>1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.</p> <ul style="list-style-type: none"> a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer’s purpose. b. Provide reasons that are supported by facts and details. c. Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition). d. Provide a concluding statement or section related to the opinion presented. <p>2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <ul style="list-style-type: none"> a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.

- c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Provide a concluding statement or section related to the information or explanation presented.
3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
- b. Use dialogue and description to develop experiences and events or show the responses of characters to situations.
 - c. Use a variety of transitional words and phrases to manage the sequence of events.
 - d. Use concrete words and phrases and sensory details to convey experiences and events precisely.
 - e. Provide a conclusion that follows from the narrated experiences or events.
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 4.)
6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.
7. Conduct short research projects that build knowledge through investigation of different aspects of a topic.
8. Recall relevant information from experiences or gather relevant information from print and digital sources; take notes, **paraphrase**, and categorize information, and provide a list of sources.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- a. Apply grade 4 Reading standards to literature (e.g., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character’s thoughts, words, or actions].”).

	<p>b. Apply grade 4 Reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text”).</p> <p>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.</p>
<p>Speaking and Listening Standards</p>	<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 4 topics and texts</i>, building on others’ ideas and expressing their own clearly.</p> <p>a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.</p> <p>b. Follow agreed-upon rules for discussions and carry out assigned roles.</p> <p>c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.</p> <p>d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.</p> <p>2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</p> <p>3. Identify the reasons and evidence a speaker or media source provides to support particular points.</p> <p>5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.</p> <p>6. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 for specific expectations.)</p>
<p>Language Standards</p>	<p>1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <p>b. Use interrogative, relative pronouns (<i>who, whose, whom, which, that</i>) and relative adverbs (<i>where, when, why</i>).</p> <p>c. Form and use the progressive (e.g., <i>I was walking; I am walking; I will be walking</i>) verb tenses.</p>

- d. Use modal auxiliaries (e.g., *can, may, must*) to convey various conditions.
 - e. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*).
 - f. Form and use prepositional phrases.
 - g. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
 - h. Correctly use frequently confused words (e.g., *to, too, two; there, their*).
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- b. Use commas and quotation marks to mark direct speech and quotations from a text.
 - c. Use a comma before a coordinating conjunction in a compound sentence.
 - d. Spell grade-appropriate words correctly, consulting references as needed.
3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- a. Choose words and phrases to convey ideas precisely.
 - b. Choose punctuation for effect.
 - c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 4 reading and content*, choosing flexibly from a range of strategies.
- a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
 - c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases **and to identify alternate word choices in all content areas.**
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

	<p>b. Recognize and explain the meaning of common idioms, adages, and proverbs.</p> <p>c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).</p> <p>6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., <i>quizzed</i>, <i>whined</i>, <i>stammered</i>) and that are basic to a particular topic (e.g., <i>wildlife</i>, <i>conservation</i>, and <i>endangered</i> when discussing animal preservation).</p>
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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). These grade-four CCSS for English language arts 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 action in August, they are essential to understanding the structure and cohesive nature of the CCSS.

A complete list of the grade-four 1997 California English language arts content 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 Four	
Reading Standards for Literature	
Key Ideas and Details	
1.	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2.	Determine a theme of a story, drama, or poem from details in the text; summarize the text.
3.	Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character’s thoughts, words, or actions).

Craft and Structure	
4.	Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean). <u>(See grade 4 Language standards 4-6 for additional expectations.)</u>
5.	Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.
6.	Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.
Integration of Knowledge and Ideas	
7.	Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.
8.	(Not applicable to literature)
9.	Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.
Range of Reading and Level of Text Complexity	
10.	By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
Reading Standards for Informational Text	
Key Ideas and Details	
1.	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2.	Determine the main idea of a text and explain how it is supported by key details; summarize the text.
3.	Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
Craft and Structure	
4.	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area. <u>(See grade 4 Language standards 4-6 for additional expectations.)</u>

5.	Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.
6.	Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.
Integration of Knowledge and Ideas	
7.	Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.
8.	Explain how an author uses reasons and evidence to support particular points in a text.
9.	Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.
Range of Reading and Level of Text Complexity	
10.	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
Reading Standards: Foundational Skills	
Phonics and Word Recognition	
3.	Know and apply grade-level phonics and word analysis skills in decoding words. <ul style="list-style-type: none"> a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
Fluency	
4.	Read with sufficient accuracy and fluency to support comprehension. <ul style="list-style-type: none"> a. Read on-level text with purpose and understanding. b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
Writing Standards	
Text Types and Purposes	
1.	Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

	<ul style="list-style-type: none"> a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer’s purpose. b. Provide reasons that are supported by facts and details. c. Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition). d. Provide a concluding statement or section related to the opinion presented.
2.	<p>Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <ul style="list-style-type: none"> a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.
3.	<p>Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.</p> <ul style="list-style-type: none"> a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. c. Use a variety of transitional words and phrases to manage the sequence of events. d. Use concrete words and phrases and sensory details to convey experiences and events precisely. e. Provide a conclusion that follows from the narrated experiences or events.

Production and Distribution of Writing

4.	Produce clear and coherent writing (including multiple-paragraph texts) in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5.	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 4.)
6.	With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

Research to Build and Present Knowledge

7.	Conduct short research projects that build knowledge through investigation of different aspects of a topic.
8.	Recall relevant information from experiences or gather relevant information from print and digital sources; take notes, paraphrase , and categorize information, and provide a list of sources.
9.	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 4 Reading standards to literature (e.g., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character’s thoughts, words, or actions].”). b. Apply grade 4 Reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text”).

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.
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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 <i>grade 4 topics and texts</i> , building on others’ ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles.
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	<p>c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.</p> <p>d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.</p>
2.	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3.	Identify the reasons and evidence a speaker or media source provides to support particular points.
Presentation of Knowledge and Ideas	
4.	<p>Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.</p> <p><u>a. Plan and deliver a narrative presentation that: relates ideas, observations, or recollections; provides a clear context; and includes clear insight into why the event or experience is memorable.</u></p>
5.	Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
6.	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 for specific expectations.)
Language Standards	
Conventions of Standard English	
1.	<p>Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <p><u>a. Write fluidly and legibly in cursive or joined italics.</u></p> <p>b. Use interrogative, relative pronouns (<i>who, whose, whom, which, that</i>) and relative adverbs (<i>where, when, why</i>).</p> <p>c. Form and use the progressive (e.g., <i>I was walking; I am walking; I will be walking</i>) verb tenses.</p> <p>d. Use modal auxiliaries (e.g., <i>can, may, must</i>) to convey various conditions.</p> <p>e. Order adjectives within sentences according to conventional patterns (e.g., <i>a small red bag</i> rather than <i>a red small bag</i>).</p>

	<p>f. Form and use prepositional phrases.</p> <p>g. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.*</p> <p>h. Correctly use frequently confused words (e.g., <i>to, too, two; there, their</i>).</p>
2.	<p>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p>a. Use correct capitalization.</p> <p>b. Use commas and quotation marks to mark direct speech and quotations from a text.</p> <p>c. Use a comma before a coordinating conjunction in a compound sentence.</p> <p>d. Spell grade-appropriate words correctly, consulting references as needed.</p>
Knowledge of Language	
3.	<p>Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <p>a. Choose words and phrases to convey ideas precisely.*</p> <p>b. Choose punctuation for effect.*</p> <p>c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).</p>
Vocabulary Acquisition and Use	
4.	<p>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 4 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.</p> <p>b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., <i>telegraph, photograph, autograph</i>).</p> <p>c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases <u>and to identify alternate word choices in all content areas.</u></p>

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

5.	<p>Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.</p> <ul style="list-style-type: none">a. Explain the meaning of simple similes and metaphors (e.g., <i>as pretty as a picture</i>) in context.b. Recognize and explain the meaning of common idioms, adages, and proverbs.c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
6.	<p>Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., <i>quizzed</i>, <i>whined</i>, <i>stammered</i>) and that are basic to a particular topic (e.g., <i>wildlife</i>, <i>conservation</i>, and <i>endangered</i> when discussing animal preservation).</p>



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 fourth grade are Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations—Fractions, Measurement and Data, and Geometry. 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 fourth-grade teachers will be taught in different grades after the CCSS are fully implemented.

This section provides an overview of the new CCSS for fourth-grade mathematics, including some highlights of how the fourth-grade curriculum, based on the 1997 California mathematics standards, changes with the implementation of the new CCSS. It includes a review of some mathematical concepts and skills from third grade (prerequisite skills) and guidance on areas of mathematics that may be challenging for some English learners. A complete list of the grade-four CCSS for mathematics can be found at the end of this section. A complete list of the grade-four 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 Fourth-Grade Students Should Know

Students entering fourth grade who have met the third-grade CCSS understand place value (amounts of thousands) and can round whole numbers to the nearest 10 or 100. They know, from memory, all products of numbers from 1 to 9 and can fluently multiply and divide (within 100) and add and subtract (within 1000). They can use addition, subtraction, multiplication and division to solve word problems.

By the start of fourth grade, students recognize fractions as numbers. They can use a number line to represent, explain, and compare various positive fractions (e.g., unit fractions, equivalent fractions, whole numbers as fractions, and fractions with the same numerator or the same denominator). Students know how to apply their understanding of fractions to measure lengths using rulers marked with halves and fourths of an

inch. They can also relate their understanding of fractions and geometry to partition shapes into parts with equal areas and represent each part as a unit fraction of the whole.

Students entering fourth grade understand how to measure liquid volume (using standard units) and the area of plane figures (by counting unit squares). They can relate the concept of area to the operations of multiplication and division and understand that the area of a rectangle can be found by multiplying the side lengths. Students know how to compare common geometric shapes (e.g., rectangles and quadrilaterals) based on common attributes (e.g., having four sides).

What Students Learn in Fourth Grade

Fourth-grade students perform multi-digit arithmetic. They use large whole numbers to fluently add and subtract and to develop fluency with multiplication and division (including quotients with remainders). They develop an understanding of fraction equivalence, addition and subtraction of fractions (with like denominators) and multiplication of fractions by whole numbers. Students classify geometric shapes based on properties (i.e., parallel or perpendicular sides, angle measurements and symmetry).

Operations and Algebraic Thinking

In both the fourth-grade 1997 California mathematics standards and the CCSS, students use four operations (addition, subtraction, multiplication and division) with whole numbers to solve problems. Students solve multistep word problems, including problems in which remainders must be interpreted and for which a rounded solution is appropriate. As fourth-grade students solve problems that mix the four arithmetic operations, they use the convention of order of operations to solve problems (first multiply and divide from left to right, and then add and subtract from left to right). With full implementation of the CCSS, the use of parentheses to modify the order of operations will be introduced at grade five (a grade-four topic in the 1997 California standards).

In fourth grade, students find all factor pairs for whole numbers in the range 1–100. They determine whether a given whole number is a multiple of a one-digit number or is a prime number. These factoring skills are important as fourth-grade students generate equivalent fractions.

With full implementation of the CCSS, fourth-graders will generate a number or shape pattern that follows a given rule. This concept is similar to work with linear patterns at third grade in the 1997 California standards. Negative numbers will be introduced at sixth grade, a fourth-grade topic in the 1997 California standards.

Students solve multistep word problems, including problems in which remainders must be interpreted and for which a rounded solution is appropriate.

Number and Operations in Base Ten

In both the 1997 California mathematics standards and the CCSS, fourth-grade students extend their understanding of place value to include multi-digit whole numbers. Students read, write, and compare numbers based on the meaning of the digits in each place (a digit in one place represents ten times what it represents in the place to its right). Students also use understanding of place value to round multi-digit whole numbers. At grade four, the CCSS limit understanding of place value to whole numbers less than or equal to 1,000,000; the 1997 California standards include whole numbers in the millions.

In fourth grade, students perform multi-digit arithmetic with whole numbers. They fluently add and subtract multi-digit numbers. They multiply (multi-digit numbers by two-digit numbers) and divide (four-digit numbers

by a one-digit number), including quotients with remainders. They can explain their understanding of multiplication and division calculations by using equations, rectangular arrays, area models, or all three.

With full implementation of the CCSS, some third-grade concepts in the 1997 California standards will be covered in fourth grade—for example, addition and subtraction (with two whole numbers within 1,000–10,000), multiplication and division (whole numbers with up to four digits by one-digit numbers), and rounding numbers to the nearest thousands.

Number and Operations—Fractions

Student proficiency with fractions is essential to success in algebra at later grades. In fourth grade, the 1997 California mathematics standards focus on fractional concepts. For example, students explain different interpretations of fractions (including equivalent fractions) and write a fraction represented by a drawing. The CCSS extend this conceptual work with fractions as students recognize and generate equivalent fractions, and compare two fractions with different numerators and different denominators (e.g., by creating common denominators).

Student proficiency with fractions is essential to success in algebra at later grades.

With full implementation of the CCSS, various fractional concepts will be covered at different grades. For example, a few concepts in the fifth-grade 1997 California standards will be addressed in fourth grade when students add and subtract mixed numbers with like denominators, and they apply the meaning of multiplication to multiply a fraction by a whole number and solve related word problems. Similarly, a third-grade concept in the 1997 California standards will be covered in fourth grade as students add and subtract simple fractions, with like denominators.

