

CALIFORNIA STATE BOARD ADOPTED STANDARDS

FOURTH GRADE

English/Language Arts

Mathematics

History/Social Science

Science

Physical Education

Visual & Performing Arts

Compiled by

Shoob Photography

ENGLISH/LANGUAGE ARTS

READING

1.0 Word Analysis, Fluency, & Systematic Vocab Development

Students understand the basic features of reading. They select letter patterns and know how to translate them into spoken language by using phonics, syllabication, and word parts. They apply this knowledge to achieve fluent oral and silent reading.

Word Recognition

- 1.1 Read narrative and expository text aloud with grade-appropriate fluency and accuracy and with appropriate pacing, intonation, and expression.

Vocabulary and Concept Development

- 1.2 Apply knowledge of word origins, derivations, synonyms, antonyms, and idioms to determine the meaning of words and phrases.
- 1.3 Use knowledge of root words to determine the meaning of unknown words within a passage.
- 1.4 Know common roots and affixes derived from Greek and Latin and use this knowledge to analyze the meaning of complex words (e.g., international).
- 1.5 Use a thesaurus to determine related words and concepts.
- 1.6 Distinguish and interpret words with multiple meanings.

2.0 Reading Comprehension

Students read and understand grade-level-appropriate material. They draw upon a variety of comprehension strategies as needed (e.g., generating and responding to essential questions, making predictions, comparing information from several sources). The selections in Recommended Literature, Kindergarten Through Grade Twelve illustrate the quality and complexity of the materials to be read by students. In addition to their regular school reading, students read one-half million words annually, including a good representation of grade-level-appropriate narrative and expository text (e.g., classic and contemporary literature, magazines, newspapers, online information).

Structural Features of Informational Materials

- 2.1 Identify structural patterns found in informational text (e.g., compare and contrast, cause and effect, sequential or chronological order, proposition and support) to strengthen comprehension.

Comprehension and Analysis of Grade-Level-Appropriate Text

- 2.2 Use appropriate strategies when reading for different purposes (e.g., full comprehension, location of information, personal enjoyment).
- 2.3 Make and confirm predictions about text by using prior knowledge and ideas presented in the text itself, including illustrations, titles, topic sentences, important words, and foreshadowing clues.
- 2.4 Evaluate new information and hypotheses by testing them against known information and ideas.
- 2.5 Compare and contrast information on the same topic after reading several passages or articles.
- 2.6 Distinguish between cause and effect and between fact and opinion in expository text.
- 2.7 Follow multiple-step instructions in a basic technical manual (e.g., how to use computer commands or video games).

3.0 Literary Response & Analysis

Students read and respond to a wide variety of significant works of children's literature. They distinguish between the structural features of the text and the literary terms or elements (e.g., theme, plot, setting, characters). The selections in Recommended Literature, Kindergarten Through Grade Twelve illustrate the quality and complexity of the materials to be read by students.

Structural Features of Literature

- 3.1 Describe the structural differences of various imaginative forms of literature, including fantasies, fables, myths, legends, and fairy tales.

Narrative Analysis of Grade-Level-Appropriate Text

- 3.2 Identify the main events of the plot, their causes, and the influence of each event on future actions.
- 3.3 Use knowledge of the situation and setting and of a character's traits and motivations to determine the causes for that character's actions.
- 3.4 Compare and contrast tales from different cultures by tracing the exploits of one character type and develop theories to account for similar tales in diverse cultures (e.g., trickster tales).
- 3.5 Define figurative language (e.g., simile, metaphor, hyperbole, personification) and identify its use in literary works.

ENGLISH/LANGUAGE ARTS

WRITING

1.0 Writing Strategies

Students write clear, coherent sentences and paragraphs that develop a central idea. Their writing shows they consider the audience and purpose. Students progress through the stages of the writing process (e.g., prewriting, drafting, revising, editing successive versions).

Organization and Focus

- 1.1 Select a focus, an organizational structure, and a point of view based upon purpose, audience, length, and format requirements.
- 1.2 Create multiple-paragraph compositions:
 - a. Provide an introductory paragraph.
 - b. Establish and support a central idea with a topic sentence at or near the beginning of the first paragraph.
 - c. Include supporting paragraphs with simple facts, details, and explanations.
 - d. Conclude with a paragraph that summarizes the points.
 - e. Use correct indentation.
- 1.3 Use traditional structures for conveying information (e.g., chronological order, cause and effect, similarity and difference, posing and answering a question).

Penmanship

- 1.4 Write fluidly and legibly in cursive or joined italic.

Research and Technology

- 1.5 Quote or paraphrase information sources, citing them appropriately.
- 1.6 Locate information in reference texts by using organizational features (e.g., prefaces, appendixes).
- 1.7 Use various reference materials (e.g., dictionary, thesaurus, card catalog, encyclopedia, online information) as an aid to writing.
- 1.8 Understand the organization of almanacs, newspapers, and periodicals and how to use those print materials.
- 1.9 Demonstrate basic keyboarding skills and familiarity with computer terminology (e.g., cursor, software, memory, disk drive, hard drive).

Evaluation and Revision

- 1.10 Edit and revise selected drafts to improve coherence and progression by adding, deleting, consolidating, and rearranging text.

2.0 Writing Applications (Genres & Their Characteristics)

Students write compositions that describe and explain familiar objects, events, and experiences. Student writing demonstrates a command of standard American English and the drafting, research, and organizational strategies outlined in Writing Standard 1.0. Using the writing strategies of grade four outlined in Writing Standard 1.0, students:

- 2.1 Write narratives:
 - a. Relate ideas, observations, or recollections of an event or experience.
 - b. Provide a context to enable the reader to imagine the world of the event or experience.
 - c. Use concrete sensory details.
 - d. Provide insight into why the selected event or experience is memorable.
- 2.2 Write responses to literature:
 - a. Demonstrate an understanding of the literary work.
 - b. Support judgments through references to both the text and prior knowledge.
- 2.3 Write information reports:
 - a. Frame a central question about an issue or situation.
 - b. Include facts and details for focus.
 - c. Draw from more than one source of information (e.g., speakers, books, newspapers, other media sources).
- 2.4 Write summaries that contain the main ideas of the reading selection and the most significant details.

Written & Oral English Language Conventions

The standards for written and oral English language conventions have been placed between those for writing and for listening and speaking because these conventions are essential to both sets of skills.

ENGLISH/LANGUAGE ARTS

1.0 Written & Oral English Language Conventions

Students write and speak with a command of standard English conventions appropriate to this grade level.

Sentence Structure

- 1.1 Use simple and compound sentences in writing and speaking.
- 1.2 Combine short, related sentences with appositives, participial phrases, adjectives, adverbs, and prepositional phrases.

Grammar

- 1.3 Identify and use regular and irregular verbs, adverbs, prepositions, and coordinating conjunctions in writing and speaking.

Punctuation

- 1.4 Use parentheses, commas in direct quotations, and apostrophes in the possessive case of nouns and in contractions.
- 1.5 Use underlining