Both the 1997 California mathematics standards and the CCSS develop an understanding of decimal fractions and decimal notations. Fourth-grade students use their understanding of equivalent fractions to order and compare decimals. They use the decimal notation for fractions with denominators 10 or 100 (e.g., rewrite 0.62 as $62/100$), and compare two decimals to hundredths using a number line or another visual model to justify conclusions. Students also add two fractions with denominators 10 and 100 (e.g., $3/10 + 4/100 = 34/100$).

With full implementation of the CCSS, some related fourth-grade topics in the 1997 California standards will be covered in fifth grade as students add, subtract, and round decimals.

Measurement and Data

The 1997 California mathematics standards and the CCSS develop measurement and unit-conversion skills. Fourth-grade students understand relative sizes of measurement units within one system of units (such as ounce, liter, and milliliter or hour, minute and second) and express measurements in a larger unit in terms of a smaller unit (for example, 1 foot is 12 inches). Students solve word problems involving measurement, and they apply the area and perimeter formulas for rectangles in real-world and mathematical problems.

In fourth grade, students recognize angles as geometric shapes. They measure angles and solve addition and subtraction problems to find unknown angles on a diagram.

With full implementation of the CCSS, several fourth-grade topics in the 1997 California standards will be addressed at different grade levels. For example, graphing points on a two-dimensional coordinate grid will be covered in fifth grade; work with statistical survey questions and measures of center for data sets (i.e., median) will move to sixth grade; and outcomes of probability will be covered in seventh grade.

Geometry

The 1997 California mathematics standards and the CCSS focus on how to classify shapes. Students classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines and angles and identify special triangles (e.g., right, equilateral, isosceles, scalene) and special quadrilaterals (e.g., rhombus, square, rectangle, parallelogram, trapezoid). Fourth-grade students also recognize a line of symmetry for a two-dimensional figure, identify line-symmetric figures, and draw lines of symmetry.

With full implementation of the CCSS, some geometry concepts in fourth grade in the 1997 California standards will be addressed at different grade levels. For example, radius and diameter of a circle will be covered in sixth grade, and congruent figures will be a topic in eighth grade and Algebra I.

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 may pose special challenges for English learners.

The specialized vocabulary of mathematics should be explicitly taught and reinforced throughout the year.

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 forth).

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*).

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. At later grades, once 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-four CCSS for mathematics were adopted by the California State Board of Education on August 2, 2010.

A complete list of the grade-four 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 Four	
Operations and Algebraic Thinking (4.OA)	
Use the four operations with whole numbers to solve problems.	
1.	Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
2.	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. ¹
3.	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding <u>and explain why a rounded solution is appropriate.</u>
Gain familiarity with factors and multiples.	

¹ See the Glossary, Table 2, on the CCSS Initiative Web site at http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf.

4.	Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.
Generate and analyze patterns.	
5.	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. <i>For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.</i>
Number and Operations in Base Ten (4.NBT)²	
Generalize place value understanding for multi-digit whole numbers.	
1.	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <i>For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.</i>
2.	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
3.	Use place value understanding to round multi-digit whole numbers to any place.
Use place value understanding and properties of operations to perform multi-digit arithmetic.	
4.	Fluently add and subtract multi-digit whole numbers using the standard algorithm.
5.	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
5.1	<u>Solve problems involving multiplication of multi-digit numbers by two-digit numbers. (CA Standard NS 3.3)</u>
6.	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
Number and Operations—Fractions (4.NF)³	
Extend understanding of fraction equivalence and ordering.	

² Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.

³ Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.

1.	Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
2.	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	
3.	<p>Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.</p> <ul style="list-style-type: none"> a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. <i>Examples:</i> $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2\ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$. c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4.	<p>Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <ul style="list-style-type: none"> a. Understand a fraction a/b as a multiple of $1/b$. <i>For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.</i> b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)</i> c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</i>

Understand decimal notation for fractions, and compare decimal fractions.	
5.	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. ⁴ <i>For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.</i>
6.	Use decimal notation for fractions with denominators 10 or 100. <i>For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</i>
7.	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using <u>the number line or another</u> visual model.
Measurement and Data (4.MD)	
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	
1.	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. <i>For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...</i>
2.	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
3.	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. <i>For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.</i>
Represent and interpret data.	
4.	Make a line plot to display a data set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. <i>For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</i>
Geometric measurement: understand concepts of angle and measure angles.	
5.	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

⁴ Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.

	<p>a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.</p> <p>b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.</p>
6.	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
7.	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
Geometry (4.G)	
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	
1.	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
2.	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles. <u>(Two dimensional shapes should include special triangles, e.g., equilateral, isosceles, scalene, and special quadrilaterals, e.g., rhombus, square, rectangle, parallelogram, trapezoid.)</u>
3.	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
	<p>Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 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. <p>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.</p>

CCSS Domains

The CCSS are organized by domains. The 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 One	Grade Two	Grade Three	Grade Four	Grade Five	Grade 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)							



Overview

The history of California is rich with ethnic and cultural diversity, economic energy, geographic variety, and growing civic community. The study of California history in the fourth grade provides students with foundational opportunities to learn in depth about their state, including the people who live here, and how to become engaged and responsible citizens.

The story of California begins in pre-Columbian times, in the culture of the American Indians who lived here before the first Europeans arrived. The history of California then becomes the story of successive waves of immigrants from the sixteenth century through modern times and the enduring marks each left on the character of the state. These immigrants include (1) the Spanish explorers, Indians from northern Mexico, Russians, and the Spanish-Mexican settlers of the Mission and Rancho period, known as “Californios,” who introduced European plants, agriculture, and a herding economy to the region; (2) the people from around the world who settled here, established California as a state, and developed its mining, industrial, and agricultural economy; (3) the Chinese, Japanese, Koreans, Filipinos, Southern Asian, and other immigrants of the second half of the nineteenth century, who provided a new supply of labor for California’s railroads, agriculture, and industry and contributed as entrepreneurs and innovators, especially in agriculture; (4) the immigrants of the first half of the twentieth century, including new arrivals from Latin America and Europe; and (5) the many immigrants arriving today from Latin America, the nations of the Pacific Basin (such as Vietnam) and Europe, and the continued migration of people from other parts of the United States. Because of their early arrival in the New World, people of African descent have been present throughout much of California’s history, contributing to the Spanish exploration of California, the Spanish-Mexican settlement of the region, and California’s subsequent development throughout the nineteenth and twentieth centuries.



To bring California history, geography, and economy to life for students and promote respect and understanding, teachers emphasize the ethnic, racial, and cultural diversity of California’s population. Fourth-grade students learn about the daily lives, adventures, accomplishments, cultural traditions, and dynamic energy of the laborers and entrepreneurs who formed the state and shaped its varied landscape.

In grade four, the regional geography of California is emphasized. Students analyze how the different regions of the state have developed through the interaction of physical characteristics, cultural forces, and economic activity and how the landscape of California has provided different resources to different people at different times—from the earliest era to the present.

Finally, by developing a time line, students will be able to put into chronological order events and developments that changed the course of California history, such as the Mexican–American War, the Bear Flag Republic, the Gold Rush, and California’s admission to statehood in 1850.

Teachers are also encouraged to build understanding of history–social science concepts while furthering beginning literacy skills as outlined in the Common Core State Standards (CCSS). For example, shared readings of narrative and expository texts related to the history–social science standards can reinforce academic content vocabulary and comprehension skills.

California’s Historical and Social Sciences Analysis Skills for kindergarten through grade five are an integral part of the state’s content standards for elementary school. As students learn the content outlined in the standards, they should also be practicing the skills described under the headings “Chronological and Spatial Thinking,” “Research, Evidence, and Point of View,” and “Historical Interpretation.” All standards for fourth-grade history–social science, including the analysis skills, are provided in full at the end of this section.

What Fourth-Grade Students Should Know

In third grade, students learned about the history of their local communities, a necessary stepping-stone to the study of their state's history in fourth grade. The third-grade standards, entitled "Continuity and Change," began to give students the chance to study history in more depth, through the experiences of local American Indian groups and the experience of newcomers who settled in their local region in the past. Students entering fourth grade have also developed the skills needed for the increasingly detailed and specific historical narratives that they will study in grades four and five. The third-grade standards enabled them to develop their geographic awareness, including an understanding of the ways that people change their environment. They continued to improve their understanding of political and economic concepts, including more specifics about the workings of the American government, and the operation of the local economy. That experience will enable them to better grasp the more specific political and economic institutions covered in fourth grade.

What Students Learn in Fourth Grade

Physical and Human Geographic Features that Define California

By the fourth grade, students' geographic skills have advanced to the point where they can use maps to identify latitude and longitude, the poles and hemispheres, and plot locations using coordinates. Students locate California on the map and analyze its location on the western edge of North America, separated from the more densely settled parts of the American heartland by mountains and wide desert regions. They learn to identify the mountain ranges, major coastal bays and natural harbors, and expansive river valleys and delta regions that are a part of the setting that has attracted settlement for tens of thousands of years. During their study of California history, students will use maps, charts, and pictures to describe how California communities used the land and adapted to it in different ways.

Pre-Columbian Settlements and People

California has long been home to American Indian peoples, who lived along the coast, in the river valleys, and in the desert areas. Students learn about the major language groups of the American Indians and their distribution, social organization, legends and beliefs, and economic activities. Students study the extent to which early people of California depended on, adapted to, and modified the physical environment by cultivation and the use of sea resources.

Contemporary cities and densely settled areas frequently are located in the same areas as these early American Indian settlements, especially on the coasts where rivers meet the sea. In analyzing how geographic factors have influenced the location of settlements, then and now, students have an opportunity to observe how the past and the present may be linked by similar dynamics.

Students learn about the major language groups of the American Indians and their distribution, social organization, legends and beliefs, and economic activities.

European Exploration and Colonial History

In this unit, students will learn about the Spanish exploration of the New World and the colonization of New Spain. They review the motives for colonization, including rivalries with other imperial powers such as Britain and Russia, which brought Spanish soldiers and missionaries northward from Mexico City to Alta California.

The stories of Junipero Serra, Juan Crespi, Juan Bautista de Anza, and Gaspar de Portola are told as part of this narrative. Students learn about the presence of African and Filipino explorers and soldiers in the earliest Spanish sea and land expeditions. The participation of Spaniards, Mexicans, Indians from northern Mexico, and Africans in the founding of the Alta California settlements is also noted. In mapping these routes and settlements, students observe that access to California was difficult because of the physical barriers of mountains, deserts, and ocean currents and also because of the closing of land routes by Indians who were hostile to foreigners.

Missions, Ranchos, and the Mexican War for Independence



To secure the northwestern frontier of New Spain, King Charles III began colonizing California in 1769. Students learn that while soldiers arrived to defend the territory, Franciscan missionaries came to convert native peoples to Christianity. With so few colonists, Spanish authorities believed they could transform Indian peoples into loyal Spanish subjects by converting them to Christianity, introducing them to Spanish culture and language, and through intermarriage. The introduction of Christianity affected native peoples, many of whom combined Catholicism with their own belief systems. Vastly outnumbered by native peoples, missionaries relied on some Indian leaders to help manage the economic, religious, and social activities of the missions. Cattle ranches and civilian pueblos developed around missions built by forced Indian labor. Here, colonists introduced European plants, agriculture, a pastoral economy based mainly on cattle, and Spanish culture. This study of early California ecology may also provide support for the teaching of the Environmental Principles and Concepts that are part of California's Education and the Environment Initiative.

The historical record of this era remains incomplete due to the relative absence of native testimony, but it is clear that while missionaries brought agriculture, the Spanish language and culture, and Christianity to the native population, American Indians suffered in many California missions. The death rate was extremely high. Contributing factors included the hardships of forced labor and, primarily, the introduction of diseases for which the native population did not have immunity. Moreover, the imposition of forced labor and highly structured living arrangements degraded individuals, constrained families, circumscribed native culture, and negatively impacted scores of communities.

Sensitivity and careful planning are needed to bring the history of this period to life for students in a thoughtful way. Teachers emphasize the daily lives of the people who occupied the ranchos, missions, presidios, haciendas, and pueblos, using literature, journal writing, and other activities designed to help students analyze carefully selected primary and secondary sources and thus understand and articulate the views of the native population, the Spanish military, and the missionaries.

The Mexican War for Independence is studied and discussed, including how it resulted in Mexican trade laws that opened up California to international commerce. During Mexican rule in California, merchants, traders, and sailors arrived from the United States and England to buy cowhides and tallow. By analyzing California's geography, students will see how the natural barriers and remoteness of the region influenced settlement patterns during this period.

The Gold Rush and Statehood

With awareness of the physical barriers of the California landscape, students read about the travels of Jedediah Smith, James Beckwourth, John C. Fremont, Christopher "Kit" Carson, and early pioneer families such as the Bidwell and Donner parties. Students gain an appreciation of the hardships of the overland journey.

As more American immigrants began to arrive, Mexico was struggling with a brewing border dispute along the Rio Grande River in Texas. At the same time, United States President James K. Polk desired the rich fertile lands of California for the United States. Word of the Mexican–American War being declared in 1846 was slow in reaching California. By then, the troubles between American settlers and Mexicans had begun in earnest. A band of rowdy Americans revolted in June 1846 and took over the city of Sonoma. They raised the Bear Flag for the first time in California. By July, a U.S. warship had captured Monterey. Students learn that approximately one-third of the northern half of Mexico, including California, became part of the United States after the United States defeated Mexico in the Mexican–American War of 1846–1848.

Just as the war was ending, James Marshall discovered a little nugget of gold in California. Students learn how the discovery of gold and the spread of its news throughout the world affected the multicultural aspects of California’s population. Students can compare the long overland route over dangerous terrain to the faster sea route, either via Panama or around Cape Horn.

Students consider how the Gold Rush changed California by bringing sudden wealth to the state; affecting its population, culture, and politics; and instantly transforming San Francisco from a small village in 1847 to a bustling city in 1849. On the negative side, the Gold Rush robbed many of California’s earlier Mexican and Indian residents of their land grants and property rights and caused irreparable environmental destruction through the system of hydraulic mining that was introduced in the 1850s. Students learn about women who helped to build California during these years, such as Bernarda Ruiz, María Angustias de la Guerra, Louise Clapp, Sarah Royce, and Bidy Mason.

Students can explore the challenges California faced as a result of the Gold Rush. The class may be divided into small groups. Each group studies the role of a different ethnic group that participated in the Gold Rush or was influential in the growth of the state during this period. Students can also read some of the many stories about the California mining camps. They might identify the causes and effects of conflicts in the camps by expressing their ideas in letters to the editor of an 1850s newspaper.

In discussing California statehood, students may learn about the link of California’s bid to join the Union with the controversy over slavery expansion in the United States. California played an important role in the Compromise of 1850, which signaled Congress’ desire to balance slave and nonslave representation in government, but also in many ways foreshadowed the impending crisis of the Civil War. Students may discuss the question of whether gold from California helped the Union win the war. Comparisons can also be made between governments during the Spanish and Mexican periods and after California became a state. California’s state constitution and the government it created are introduced here and discussed in further detail in the last unit of the course.

California as an Agricultural and Industrial Power

The years following 1850 brought a transportation revolution, increased diversity, and agricultural and industrial growth to California. The Pony Express, the Overland Mail Service, and the telegraph service linked California with the East. The completion of the transcontinental railroad in 1869 linked California with the rest of the nation. Completion of the railroad and newly built seaports increased trade between Asia and eastern cities. They also brought thousands of new settlers to California, including the Wakamatsu Tea and Silk Colony from Japan. Students analyze the hostilities toward the large Chinese labor force in California during the 1870s that led to the Chinese Exclusion Act of 1882. The Gentlemen’s Agreement in 1907, singling out Japanese immigrants, further limited the number of Asians admitted to the United States.

The completion of the transcontinental railroad in 1869 linked California with the rest of the nation.

The invention of the refrigerated railroad car opened eastern markets to California fruit and produce. Students examine the special significance of water in a state in which agricultural wealth depends on cultivating dry regions that have longer growing seasons and warmer weather. Students study the geography of water, the reclamation of California’s marshlands west of the Sierra Nevada, and the great engineering projects that bring

water to the Central Valley and the semiarid south. Students also examine the continuing conflicts over water rights.

As California became home to diverse groups of people, its culture reflected a mixture of influences from Central America; South America; eastern, southern, and western Asia; and Europe. Students can compare the many cultural and economic contributions these diverse populations have brought to California and can make the same comparisons for California today. Students can conduct research using the resources of local historical societies and libraries to trace the history of their own communities. Students are encouraged to incorporate literature that represents different cultures. Then they could create a display for the library, documenting the contributions.

Modern California: Immigration, Technology, and Cities

Students in grade four learn about the development of present-day California, with its commerce, large-scale commercial agriculture, communications industry, aerospace technology, and important trade links to nations of the Pacific Basin and other parts of the world. Since the beginning of World War II, California has changed from an underdeveloped, resource-producing area to an industrial giant. Students might analyze how California's industrial development was strengthened after the war by the building of an extensive freeway system, which in turn led to the demise of the inter-urban railway system. The extension of water projects, including canals, dams, reservoirs, and power plants, supported the growing population and its expanding need for electrical power. Students examine the impact of these engineering projects on California's wild rivers and watersheds and the long-term consequences of California's heavy overdraft on its groundwater resources.



Through their studies, students understand the importance of agricultural labor, including how Cesar Chavez, Dolores Huerta, and the United Farm Workers, through nonviolent tactics, educated the general public about the working conditions in agriculture and led the movement to improve the lives of farm workers. In addition, students learn about the role of labor in industry through studying teamsters and other labor unions. To extend students' learning and involve them in service connected to Chavez's values, students might plan a celebration or participate in a local Cesar Chavez Day (March 31) observance or activities. Students can also learn about other important events in California's civil rights history, such as the court case *Mendez v. Westminster*, predecessor to *Brown v. Board of Education*, the forced repatriation of Mexicans and Mexican Americans to Mexico that took place during the Great Depression, and the forcible removal and internment of Japanese Americans during World War II.

California also developed a public education system, including universities and community colleges, which became a model for the nation. Students can learn to see how education opens new opportunities for immigrant youths as well as native-born residents. They analyze how California's leadership in computer technology, science, the aerospace industry, agricultural research, economic development, business, and industry depends on strong education for everyone.

Students explore the relationship between California's economic and population growth in the twentieth century and its geographic location and environmental factors. They determine the push and pull factors for California's dramatic population increase in recent times, such as the state's location in the Pacific Basin, the 1965 Immigration Act, the 1980 Refugee Act, and the state's historical ability to absorb new laborers in its diversified economy. They examine California's growing trade with nations of the Pacific Basin and analyze how California's port cities, economic development, and cultural life benefit from this trade. They learn about the contributions of immigrants to California and United States history, such as Dalip Singh Saund, a Sikh immigrant who was the first Asian American to serve in the United States Congress.

This unit will conclude with an examination of some unresolved problems facing California today and the efforts of concerned citizens in addressing these issues.

Local, State, and Federal Governments

Students finish their studies in the fourth grade with a review of the structures, functions, and powers of different levels of government. In fifth grade, they will study the origins of the U.S. Constitution in depth, but they leave the fourth grade with a clear understanding of what the Constitution is and how it defines the shared powers of federal, state, and local governments. They also gain an understanding of how the California Constitution works, including its relationship to the U.S. Constitution, and the similarities and differences between state, federal, and local governments, including the roles and responsibilities of each. Students describe the different kinds of governments in California, including the state government structures in Sacramento, but also the governments of local cities and towns, Indian *rancherias* and reservations, counties, and school districts. Students’ understanding of state and local government can be enhanced by visiting local courts, city halls, and the State Capitol. This knowledge is an important foundation for the development of the concepts of civic participation and public service that are explored further at later grade levels.

The Education and the Environment Initiative

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

Fourth Grade		
Standard Number	Standard Text	EEI Curriculum Unit Name
4.1.3.	Identify the state capital and describe the various regions of California, including how their characteristics and physical environments (e.g., water, landforms, vegetation, climate) affect human activity.	<i>Reflections of Where We Live</i>
4.1.5.	Use maps, charts, and pictures to describe how communities in California vary in land use, vegetation, wildlife, climate, population density, architecture, services, and transportation.	
4.2.1.	Discuss the major nations of California Indians, including their geographic distribution, economic activities, legends, and religious beliefs; and describe how they depended on, adapted to, and modified the physical environment by cultivation of land and use of sea resources.	<i>California Indian Peoples and Management of Natural Resources</i>

4.2.6.	Discuss the role of the Franciscans in changing the economy of California from a hunter-gatherer economy to an agricultural economy.	<i>Cultivating California</i>
4.3.3.	Analyze the effects of the Gold Rush on settlements, daily life, politics, and the physical environment (e.g., using biographies of John Sutter, Mariano Guadalupe Vallejo, Louise Clapp).	<i>Witnessing the Gold Rush</i>

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 fourth-grade history–social science content standards were adopted by the California State Board of Education on October 9, 1998. In addition, the recently adopted CCSS 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 gradually 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 grade four.

**History–Social Science Content Standards
Grade Four
California: A Changing State**

4.1 Students demonstrate an understanding of the physical and human geographic features that define places and regions in California.

1. Explain and use the coordinate grid system of latitude and longitude to determine the absolute locations of places in California and on Earth.
2. Distinguish between the North and South Poles; the equator and the prime meridian; the tropics; and the hemispheres, using coordinates to plot locations.
3. Identify the state capital and describe the various regions of California, including how their characteristics and physical environments (e.g., water, landforms, vegetation, climate) affect human activity.
4. Identify the locations of the Pacific Ocean, rivers, valleys, and mountain passes and explain their effects on the growth of towns.
5. Use maps, charts, and pictures to describe how communities in California vary in land use, vegetation, wildlife, climate, population density, architecture, services, and transportation.

4.2 Students describe the social, political, cultural, and economic life and interactions among people of California from the pre-Columbian societies to the Spanish mission and Mexican rancho periods.

1. Discuss the major nations of California Indians, including their geographic distribution, economic activities, legends, and religious beliefs; and describe how they depended on, adapted to, and modified the physical environment by cultivation of land and use of sea resources.
2. Identify the early land and sea routes to, and European settlements in, California with a focus on the exploration of the North Pacific (e.g., by Captain James Cook, Vitus Bering, Juan Cabrillo), noting especially the importance of mountains, deserts, ocean currents, and wind patterns.
3. Describe the Spanish exploration and colonization of California, including the relationships among soldiers, missionaries, and Indians (e.g., Juan Crespi, Junipero Serra, Gaspar de Portola).
4. Describe the mapping of, geographic basis of, and economic factors in the placement and function of the Spanish missions; and understand how the mission system expanded the influence of Spain and Catholicism throughout New Spain and Latin America.
5. Describe the daily lives of the people, native and nonnative, who occupied the presidios, missions, ranchos, and pueblos.

6. Discuss the role of the Franciscans in changing the economy of California from a hunter-gatherer economy to an agricultural economy.
7. Describe the effects of the Mexican War for Independence on Alta California, including its effects on the territorial boundaries of North America.
8. Discuss the period of Mexican rule in California and its attributes, including land grants, secularization of the missions, and the rise of the rancho economy.

4.3 Students explain the economic, social, and political life in California from the establishment of the Bear Flag Republic through the Mexican-American War, the Gold Rush, and the granting of statehood.

1. Identify the locations of Mexican settlements in California and those of other settlements, including Fort Ross and Sutter's Fort.
2. Compare how and why people traveled to California and the routes they traveled (e.g., James Beckwourth, John Bidwell, John C. Fremont, Pio Pico).
3. Analyze the effects of the Gold Rush on settlements, daily life, politics, and the physical environment (e.g., using biographies of John Sutter, Mariano Guadalupe Vallejo, Louise Clapp).
4. Study the lives of women who helped build early California (e.g., Biddy Mason).
5. Discuss how California became a state and how its new government differed from those during the Spanish and Mexican periods.

4.4 Students explain how California became an agricultural and industrial power, tracing the transformation of the California economy and its political and cultural development since the 1850s.

1. Understand the story and lasting influence of the Pony Express, Overland Mail Service, Western Union, and the building of the transcontinental railroad, including the contributions of Chinese workers to its construction.
2. Explain how the Gold Rush transformed the economy of California, including the types of products produced and consumed, changes in towns (e.g., Sacramento, San Francisco), and economic conflicts between diverse groups of people.
3. Discuss immigration and migration to California between 1850 and 1900, including the diverse composition of those who came; the countries of origin and their relative locations; and conflicts and accords among the diverse groups (e.g., the 1882 Chinese Exclusion Act).
4. Describe rapid American immigration, internal migration, settlement, and the growth of towns and cities (e.g., Los Angeles).
5. Discuss the effects of the Great Depression, the Dust Bowl, and World War II on California.

6. Describe the development and locations of new industries since the nineteenth century, such as the aerospace industry, electronics industry, large-scale commercial agriculture and irrigation projects, the oil and automobile industries, communications and defense industries, and important trade links with the Pacific Basin.
7. Trace the evolution of California's water system into a network of dams, aqueducts, and reservoirs.
8. Describe the history and development of California's public education system, including universities and community colleges.
9. Analyze the impact of twentieth-century Californians on the nation's artistic and cultural development, including the rise of the entertainment industry (e.g., Louis B. Meyer, Walt Disney, John Steinbeck, Ansel Adams, Dorothea Lange, John Wayne).

4.5 Students understand the structures, functions, and powers of the local, state, and federal governments as described in the U.S. Constitution.

1. Discuss what the U.S. Constitution is and why it is important (i.e., a written document that defines the structure and purpose of the U.S. government and describes the shared powers of federal, state, and local governments).
2. Understand the purpose of the California Constitution, its key principles, and its relationship to the U.S. Constitution.
3. Describe the similarities (e.g., written documents, rule of law, consent of the governed, three separate branches) and differences (e.g., scope of jurisdiction, limits on government powers, use of the military) among federal, state, and local governments.
4. Explain the structures and functions of state governments, including the roles and responsibilities of their elected officials.
5. Describe the components of California's governance structure (e.g., cities and towns, Indian rancherias and reservations, counties, school districts).
- 6.

**Historical and Social Sciences Analysis Skills
Kindergarten Through Grade Five**

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

In addition to the standards for kindergarten through grade five, students demonstrate the following intellectual, reasoning, reflection, and research skills:

Chronological and Spatial Thinking

1. Students place key events and people of the historical era they are studying in a chronological sequence and within a spatial context; they interpret time lines.
2. Students correctly apply terms related to time, including *past*, *present*, *future*, *decade*, *century*, and *generation*.
3. Students explain how the present is connected to the past, identifying both similarities and differences between the two, and how some things change over time and some things stay the same.
4. Students use map and globe skills to determine the absolute locations of places and interpret information available through a map's or globe's legend, scale, and symbolic representations.
5. Students judge the significance of the relative location of a place (e.g., proximity to a harbor, on trade routes) and analyze how relative advantages or disadvantages can change over time.

Research, Evidence, and Point of View

1. Students differentiate between primary and secondary sources.
2. Students pose relevant questions about events they encounter in historical documents, eyewitness accounts, oral histories, letters, diaries, artifacts, photographs, maps, artworks, and architecture.
3. Students distinguish fact from fiction by comparing documentary sources on historical figures and events with fictionalized characters and events.

Historical Interpretation

1. Students summarize the key events of the era they are studying and explain the historical contexts of those events.
2. Students identify the human and physical characteristics of the places they are studying and explain how those features form the unique character of those places.
3. Students identify and interpret the multiple causes and effects of historical events.
4. Students conduct cost-benefit analyses of historical and current events.



Overview

Fourth-graders possess some solid foundations in science and are developing the ability to work independently. The fourth-grade science standards provide opportunities for them to build upon their existing knowledge by formulating their own questions and predictions and conducting investigations.

Grade-four students are expected to learn both the content and process of science. 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 by 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 learning.

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 Web page at <http://www.cde.ca.gov/pd/ca/sc/>. The publication contains specific and useful information relevant to teachers, administrators, parents/guardians, and students.

What Fourth-Grade Students Should Know

Students who have mastered the science content standards for kindergarten through grade three have already had some formal, introductory experiences with fourth-grade science topics. They studied energy, including electricity, in third grade and worked with magnets in both kindergarten and second grade. In preparation for the fourth-grade life sciences standards, students have already learned about types of plants and animals that inhabit different biomes and have a simple understanding of adaptation from their studies in grades one and three. They know that organisms in an ecosystem interact.

Students entering fourth grade learned basic information about rocks, minerals, and the processes of erosion in grade two. They are able to observe patterns and make simple predictions. They have steadily developed their observation, measurement, and recordkeeping skills, including creating graphs and making drawings to record, organize, interpret, and display data. Students entering fourth grade know how to use a variety of simple tools and understand that asking meaningful questions and conducting careful investigations are central to making scientific progress.

What Students Learn in Fourth Grade

During fourth grade, students learn to formulate and justify predictions based on cause-and-effect relationships, differentiate observation from inference, and conduct multiple trials to test their predictions. In collecting data during investigative activities, they learn to follow a written set of instructions and continue to build their skills in expressing measurements in metric system units. Students develop their own questions, conduct scientific investigations, and communicate their findings in writing.

Students develop their own questions, conduct scientific investigations, and communicate their findings in writing.

In physical science, students in grade four enhance their understandings of electricity and magnetism and consider the practical applications of these effects, building simple circuits, compasses and electromagnets. In their study of life sciences, students extend their knowledge of ecology by learning about food chains and webs and exploring the relationships between producers, consumers, and decomposers. They consider all components of an ecosystem, living and nonliving, and are introduced to microorganisms.

In earth science, fourth-graders learn about rocks, minerals, and the rock cycle. They learn how to differentiate rocks on the basis of their properties and how to identify common minerals. Students also study the processes of erosion and weathering and learn about the role of water in shaping the surface of Earth. In addition, students learn about rapid processes that change Earth's land surface: landslides, volcanic eruptions, and earthquakes.

Grade-four science topics are organized into six standard sets: Physical Sciences, two sets of standards in Life Sciences, two sets of standards in Earth Sciences (Rocks and Minerals and Waves, Wind, Water, and Ice), and Investigation and Experimentation. As students learn the content defined by the standards in the Life, Earth, and Physical Sciences strands, they are also practicing investigation and experimentation skills. That is, the investigation and experimentation standards should be infused throughout science instruction.

Physical Sciences

The grade-four standards for the physical sciences enhance student understanding of electricity and magnetism. Students learn that electricity and magnetism are related effects that have many useful applications in everyday life. They design and build simple electrical circuits and experiment with wires, batteries, and bulbs. They learn that electric currents produce magnetic fields, they construct basic electromagnets, and they study how electromagnets work in simple devices. Students learn that magnets have two poles and that like poles repel, while unlike poles attract each other. They observe that electrically charged objects may either attract or repel one another and that electrical energy can be converted into heat, light, and motion.

Life Sciences (Standard Set 2)

Students in grade four expand their knowledge of food chains and food webs to include not only the producers and consumers that they previously discussed but also the decomposers of plant and animal remains, such as insects, fungi, and bacteria. The idea that all organisms need energy and matter to live and grow is reinforced. Students learn that plants are the primary source of matter and energy entering most food chains. They study the relationships between producers and consumers in food chains and webs and understand that decomposers recycle matter from dead plants and animals.

Life Sciences (Standard Set 3)

The grade-four life sciences standards further develop the concept that organisms in an ecosystem interact and that living organisms depend on one another and their environment for survival. Students learn that ecosystems can be characterized by their living and nonliving components. The concept of adaptation is deepened as students learn that in any particular environment, some plants and animals survive well, some survive less well, and some cannot survive at all. Students study ecological relationships, such as animals using plants for shelter or nesting and plants using animals for pollination and seed dispersal. Fourth-graders also learn about the vital role and benefits of microorganisms in the environment. Common misconceptions that these organisms are responsible only for diseases and decomposition may be addressed and dispelled.

Earth Sciences (Rocks and Minerals)

Students learn that the properties of rocks and minerals reflect the processes that form them. They study the rock cycle and learn to differentiate among igneous, sedimentary, and metamorphic rocks by referring to their properties and methods of formation. Fourth-graders also learn how to describe, sort, and classify minerals using the properties of hardness, cleavage, color, and streak and develop the ability to use a table of diagnostic properties to identify common rock-forming minerals and ore minerals.



Earth Sciences (Waves, Wind, Water, and Ice)

Fourth-graders study the processes of weathering and erosion and learn that these processes continually form sediments that form new rocks as a part of the constant recycling of Earth's crust. They learn that waves, wind, water, and ice shape and reshape Earth's land surface and that moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt, and mud in other places. Students learn that natural processes, such as freezing, thawing, and the growth of roots, cause rocks to break into smaller pieces and that some changes in the earth are due to slow processes such as erosion. Other changes are due to rapid processes such as landslides, volcanic eruptions, and earthquakes.

Investigation and Experimentation

Grade-four students improve their ability to differentiate between evidence (observation) and opinion (inference). They measure and estimate the weight, length, or volume of objects and construct and interpret graphs by using measurements.

Students learn to follow a set of written instructions for a scientific investigation. In addition, in the context of activities that support mastery of the physical, earth, and life sciences standards, students develop their own questions and perform investigations. They learn to formulate cause-and-effect and relationships, conducting multiple trials to test a prediction and drawing conclusions about the relationships between predictions and results.

The Education and the Environment Initiative

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

Fourth Grade		
Standard Number	Standard Text	EEI Curriculum Unit Name
4.2.a.	Students know plants are the primary source of matter and energy entering most food chains.	<i>Plants: the Ultimate Energy Resource</i>
4.2.b.	Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.	<i>The Flow of Energy Through Ecosystems</i>
4.2.c.	Students know decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.	<i>Life and Death with Decomposers</i>
4.3.d.	Students know that most microorganisms do not cause disease and that many are beneficial.	<i>Microorganisms and the Human World</i>

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 fourth-grade science standards are readily integrated with other academic content standards. In collecting data during investigative activities, they learn to follow a written set of instructions and continue to build their skills in expressing measurements in metric system units. They will analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns, all of which support development of mathematical skills.

In 2010, California adopted the 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. The new standards will be implemented over the next several years as curriculum frameworks, instructional materials, and assessments based on the CCSS are adopted. Refer to the English language arts section for more information about the CCSS for fourth 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 fourth-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 informal 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 grade-four science content standards were adopted by the California State Board of Education on October 9, 1998.

Science Content Standards Grade Four	
Physical Sciences	
1.	Electricity and magnetism are related effects that have many useful applications in everyday life. As a basis for understanding this concept:
1.a.	Students know how to design and build simple series and parallel circuits by using components such as wires, batteries, and bulbs.
1.b.	Students know how to build a simple compass and use it to detect magnetic effects, including Earth's magnetic field.
1.c.	Students know electric currents produce magnetic fields and know how to build a simple electromagnet.
1.d.	Students know the role of electromagnets in the construction of electric motors, electric generators, and simple devices, such as doorbells and earphones.
1.e.	Students know electrically charged objects attract or repel each other.
1.f.	Students know that magnets have two poles (north and south) and that like poles repel each other while unlike poles attract each other.
1.g.	Students know electrical energy can be converted to heat, light, and motion.

Life Sciences	
2.	All organisms need energy and matter to live and grow. As a basis for understanding this concept:
2.a.	Students know plants are the primary source of matter and energy entering most food chains.
2.b.	Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.
2.c.	Students know decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.
3.	Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept:
3.a.	Students know ecosystems can be characterized by their living and nonliving components.
3.b.	Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.
3.c.	Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.
3.d.	Students know that most microorganisms do not cause disease and that many are beneficial.
Earth Sciences (Rocks and Minerals)	
4.	The properties of rocks and minerals reflect the processes that formed them. As a basis for understanding this concept:
4.a.	Students know how to differentiate among igneous, sedimentary, and metamorphic rocks by referring to their properties and methods of formation (the rock cycle).
4.b.	Students know how to identify common rock-forming minerals (including quartz, calcite, feldspar, mica, and hornblende) and ore minerals by using a table of diagnostic properties.
Earth Sciences (Waves, Wind, Water, and Ice)	
5.	Waves, wind, water, and ice shape and reshape Earth's land surface. As a basis for understanding this concept:
5.a.	Students know some changes in the earth are due to slow processes, such as erosion, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.
5.b.	Students know natural processes, including freezing and thawing and the growth of roots, cause rocks to break down into smaller pieces.
5.c.	Students know moving water erodes landforms, reshaping the land by taking it away from some

	places and depositing it as pebbles, sand, silt, and mud in other places (weathering, transport, and deposition).
Investigation and Experimentation	
6.	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:
6.a.	Differentiate observation from inference (interpretation) and know scientists' explanations come partly from what they observe and partly from how they interpret their observations.
6.b.	Measure and estimate the weight, length, or volume of objects.
6.c.	Formulate and justify predictions based on cause-and-effect relationships.
6.d.	Conduct multiple trials to test a prediction and draw conclusions about the relationships between predictions and results.
6.e.	Construct and interpret graphs from measurements.
6.f.	Follow a set of written instructions for a scientific investigation.



Overview

Excitement rises when fourth-grade students recognize the artist within them and the importance of the arts in learning.

Excitement rises when fourth-grade students recognize the artist within them and the importance of the arts in learning. In their study of California history, fourth-graders learn that the arts can help them discover the rich cultural heritage of their state reflected in dance, music, theatre, and the visual arts. Building on previous experiences, they discover their own ability to communicate through the arts and can use music notation, knowledge of structure and style, and advanced technical skill to create works of art. At this age, they understand that the arts are more than lines, spaces, colors, movements, or notes on a page. Rather, these elements can be combined to create meaning.

What Fourth-Grade Students Should Know

The visual and performing arts standards are designed so that students can improve their capacity to create and appreciate art over time, with the enhancement of foundational skills needed at the later grades. In third grade, students put to use their improving abilities to think abstractly and express themselves, both orally and in writing, and through the use of their developing motor skills. In dance, third-graders combined dance movements into more complex sequences and compared dances from various cultures. They focused on rhythm, melody, and harmony in both the reading and performing of music, identifying how ideas or mood are communicated in music. In theatre, students learned how to evaluate dramatic works and developed their cooperative skills by participating in improvisational and scripted works. Finally, in the visual arts, students learned about more sophisticated techniques, including the illusion of space in two-dimensional works, and evaluated works of art by comparing different styles and techniques.

What Students Learn in Fourth Grade

Dance

Students demonstrate concentration and physical control, improvising longer and more technical movement phrases as they learn the foundation of choreography. They describe music and dance from various countries and the relationship of the dance forms to their geographic location, thereby increasing their perceptual and aesthetic valuing skills. In their descriptions and discussions, they use dance vocabulary and apply specific criteria in their evaluations. By experiencing the choreographic process, they can talk about how it is related to the creative writing process.

Music

Students not only sing and play melodies and accompaniments in various forms and from many cultures but also compose melodic patterns—a precursor to writing music. They also employ their expanding vocabulary of

music and classify a variety of instruments according to the way sound is produced. By learning more about music from around the world, they can recognize the influence of various cultures on music. They also evaluate how practice and rehearsal improve their performance.

Theatre



Students increase their theatre vocabulary as they improve their acting skills by exploring how voice affects meaning and how costumes and makeup convey character. They also describe how an audience is affected differently by live theatre, movies, television, and radio. In designing costumes, props, makeup, or masks, students learn how to apply color, perspective, composition, and other visual art elements and principles. They also learn that storytelling and theatrical traditions from many cultures are a part of the history of California and that the entertainment industry has an important role in the state.

Visual Arts

Students use their knowledge of proportion and measurement learned in mathematics when they create a portrait. Measuring from the top of the head to under the chin, they find that the eyes are halfway between. Another concept learned is that blank space in a painting (negative space) is just as important to what is being expressed as the objects in the painting (positive space). And by learning the concept of point of view, students can describe how a person's own cultural point of view may influence that person's responses to a work of art. Connecting the visual arts and California history, they can discuss the content of works created by artists from various cultures.

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:

1. **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.
2. **Creative expression** involves creating a work, performing, and participating in the arts disciplines.
3. **Historical and cultural context** concerns the work students do toward understanding the historical contributions and cultural dimensions of an arts discipline.
4. **Aesthetic valuing** includes analyzing and critiquing works of dance, music, theatre, and the visual arts.
5. **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 grade-four visual and performing arts content standards were adopted by the California State Board of Education on January 10, 2001.

Visual and Performing Arts Content Standards Grade Four

Component Strand: 1.0 Artistic 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
<p>Students perceive and respond, using the elements of dance. They demonstrate movement skills, process sensory information, and describe movement, using the vocabulary of dance.</p> <p>Development of Motor Skills and Technical Expertise</p> <p>1.1* Demonstrate mental concentration and physical control in performing dance skills.</p> <p>1.2 Demonstrate the ability to use smooth transitions when connecting one movement phrase to another.</p> <p>Comprehension and Analysis of Dance Elements</p> <p>1.3 Demonstrate increased range and use of space, time, and force/energy concepts (e.g., pulse/accents, melt/collapse, weak/strong).</p> <p>1.4 Explain the principles of variety, contrast, and unity and apply to a dance sequence.</p> <p>Development of Dance Vocabulary</p> <p>1.5 Describe a specific movement, using</p>	<p>Students read, notate, listen to, analyze, and describe music and other aural information, using the terminology of music.</p> <p>Read and Notate Music</p> <p>1.1* Read, write, and perform melodic notation for simple songs in major keys, using solfège.</p> <p>1.2 Read, write, and perform diatonic scales.</p> <p>1.3 Read, write, and perform rhythmic notation, including sixteenth notes, dotted notes, and syncopation (e.g., eighth/quarter/eighth note and eighth-rest/quarter/eighth note).</p> <p>Listen to, Analyze, and Describe Music</p> <p>1.4 Describe music according to its elements, using the terminology of music.</p> <p>1.5 Classify how a variety of instruments from diverse cultures produce sound (e.g., idiophone, aerophone, chordophone,</p>	<p>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.</p> <p>Development of the Vocabulary of Theatre</p> <p>1.1 Use the vocabulary of theatre, such as <i>plot, conflict, climax, resolution, tone, objectives, motivation, and stock characters</i>, to describe theatrical experiences.</p> <p>Comprehension and Analysis of the Elements of Theatre</p> <p>1.2 Identify a character’s objectives and motivations to explain that character’s behavior.</p> <p>1.3 Demonstrate how voice (diction, pace, and volume) may be used to explore multiple possibilities for a live reading. <i>Examples: “I want you to go.”</i></p>	<p>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.</p> <p>Develop Visual Arts Vocabulary</p> <p>1.1 Perceive and describe contrast and emphasis in works of art and in the environment.</p> <p>1.2 Describe how negative shapes/forms and positive shapes/forms are used in a chosen work of art.</p> <p>1.3 Identify pairs of complementary colors (e.g., yellow/violet; red/green; orange/blue) and discuss how artists use them to communicate an idea or mood.</p> <p>1.4 Describe the concept of proportion (in face, figure) as used in works of art.</p> <p>Analyze Art Elements and Principles of Design</p> <p>1.5 Describe and analyze the elements of art (e.g., color,</p>

*Indicates a key standard.

<p>appropriate dance vocabulary. 1.6 Identify, define, and use <i>phrasing</i> in dances learned or observed.</p>	<p>membranophone). 1.6 Recognize and describe aural examples of musical forms, including rondo.</p>	<p>“I want <i>you</i> to go.” “I want you to <i>go</i>.”</p>	<p>shape/form, line, texture, space, value), emphasizing form, as they are used in works of art and found in the environment.</p>
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Component Strand: 2.0 Creative Expression

<p align="center">Dance Creating, Performing, and Participating in Dance</p>	<p align="center">Music Creating, Performing, and Participating in Music</p>	<p align="center">Theatre Creating, Performing, and Participating in Theatre</p>	<p align="center">Visual Arts Creating, Performing, and Participating in the Visual Arts</p>
<p>Students apply choreographic principles, processes, and skills to create and communicate meaning through improvisation, composition, and performance of dance.</p> <p>Creation/Invention of Dance Movements</p> <p>2.1 Create, develop, and memorize set movement patterns and sequences.</p> <p>2.2* Improve extended movement phrases.</p> <p>Application of Choreographic Principles and Processes to Creating Dance</p> <p>2.3 Describe, discuss, and analyze the process used by choreographers to create a dance.</p> <p>2.4 Create a dance study that has a beginning, a middle, and an end. Review, revise, and refine.</p> <p>Communication of Meaning in Dance</p> <p>2.5 Convey a range of feelings through shape/postures and movements when performing for peers.</p> <p>2.6 Perform improvised movement and dance studies with focus and expression.</p> <p>Development of Partner and Group Skills</p> <p>2.7 Demonstrate additional partner and group skills (e.g., imitating, leading/following, mirroring, calling/responding, echoing).</p>	<p>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.</p> <p>Apply Vocal and Instrumental Skills</p> <p>2.1* Sing a varied repertoire of music from diverse cultures, including rounds, descants, and songs with ostinatos, alone and with others.</p> <p>2.2* Use classroom instruments to play melodies and accompaniments from a varied repertoire of music from diverse cultures, including rounds, descants, and ostinatos, by oneself and with others.</p> <p>Compose, Arrange, and Improvise</p> <p>2.3* Compose and improvise simple rhythmic and melodic patterns on classroom instruments.</p>	<p>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.</p> <p>Development of Theatrical Skills</p> <p>2.1 Demonstrate the emotional traits of a character through gesture and action.</p> <p>Creation/Invention in Theatre</p> <p>2.2 Retell or improvise stories from classroom literature in a variety of tones (gossipy, sorrowful, comic, frightened, joyful, sarcastic).</p> <p>2.3* Design or create costumes, props, makeup, or masks to communicate a character in formal or informal performances.</p>	<p>Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.</p> <p>Skills, Processes, Materials, and Tools</p> <p>2.1 Use shading (value) to transform a two-dimensional shape into what appears to be a three-dimensional form (e.g., circle to sphere).</p> <p>2.2 Use the conventions of facial and figure proportions in a figure study.</p> <p>2.3 Use additive and subtractive processes in making simple sculptural forms.</p> <p>2.4 Use fibers or other materials to create a simple weaving.</p> <p>Communication and Expression Through Original Works of Art</p> <p>2.5* Use accurate proportions to create an expressive portrait or a figure drawing or painting.</p> <p>2.6* Use the interaction between positive and negative space expressively in a work of art.</p> <p>2.7 Use contrast (light and dark) expressively in an original work of art.</p> <p>2.8 Use complementary colors in an original composition to show contrast and emphasis.</p>

*Indicates a key standard.

Component Strand: 3.0 Historical and Cultural Context

<p align="center">Dance Understanding the Historical Contributions and Cultural Dimensions of Dance</p>	<p align="center">Music Understanding the Historical Contributions and Cultural Dimensions of Music</p>	<p align="center">Theatre Understanding the Historical Contributions and Cultural Dimensions of Theatre</p>	<p align="center">Visual Arts Understanding the Historical Contributions and Cultural Dimensions of the Visual Arts</p>
<p>Students analyze the function and development of dance in past and present cultures throughout the world, noting human diversity as it relates to dance and dancers.</p> <p>Development of Dance</p> <p>3.1 Perform and identify dances from various countries with different arrangements of dancers (e.g., lines, circles, couples).</p> <p>3.2* Name the musical accompaniment and explain how it relates to the dances they have studied.</p> <p>History and Function of Dance</p> <p>3.3 Perform and describe dances that reflect the geographical place in which the dances are performed (e.g., deserts, rain forests, islands).</p> <p>Diversity of Dance</p> <p>3.4 Perform and identify folk/traditional and social dances from California history.</p>	<p>Students analyze the role of music in past and present cultures throughout the world, noting cultural diversity as it relates to music, musicians, and composers.</p> <p>Role of Music</p> <p>3.1 Explain the relationship between music and events in history.</p> <p>Diversity of Music</p> <p>3.2 Identify music from diverse cultures and time periods.</p> <p>3.3 Sing and play music from diverse cultures and time periods.</p> <p>3.4 Compare musical styles from two or more cultures.</p> <p>3.5 Recognize the influence of various cultures on music in California.</p>	<p>Students analyze the role and development of theatre, film/video, and electronic media in past and present cultures throughout the world, noting diversity as it relates to theatre.</p> <p>Role and Cultural Significance of Theatre</p> <p>3.1* Identify theatrical or storytelling traditions in the cultures of ethnic groups throughout the history of California.</p> <p>History of Theatre</p> <p>3.2 Recognize key developments in the entertainment industry in California, such as the introduction of silent movies, animation, radio and television broadcasting, and interactive video.</p>	<p>Students analyze the role and 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.</p> <p>Role and Development of the Visual Arts</p> <p>3.1 Describe how art plays a role in reflecting life (e.g., in photography, quilts, architecture).</p> <p>Diversity of the Visual Arts</p> <p>3.2* Identify and discuss the content of works of art in the past and present, focusing on the different cultures that have contributed to California’s history and art heritage.</p> <p>3.3 Research and describe the influence of religious groups on art and architecture, focusing primarily on buildings in California both past and present.</p>

*Indicates a key standard.

Component Strand: 4.0 Aesthetic Valuing

<p align="center">Dance Responding to, Analyzing, and Making Judgments About Works of Dance</p>	<p align="center">Music Responding to, Analyzing, and Making Judgments About Works of Music</p>	<p align="center">Theatre Responding to, Analyzing, and Critiquing Theatrical Experiences</p>	<p align="center">Visual Arts Responding to, Analyzing, and Making Judgments About Works in the Visual Arts</p>
<p>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.</p> <p>Description, Analysis, and Criticism of Dance</p> <p>4.1 Use dance vocabulary to describe unique characteristics of dances they have watched or performed from countries studied in the history–social science curriculum (e.g., rhythms, spatial patterns, gestures, intent).</p> <p>4.2 Name and use specific criteria in assessing personal and professional dance choreography (e.g., contrast, phrasing, unity).</p> <p>Meaning and Impact of Dance</p> <p>4.3 Describe ways in which a dancer effectively communicates ideas and moods (strong technique, projection, and expression).</p> <p>4.4 List the expectations the audience has for a performer and vice versa.</p>	<p>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.</p> <p>Analyze and Critically Assess</p> <p>4.1 Use specific criteria when judging the relative quality of musical performances.</p> <p>Derive Meaning</p> <p>4.2 Describe the characteristics that make a performance a work of art.</p>	<p>Students critique and derive meaning from works of theatre, film/video, electronic media, and theatrical artists on the basis of aesthetic qualities.</p> <p>Critical Assessment of Theatre</p> <p>4.1 Develop and apply appropriate criteria or rubrics for critiquing performances as to characterization, diction, pacing, gesture, and movement.</p> <p>4.2* Compare and contrast the impact on the audience of theatre, film, television, radio, and other media.</p> <p>Derivation of Meaning from Works of Theatre</p> <p>4.3 Describe students’ responses to a work of theatre and explain what the scriptwriter did to elicit those responses.</p>	<p>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.</p> <p>Derive Meaning</p> <p>4.1 Describe how using the language of the visual arts helps to clarify personal responses to works of art.</p> <p>4.2* Identify and describe how a person’s own cultural context influences individual responses to works of art.</p> <p>4.3 Discuss how the subject and selection of media relate to the meaning or purpose of a work of art.</p> <p>Make Informed Judgments</p> <p>4.4 Identify and describe how various cultures define and value art differently.</p> <p>4.5 Describe how the individual experiences of an artist may influence the development of specific works of art.</p>

*Indicates a key standard.

Component Strand: 5.0 Connections, Relationships, Applications

<p align="center">Dance</p> <p align="center">Connecting and Applying What Is Learned in Dance to Learning in Other Art Forms and Subject Areas and to Careers</p>	<p align="center">Music</p> <p align="center">Connecting and Applying What Is Learned in Music to Learning in Other Art Forms and Subject Areas and to Careers</p>	<p align="center">Theatre</p> <p align="center">Connecting and Applying What Is Learned in Theatre, Film/Video, and Electronic Media to Other Art Forms and Subject Areas and to Careers</p>	<p align="center">Visual Arts</p> <p align="center">Connecting and Applying What Is Learned in the Visual Arts to Other Art Forms and Subject Areas and to Careers</p>
<p>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.</p> <p>Connections and Applications Across Disciplines</p> <p>5.1 Explain how dance practice relates to and uses the vocabulary of other art subjects (e.g., positive and negative space, shape, line, rhythm, character).</p> <p>5.2 Describe how dancing develops strength, flexibility, and endurance in accordance with physical education standards.</p> <p>5.3 Demonstrate a recognition of personal space and respect for the personal space of others.</p> <p>Development of Life Skills and Career Competencies</p> <p>5.4* Analyze the choreographic process and its relation to the writing process (e.g.,</p>	<p>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.</p> <p>Connections and Applications</p> <p>5.1 Identify and interpret expressive characteristics in works of art and music.</p> <p>5.2 Integrate several art disciplines (dance, music, theatre, or the visual arts) into a well-organized presentation or performance.</p> <p>5.3 Relate dance movements to express musical elements or represent musical intent in specific music.</p> <p>Careers and Career-Related Skills</p> <p>5.4 Evaluate improvement in personal musical performances after practice or rehearsal.</p>	<p>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.</p> <p>Connections and Applications</p> <p>5.1 Dramatize events in California history.</p> <p>5.2 Use improvisation and dramatization to explore concepts in other content areas.</p> <p>Careers and Career-Related Skills</p> <p>5.3 Exhibit team identity and commitment to purpose when participating in theatrical experiences.</p>	<p>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.</p> <p>Connections and Applications</p> <p>5.1 Select a nonobjective painting, work in small groups to interpret it through dance/movement, and then write a paragraph reporting on the arts experience.</p> <p>5.2 Identify through research twentieth-century artists who have incorporated symmetry as a part of their work and then create a work of art, using bilateral or radial symmetry.</p> <p>Visual Literacy</p> <p>5.3 Construct diagrams, maps, graphs, timelines, and illustrations to communicate ideas or tell a story about a historical event.</p>

*Indicates a key standard.

<p>brainstorming, exploring and developing ideas, putting ideas into a form, sequencing).</p>			<p>Careers and Career-Related Skills 5.4 Read biographies and stories about artists and summarize the readings in short reports, telling how the artists mirrored or affected their time period or culture.</p>
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Overview

Students develop communication skills, decision-making and goal-setting skills, refusal techniques, and the ability to access health information and assess its accuracy.

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 a 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 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 for sufficient time for effective instruction. For grade four, the three content areas are Nutrition and Physical Activity; Injury Prevention and Safety; and Alcohol, Tobacco, and Other Drugs.

Students in grade four assume more responsibility for their own health and well-being, which makes the focus on developing positive health behaviors and preventing negative health behaviors particularly timely. Making friends and feeling “normal” are major concerns for students in grade four. Some students may be in the early stages of adolescence, which can begin as early as third grade. Other students are developing more slowly. These differences can make students more vulnerable to negative peer pressure or subject to bullying and harassment, both important issues in the grade-four health standards. Because of their growing independence, students in grade four have more opportunities to eat away from home and to make more food choices on their own. In grade four, the standards emphasize concepts and behavioral skills to help students make healthy choices about what they eat and how they respond to peer pressure to engage in risky activities.

What Fourth-Grade Students Should Know

In grade three, students focused on health concepts and behavior skills in three topic areas: physical growth and development; mental, emotional, and social development; and personal and community health. Students learned and practiced decision-making, goal-setting, and health-promotion skills with a particular focus on healthy behaviors and skills that help them to be safe and secure in their expanding world. Students also learned about their roles and responsibilities in their family, school, and community.

Students in grade three learned about the human life cycle; major internal and external parts of their bodies; and the influence of their peers, families, and school on their growth and development. They practiced behaviors that promoted their own healthy growth and development as well as the healthy development of others by encouraging their peers to be respectful of individuals regardless of differences. They recognized the benefits of having positive relationships with their family and friends and demonstrated healthy social behaviors such as responsibility, respect, cooperation, and consideration. Students set personal boundaries for privacy, safety, and expression of emotions and communicated directly, respectfully, and assertively about their personal boundaries. They also learned about the types, spread, prevention, and effects of diseases. They supported

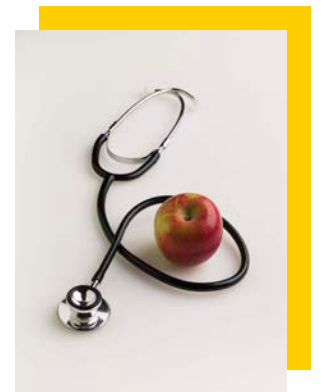
others in making healthy choices and prompted a healthy environment at home, at school, and in the community.

What Students Learn in Fourth Grade

In grade four, students learn about nutrition and physical activity, two important factors in their healthy growth and development. They learn about healthy food choices, nutrients, and the many influences on their food choices. They learn to monitor their physical activity and ways to increase the amount of time they are physically active. Students learn how to prevent many types of injuries by using appropriate safety equipment and avoiding or reducing risks. They plan responses to emergencies and natural disasters, identify trusted adults, and practice conflict resolution techniques. They learn skills to avoid and report bullying and harassment and to resist involvement in gang activities. Students also learn about the harmful effects of alcohol, tobacco, and other drugs and ways to cope with situations involving them, including refusal skills.

Nutrition and Physical Activity

In grade four, students learn about key nutrients and their functions; the recommended servings and serving sizes for different groups of food; and the relationship between food intake, physical activity, and good health. They learn how to read food labels and about the internal and external influences that affect their food choices, including advertising and marketing techniques. Students use this knowledge as the basis for practicing the behavioral skills they are learning. For example, they make a plan to choose healthy foods and beverages, use a decision-making process to select nutritious foods and beverages, and take personal responsibility for consuming healthy foods. Students access and analyze research-based guidelines for a nutritionally balanced diet. Then, they put into practice their new decision-making and goal-setting skills to establish and maintain healthy eating practices consistent with what they have learned. Students also learn how to support others in making healthy food choices.



Students learn about and can describe the benefits of moderate and vigorous physical activity. They identify ways to increase and monitor their physical activity. They also learn about the internal and external influences that affect their level of physical activity. They learn and use decision-making skills to choose healthy options for physical activity and goal-setting skills to make a plan for physical activities at school and at home. Students promote the health of others in making positive choices about physical activities. In addition, they learn about the importance of drinking water in sufficient amounts for good health, especially during vigorous physical activity.

Injury Prevention and Safety

In grade four, the standards for injury prevention and safety cover a range of topics, including weather-related emergencies and natural disasters, weapons, gangs, sports safety equipment, proper lifting techniques, bullying and harassment, conflict resolution, prevention of injury to eyes and ears, and strategies for eluding capture. Students learn the essential content for each of the topics covered by the injury prevention and safety standards as they learn and practice health-related behavioral skills.

For example, eight standards cover bullying and harassment. Under essential content, students learn about different types of bullying and harassment (e.g., hitting, name-calling, social exclusion) and examine the effects of bullying and harassment on others. They use this content knowledge as they learn and practice behavioral skills under the standards for interpersonal communication, decision making, practicing health-enhancing

skills under the standards for interpersonal communication, decision making, practicing health-enhancing behaviors, and health promotion. Reporting bullying, harassment, and other dangerous situations is an interpersonal communication skill that students practice so they can report to responsible adults in a matter-of-fact way if they are victims of, or witnesses to, such behavior. Students also demonstrate what to say and do when they witness bullying. They may role-play in class to simulate incidents of bullying and appropriate responses, referring to the bullying behavior and the relevant school rules against bullying, (e.g., by saying, “Calling someone names is bullying and is against school rules”). Students examine the consequences of bullying and harassment. They also demonstrate strategies to avoid bullying and other types of harassment (e.g., avoiding areas of school where teachers are not around, sitting at the front of the school bus). Students learn ways that they can offer friendship and support to someone who has been bullied (e.g., include her or him in an activity; sit by her or him at lunch or on the school bus).

Alcohol, Tobacco, and Other Drugs

Preventing negative health behaviors and developing positive health behaviors are the dual focus of the standards on alcohol, tobacco, and other drugs. Students in grade four learn about the harmful effects of and individual reactions to alcohol, tobacco, and other drugs. They identify ways to cope with situations involving alcohol, tobacco, and other drugs, recognizing how peers, advertising, and family and community rules influence the ability to resist pressure to use those substances. Students also learn how to identify sources of valid information about alcohol, tobacco, and other drugs and then use that information as they develop and practice refusal skills. They practice effective communication skills to ask for assistance in situations where alcohol, tobacco, and other drugs are being used. In addition, students use a variety of coping strategies when faced with alcohol, tobacco, and other drug use and abuse by family or friends. With basic knowledge about alcohol, tobacco, and other drugs and practice in positive health behaviors, students are able to set and meet personal goals to choose healthy alternatives to drug and tobacco use and to encourage others to be drug-free.

They identify ways to cope with situations involving alcohol, tobacco, and other drugs, recognizing how peers, advertising, and family and community rules influence the ability to resist pressure to use those substances.

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., *protein/proteina*, *vitamin/vitamina*) 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 grade-four health education content standards were adopted by the California State Board of Education on March 12, 2008.

Health Education Content Standards Grade Four	
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.	
Nutrition and Physical Activity	
Standard 1: Essential Concepts	
1.1.N	Identify and define key nutrients and their functions.
1.2.N	State the recommended number of servings and serving sizes for different food groups.
1.3.N	Describe the relationship between food intake, physical activity, and good health.
1.4.N	Identify how to keep food safe through proper food preparation and storage.
1.5.N	Explain how food can contain germs that cause illness.

1.6.N	Explain the importance of drinking plenty of water, especially during vigorous physical activity.
1.7.N	Describe the benefits of moderate and vigorous physical activity.
1.8.N	Identify ways to increase and monitor physical activity.
Standard 2: Analyzing Influences	
2.1.N	Identify internal and external influences that affect food choices.
2.2.N	Analyze advertising and marketing techniques used for food and beverages.
2.3.N	Identify internal and external influences that affect physical activity.
Standard 3: Accessing Valid Information	
3.1.N	Identify resources for valid information about safe and healthy foods.
3.2.N	Use food labels to determine nutrient and sugar content.
Standard 4: Interpersonal Communication	
4.1.N	Demonstrate effective communication skills to ask for healthy food choices.
Standard 5: Decision Making	
5.1.N	Describe how to use a decision-making process to select nutritious foods and beverages.
5.2.N	Describe how to use a decision-making process to select healthy options for physical activity.
Standard 6: Goal Setting	
6.1.N	Make a plan to choose healthy foods and beverages.
6.2.N	Make a plan to choose physical activities at school and at home.
Standard 7: Practicing Health-Enhancing Behaviors	
7.1.N	Practice how to take personal responsibility for eating healthy foods.
7.2.N	Practice how to take personal responsibility for limiting sugar consumption in foods, snacks, and beverages.
7.3.N	Identify ways to establish and maintain healthy eating practices consistent with current research-based guidelines for a nutritionally balanced diet.
7.4.N	Practice how to take personal responsibility for engaging in physical activity.
Standard 8: Health Promotion	
8.1.N	Support others in making positive food and physical activity choices.

Injury Prevention and Safety

Standard 1: Essential Concepts

1.1.S	Describe safety hazards, including those related to fire, water, dangerous objects, being home alone, and using the Internet.
1.2.S	Identify behaviors that may lead to conflict with others.
1.3.S	Describe the different types of bullying and harassment.
1.4.S	Examine the effects of bullying and harassment on others.
1.5.S	Identify basic safety guidelines associated with weather-related emergencies and natural disasters (e.g., floods, earthquakes, and tsunamis).
1.6.S	Identify disaster preparedness procedures at home, at school, and in the community.
1.7.S	Describe ways to seek assistance if worried, abused, or threatened.
1.8.S	Explain the dangers of having weapons at school, at home, and in the community. ¹
1.9.S	Explain the importance of wearing helmets, pads, mouth guards, water safety vests, and other safety equipment during athletic and outdoor activities.
1.10.S	Define a gang and how it is different from a club, sports team, or clique.
1.11.S	Describe the dangers of gang activity.
1.12.S	Identify positive alternatives to gang activity.
1.13.S	Demonstrate proper lifting and carrying techniques for handling heavy backpacks and book bags.
1.14.S	Identify personal protection equipment needed for sports and recreational activities (e.g., mouthpieces, pads, helmets).
1.15.S	Explain what to do if someone is poisoned (e.g., by household cleaning or paint products): call 9-1-1, a poison control center, or other local emergency number.
1.16.S	Identify ways to reduce risk of injuries from fires, around water, while riding a motor vehicle, as a pedestrian, on the playground, and from falls.
1.17.S	Identify ways to prevent vision and hearing damage.
1.18.S	Explain how courtesy, compassion, and respect toward others reduce conflict and promote nonviolent behavior.

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

1.19.S	Demonstrate escape strategies for cases of inappropriate touching or attempted abduction.
Standard 2: Analyzing Influences	
2.1.S	Analyze how emotions contribute to both safe and violent behaviors.
2.2.S	Examine the influence of violence in media and technology on health behavior.
2.3.S	Explain that most young people do not use violence to deal with problems.
Standard 3: Accessing Valid Information	
3.1.S	Identify accurate sources of information about injury prevention and safety.
3.2.S	Demonstrate how to access emergency services and communicate effectively with emergency personnel.
3.3.S	Identify safe people and places to go to if feeling unsafe or threatened (e.g., school counselor, police department, fire department).
3.4.S	Identify trusted adults to report to if people are in danger of hurting themselves or others.
3.5.S	Demonstrate how to dial 9-1-1 or other emergency numbers and how to provide appropriate information.
3.6.S	Demonstrate the ability to read and follow labels of common household products concerning dangers and safe use, storage, and proper disposal.
Standard 4: Interpersonal Communication	
4.1.S	Demonstrate the ability to use refusal skills in risky situations.
4.2.S	Practice effective conflict resolution techniques with others.
4.3.S	Report bullying, harassment, and other dangerous situations.
4.4.S	Demonstrate refusal skills to avoid gang involvement.
4.5.S	Demonstrate what to say and do when witnessing bullying.
Standard 5: Decision Making	
5.1.S	Evaluate strategies to avoid potentially dangerous situations.
5.2.S	Examine the consequences of bullying and harassment.
5.3.S	Analyze the benefits of using nonviolent means to resolve conflicts.
5.4.S	Evaluate how following family, school, and community rules can impact safety.

Standard 6: Goal Setting	
6.1.S	Make a personal commitment to use appropriate protective gear while engaging in activities.
6.2.S	Make a personal commitment to stay away from people involved in gang activity.
Standard 7: Practicing Health-Enhancing Behaviors	
7.1.S	Demonstrate strategies to avoid bullying and other types of harassment.
7.2.S	Practice disaster preparedness procedures at home and at school.
7.3.S	Use appropriate protective gear and equipment.
7.4.S	Follow safety rules and laws at home, at school, and in the community.
7.5.S	Demonstrate escape strategies for cases of inappropriate touching or attempted abduction.
7.6.S	Demonstrate the ability to execute an escape plan for incidents of fires, floods, earthquakes, and other natural disasters.
Standard 8: Health Promotion	
8.1.S	Encourage specific measures to improve home or school safety.
8.2.S	Offer friendship and support to someone who was bullied.
8.3.S	Encourage others' safety behaviors (e.g., wearing bicycle helmets and seat belts).
Alcohol, Tobacco, and Other Drugs	
Standard 1: Essential Concepts	
1.1.A	Describe the harmful short- and long-term effects of alcohol, tobacco, and other drugs, including inhalants.
1.2.A	Identify ways to cope with situations involving alcohol, tobacco, and other drugs.
1.3.A	Explain the differences between medicines and illicit drugs.
1.4.A	Identify family and school rules about alcohol, tobacco, and drug use.
1.5.A	Explain why individual reactions to alcohol and drug use may vary.
Standard 2: Analyzing Influences	
2.1.A	Identify internal and external influences that affect the use of alcohol, tobacco, and other drugs.
2.2.A	Examine advertising strategies used for alcohol, tobacco, and other drugs.
Standard 3: Accessing Valid Information	

3.1.A	Identify sources of valid information regarding alcohol, tobacco, and other drugs.
Standard 4: Interpersonal Communication	
4.1.A	Demonstrate refusal skills to resist the pressure to experiment with alcohol, tobacco, and other drugs.
4.2.A	Practice effective verbal communication skills to request assistance in situations where alcohol, tobacco, and other drugs are being used.
Standard 5: Decision Making	
5.1.A	Evaluate strategies to avoid situations where alcohol, tobacco, and other drugs are being used.
Standard 6: Goal Setting	
6.1.A	Make a plan to choose healthy alternatives to tobacco and drug use.
Standard 7: Practicing Health-Enhancing Behaviors	
7.1.A	Use a variety of effective coping strategies when faced with alcohol, tobacco, and other drug use and abuse by family or friends.
Standard 8: Health Promotion	
8.1.A	Encourage others to be free of alcohol, tobacco, and other drugs.



Overview



Elementary physical education programs emphasize the importance of physical activity and personal fitness. Fitness is developed through the activities in the daily lessons, which emphasize physical activity, continuous movement, and challenges that involve overloading the major muscle groups. Students have opportunities to understand the fitness components, fitness assessment, and the need for a lifetime of physical activity. Participation in physical activity also can be an important venue for the social, psychological, and emotional development of children.

The elementary school physical education program emphasizes the development of fundamental locomotor, nonlocomotor, and manipulative skills. The movement framework, basic biomechanical and motor learning principles (see Appendixes C, D, and E in the *Physical Education Framework for California Public Schools* [California Department of Education 2009]), and fundamental game tactics are also part of the content for elementary school students.

State law requires that schools provide students in grade four with at least 200 minutes of physical education each 10 school days. Recess and lunch time do not count toward the required instructional minutes.

The grade-four physical education model content standards are organized by five overarching content standards. Under each of the overarching standards are grade-level standards that provide a vision of what students in grade four should know and be able to do. Together, the content standards represent the essential skills and knowledge that all students need to be physically active and enjoy a healthy lifestyle.

Grade-four students are at a transitional stage between childhood and youth. Eye–hand coordination is improving, fine motor activities are performed with more skill, and the greatest gain in strength begins at this stage. Students are also experiencing improvements in reaction time and balance. Although the center of gravity is still located in the midsection of the body, the ability to balance remains a challenge.

What Fourth-Grade Students Should Know

Students master the proper form for locomotor and nonlocomotor skills and learn to manipulate objects in a variety of ways in kindergarten through grade three. In grade three, students began to focus on combining locomotor and nonlocomotor skills into new movement sequences. Students experimented with and explored alternative movements, such as tumbling, creative dance, and formal dance. They learned the beginning steps of line, circle, and folk dances and performed dances with a partner. Grade-three students learned the correct technique for manipulative skills and how to describe the correct technique for manipulative skills in detail (e.g., throwing a ball to a moving partner, dribbling while moving forward). They honed their throwing, catching, kicking, and striking skills.

Students practiced basic stretches, demonstrated correct technique for warm-up and cool-down exercises, and increased the number of endurance exercises they can do. They monitored their improvement in individual fitness activities and toward personal goals for improving motor skills. They learned about their body’s reaction to physical activity and the way the heart, lungs, and muscles interact. Students learned about the benefits of safety procedures and rules, along with the consequences of not following them. They also learned how to coach other students by using movement cues and words of encouragement.

What Students Learn in Fourth Grade

In grade four, students focus on learning and practicing manipulation skills (e.g., kicking, throwing, striking), in particular using rackets and paddles to strike objects. They also learn about the correct technique for manipulative skills, such as body orientation when serving a ball, and to distinguish between similar skills (e.g., kicking and punting). They begin to learn individual defensive and offensive moves. Students increase the level and frequency of their physical activity, set goals for health-related physical fitness, and monitor their improving skills and fitness. They are introduced to the concept of perceived exertion. They learn about the value of muscular endurance/strength, aerobic and flexibility exercises, and the importance of water and healthy foods to improve physical performance. Students learn to include others in physical activity and to respect differences in skill levels. They also learn to accept responsibility for their own performance of physical activities and to both win and lose with dignity and respect.

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

Manipulative skill practice takes on a much greater role in grade-four physical education. Students learn and practice techniques for throwing, catching, kicking, punting, striking with a racket or paddle, serving, hand-dribbling, foot-dribbling, trapping, and volleying using a forearm pass in a variety of situations. For example, they learn to throw overhand using proper follow-through and to kick a ball using the inside of their foot. With multiple opportunities to practice manipulative skills, students master the correct technique and body positions for these foundational skills. They learn and practice defensive moves, such as keeping a dribbled ball away from an opponent. In grade four, students learn and apply body management skills to change direction quickly to maintain or increase spacing between two players. They also use body management, nonlocomotor skills to perform simple balance stunts with a partner. They learn basic square-dance steps, perform rhythmic routines that include both even- and uneven-beat locomotor patterns, and repeatedly jump a self-turned rope.

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 learned in grade four described in Standard 1. As grade-four students learn and practice manipulative skills, they also learn the concepts and principles that apply to those skills. They learn about and can describe the similarities and differences between similar skills (e.g., underhand throw and underhand serve, punting and kicking, striking with a long-handled implement and striking with a short-handled implement). They also compare and contrast manipulative techniques and learn which one would be best to use in a given situation (e.g., when dribbling a ball without a defender, when dribbling a ball with a defender). Students learn about movement strategies, such as ways to create space between offensive and defensive players. Students learn concepts related to rhythmic skills and locomotor patterns and then design routines set to music that include both even and uneven beat movements.

Students learn about movement strategies, such as ways to create space between offensive and defensive players.

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

In grade four, students take on more responsibility for measuring their health-related fitness. One goal of physical education instruction in grade four is that students meet minimum criteria for health-related physical fitness on a scientifically based assessment. To work toward that goal, students perform moderate to vigorous physical activities three to four days each week for increasing periods of time. They also sustain continuous movement for increasing periods of time when engaged in moderate to vigorous physical activities. To further develop their muscular strength and endurance, students perform an increasing number of abdominal curl-ups, oblique curl-ups on each side of the body, modified or traditional push-ups, and triceps push-ups. Students practice proper body alignment when doing basic stretches for the hamstrings, quadriceps, hip flexors, triceps, back, shoulders, hip adductors, hip abductors, and calves. As students strive to improve their health-related fitness by increasing the number of exercises they perform and the amount of time they are physically active, they also measure and record their progress. They use scientifically based health-related physical fitness tests to measure changes in their aerobic capacity and muscular strength.

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 example, under Standard 4.1 students learn about the correct body alignment for performing lower-body stretches to prevent injuries and under Standard 3.6 they demonstrate stretches using correct body alignment.

In grade four, students learn about the principles of physical fitness, which are often referred to as FITT: frequency, intensity, time, and type.

(For additional information, see Table 2.1, Protocols for the Principles of Fitness, in the *Physical Education Framework for California Public Schools*.) They also learn about the purpose of warm-up and cool-down periods; how to calculate heart rate; the value of muscular endurance/strength; and the importance of aerobic and flexibility exercises in physical activity and for their health. To help them determine the intensity of their physical activity, students learn about perceived exertion, which is based on the physical sensations experienced during physical activity (e.g., increased heart rate, increased respiration, fatigue). Students learn about the characteristics of physical activities that build aerobic capacity and why muscular endurance/strength activities do not increase muscle mass in children their age. They learn about the role that healthful food plays in helping to improve physical performance and why their bodies need water before, during, and after physical activity. Students set short-term goals on the basis of their knowledge of physical fitness concepts, principles, and strategies in order to improve their aerobic endurance, muscular strength/endurance, and flexibility.

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.

In grade four, students assume responsibility for setting a health-related physical fitness goal that can be attained during nonschool time, then work toward their goal and monitor their progress on their own time. They

learn to accept responsibility, without blaming others, for their performance during physical activities and on fitness tests. They learn to respond to winning or losing with dignity and respect. With their teacher's guidance, students also learn how to include others in physical activities and show respect for individual differences in skill levels and motivation.

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 obtain 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.

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., "Step forward on the nonkicking foot") and demonstrations of manipulative skills that include labeling the steps of the skill (e.g., "Use a handshake grip"; "Swing the racket forward"). As students learn the Latin-based, scientific names for muscles, English learners whose first language is Spanish may

recognize the similarities between some English and Spanish words. For example, *muscle/muscolo* and *ligament/ligmento* are cognates, words that are related to words in another language or that share an ancestral root with another word. Instruction that draws attention to cognates can help students understand domain-specific and academic vocabulary. Participating in small-group activities and modified team games, coaching other students, discussing rules, and speaking and hearing about 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 include pacing, complexity, depth, and novelty. Despite the modifications made, however, the focus is to always help students meet the physical education model content standards to the best of their ability.

In helping students achieve at their grade level, teachers use instructional resources aligned with the standards and provide additional learning and practice opportunities. 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 designed to provide him or her with appropriate learning opportunities and that uses instructional materials and strategies to best meet his or her 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 framework is posted at <http://www.cde.ca.gov/ci/pe/cf/index.asp>.

The Standards

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

Physical Education Model Content Standards Grade Four	
STANDARD 1: Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.	
Body Management	
1.1	Perform simple balance stunts with a partner while sharing a common base of support.
1.2	Change direction quickly to maintain the spacing between two players.
1.3	Change direction quickly to increase the spacing between two players.
1.4	Determine the spacing between offensive and defensive players based on the speed of the players.
Locomotor Movement	
1.5	Jump a self-turned rope.
Manipulative Skills	
1.6	Throw and catch an object with a partner while both partners are moving.
1.7	Throw overhand at increasingly smaller targets, using proper follow-through.
1.8	Throw a flying disc for distance, using the backhand movement pattern.
1.9	Catch a fly ball above the head, below the waist, and away from the body.
1.10	Kick a ball to a moving partner, using the inside of the foot.
1.11	Kick a stationary ball from the ground into the air.
1.12	Punt a ball dropped from the hands.
1.13	Strike, with a paddle or racket, a lightweight object that has been tossed by a partner.
1.14	Serve a lightweight ball to a partner, using the underhand movement pattern.
1.15	Strike a gently tossed ball with a bat, using a side orientation.
1.16	Keep a foot-dribbled ball away from a defensive partner.

1.17	Keep a hand-dribbled ball away from a defensive partner.
1.18	Manipulate an object by using a long-handled implement.
1.19	Stop a kicked ball by trapping it with the foot while standing still.
1.20	Volley a tossed lightweight ball, using the forearm pass.
Rhythmic Skills	
1.21	Perform a series of basic square-dance steps.
1.22	Perform a routine to music that includes even and uneven locomotor patterns.
STANDARD 2: Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performance of physical activities.	
Movement Concepts	
2.1	Explain the difference between offense and defense.
2.2	Describe ways to create more space between an offensive player and a defensive player.
Body Management	
2.3	Describe the appropriate body orientation to serve a ball, using the underhand movement pattern.
2.4	Describe the appropriate body orientation to strike a ball, using the forehand movement pattern.
Manipulative Skills	
2.5	Explain the similar movement elements of the underhand throw and the underhand volleyball serve.
2.6	Distinguish between punting and kicking and describe the similarities and differences.
2.7	Compare and contrast dribbling a ball without a defender and with a defender.
2.8	Explain the differences in manipulating an object when using a long-handled implement and when using a short-handled implement.
2.9	Identify key body positions used for volleying a ball.
Rhythmic Skills	
2.10	Design a routine to music that includes even and uneven locomotor patterns.
STANDARD 3: Students assess and maintain a level of physical fitness to improve health and performance.	
Fitness Concepts	
3.1	Participate in appropriate warm-up and cool-down exercises for particular physical activities.
3.2	Demonstrate the correct body position for pushing and pulling large objects.

Aerobic Capacity	
3.3	Participate three to four days each week, for increasing periods of time, in continuous moderate to vigorous physical activities at the appropriate intensity to increase aerobic capacity.
Muscular Strength/Endurance	
3.4	Perform increasing numbers of each: abdominal curl-ups, oblique curl-ups on each side, modified push-ups or traditional push-ups, and triceps push-ups.
3.5	Hang by the hands from an overhead bar with the hips and knees each at a 90-degree angle.
Flexibility	
3.6	Demonstrate basic stretches using proper alignment for hamstrings, quadriceps, hip flexors, triceps, back, shoulders, hip abductors, and calves.
Body Composition	
3.7	Sustain continuous movement for increasing periods of time while participating in moderate to vigorous physical activity.
Assessment	
3.8	Measure and record changes in aerobic capacity and muscular strength, using scientifically based health-related physical fitness assessments.
3.9	Meet minimum requirements for health-related physical fitness, using scientifically based health related physical fitness assessments.
STANDARD 4: Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.	
Fitness Concepts	
4.1	Identify the correct body alignment for performing lower-body stretches.
4.2	Explain the principles of physical fitness: frequency, intensity, time, and type.
4.3	Set personal short-term goals for aerobic endurance, muscular strength and endurance, and flexibility and monitor progress by measuring and recording personal fitness scores.
4.4	Identify healthful choices for meals and snacks that help improve physical performance.
4.5	Explain why the body needs water before, during, and after physical activity.
4.6	Explain why the body uses a higher percentage of carbohydrates for fuel during high intensity physical activity and a higher percentage of fat for fuel during low-intensity physical activity.
4.7	Explain the purpose of warm-up and cool-down period.
Aerobic Capacity	

4.8	Calculate personal heart rate per minute by recording heartbeats for ten-second intervals and 15 second intervals.
4.9	Explain why a strong heart is able to return quickly to its resting rate after exertion.
4.10	Identify two characteristics of physical activity that build aerobic capacity.
4.11	Determine the intensity of personal physical activity by using the concept of perceived exertion.
Muscular Strength/Endurance	
4.12	Describe the difference between muscular strength and muscular endurance.
4.13	Explain why muscular endurance or muscular strength activities do not increase muscle mass in preadolescent children.
4.14	Recognize how strengthening major muscles can improve performance at work and play.
4.15	Describe the correct form to push and pull heavy objects.
Flexibility	
4.16	Explain the value of increased flexibility when participating in physical activity.
Body Composition	
4.17	Explain the effect of regular, sustained physical activity on the body's ability to consume calories and burn fat for energy.
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-Responsibility	
5.1	Set a personal goal to improve an area of health-related physical fitness and work toward that goal in nonschool time.
5.2	Collect data and record progress toward attainment of a personal fitness goal.
5.3	Accept responsibility for one's own performance without blaming others.
5.4	Respond to winning and losing with dignity and respect.
Social Interaction	
5.5	Include others in physical activities and respect individual differences in skill and motivation.
Group Dynamics	
5.6	Accept an opponent's outstanding skill, use of strategies, or ability to work effectively with teammates as a challenge in physical fitness.



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 (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.

Language learning needs to be a lifelong endeavor.

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 Fourth-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 fourth-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 Fourth Grade

The variety of languages and cultures in California classrooms provides opportunities to learn about and celebrate the contributions of many people to the local community and reinforce lessons from fourth-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 in 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 fourth grade, focusing on the organization of the world language standards and the beginning level 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 it 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 stages, not by grade levels. Most fourth-grade students would be at Stage I, so only those 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 (<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: <ul style="list-style-type: none"> 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	
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 among 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 phrases 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.



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 web sites, 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 fourth-grade students should know and be able to do as a result of having an effective school library program at their school.

What Fourth-Grade Students Should Know

Third-grade students recognized the need for information and detailed questions to help focus their search for information. Key words were identified and used to perform searches in the automated library catalog and approved search engines or databases to locate relevant resources.

Once resources were located, students selected information appropriate to the problem and determined whether the information answered their questions. Students took notes and applied techniques for organizing those notes in a logical order, such as using an outline or graphic organizer.

Third-grade students became more sophisticated users of the school library, understanding the purpose of the library catalog, the information on the spine labels of books, and how specific resources in the library were organized.

The reference resources used by students in third grade included the thesaurus, atlas, almanac, and specialized content reference materials in both print and digital formats. Students learned the skills necessary to access the information in these materials, including the use of guide words, indexes, alphabetical order, chapter headings, author notes, and dedications.

Third-grade students developed a basic understanding of intellectual property rights, including the difference between sharing and ownership. As students continued to use online resources, they also learned how to stay safe online and the effects of cyberbullying.

What Students Learn in Fourth Grade

Fourth-grade students learn more sophisticated search techniques, beginning with presearch strategies such as recall of prior knowledge and verification of the accuracy of that prior knowledge. They use standard reference tools in print and online. They understand and can explain the organization of nonfiction books in the school library (e.g., the Dewey decimal system).

Students become more knowledgeable about online searching, the use of electronic menus and icons, and URL Internet extensions (e.g., *.com*, *.org*, *.edu*, *.gov*) while using approved or personal passwords appropriately. Students are aware that the Internet has an environment of anonymity and not everyone on the Internet is truthful or reliable. Fourth-grade students also learn about the role of media.

They identify the factors that make a source comprehensive, current, credible, accurate, and authoritative.

In fourth grade, students extract information from resources, recording the main ideas and significant details from their research. They identify the factors that make a source comprehensive, current, credible, accurate, and authoritative. They use information by selecting a focus, an organization structure, and a point of view for a report or presentation. Students also communicate with others outside the school environment through the use of technology to share information.

Fourth-grade students read increasingly complex works, including a wide representation of grade-level-appropriate text such as classic and contemporary literature, magazines, newspapers, online information, and informational text. They know the purpose of age-appropriate book awards such as the Caldecott, Newbery, and California Young Reader awards.

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. An example of a possible lesson that includes the history–social science, visual and performing arts, English language arts, and school library standards is provided below.

Sample Collaborative Lesson

Standards:

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| HSS 4.4.9 | Analyze the impact of twentieth-century Californians on the nation’s artistic and cultural development, including the rise of the entertainment industry (e.g., Louis B. Meyer, Walt Disney, John Steinbeck, Ansel Adams, Dorothea Lange, John Wayne). |
| VPA 5.4 | Read biographies and stories about artists and summarize the readings in short reports, telling how the artists mirrored or affected their time period or culture. |
| ELA W.6 | With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single setting. |
| SLS 1.4.a | Extract information from the illustrations, photographs, charts, graphs, maps, and tables in print, nonprint, and digital formats. |

Students are given a list of Californians who have had an impact on the artistic and cultural development of the state. Each student selects one person to research and write about. All students are provided a notetaking sheet on which they can record information they locate for the person they have chosen. Students

conduct research in the library by using standard reference works, biographies, and online resources to locate information on the impact of the individual and how he or she affected or mirrored the times or culture. When students have completed their research and taken notes, they use the computer lab to write their reports, inserting graphics if needed. If several fourth-grade classes work on the same project, students from different classes can collaborate by using technology to communicate about their research and reports. The reports are shared via the school’s network.

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

Model School Library Content Standards Grade Four	
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	Identify a more complex problem or question that needs information.
1.1.b	Recognize and use appropriate pre-search strategies (e.g., recall of prior knowledge).
1.2 Formulate appropriate questions:	
1.2.a	Identify words with multiple meanings that may affect a search.
1.3 Identify and locate a variety of resources online and in other formats by using effective search strategies:	
1.3.a	Use standard reference tools online and in print, including dictionaries, atlases, thesauruses, encyclopedias, and almanacs.
1.3.b	Explain the basic organization of the library classification system (e.g., 10 major Dewey decimal system classifications).

1.3.c	Understand the organization of newspapers and periodicals, both in print and online, and how to use them.
1.3.d	Define online terms (e.g., <i>home page</i> , <i>Web site</i> , <i>responsibility statement</i> , <i>search engine</i> , <i>uniform resource locator [URL]</i>).
1.3.e	Define URL Internet extensions (e.g., .com, .org, .edu, .gov, .us, .net).
1.3.f	Use electronic menus and icons (e.g., search, content, help screen, index, key words) to locate information.
1.4 Retrieve information in a timely, safe, and responsible manner:	
1.4.a	Extract information from illustrations, photographs, charts, graphs, maps, and tables in print, nonprint, and digital formats.
2. Students evaluate information. The student will evaluate and analyze information to determine what is appropriate to address the scope of inquiry.	
2.1 Determine the relevance of the information:	
2.1.a	Extract and record appropriate and significant information from the text (notetaking).
2.2 Assess the comprehensiveness, currency, credibility, authority, and accuracy of resources:	
2.2.a	Identify the factors that make a source comprehensive, current, credible, authoritative, and accurate.
2.2.b	Distinguish between fact and opinion in expository text.
2.2.c	Recognize the role of media to persuade, interpret events, and transmit culture.
2.3 Consider the need for additional information:	
2.3.a	Verify accuracy of prior knowledge.
3. Students use information. The student will organize, synthesize, create, and communicate information.	
3.1 Demonstrate ethical, legal, and safe use of information in print, media, and online resources:	
3.1.a	Identify author, title, copyright date, and publisher.
3.1.b	Use approved or personal passwords appropriately.

3.1.c	Understand the environment of Internet anonymity and that not everyone on the Internet is truthful and reliable.
3.2 Draw conclusions and make informed decisions:	
3.2.a	Summarize the main ideas and the most significant details from research.
3.3 Use information and technology creatively to answer a question, solve a problem, or enrich understanding:	
3.3.a	Understand and use a variety of organizational structures as appropriate to convey information (e.g., chronological order, cause and effect, similarity and difference, posing and answering a question).
3.3.b	Select a focus, an organizational structure, and a point of view for a report or presentation based upon purpose, audience, length, and format requirements.
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 widely 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 500,000 words annually (e.g., classic and contemporary literature, magazines, newspapers, online information).
4.1.b	Understand and describe the purpose of age-appropriate book awards (e.g., Caldecott, Newbery, California Young Reader).
4.2 Seek, produce, and share information:	
4.2.a	Evaluate information of a personal interest for accuracy, credibility, and relevance.
4.2.b	Communicate with others outside the school environment through the use of technology to share information (e.g., video conference, blog, wiki, chat room, discussion board).
4.3 Appreciate and respond to creative expressions of information:	
4.3.a	Use a variety of information resources to deliver oral presentations that express main ideas supported by significant details.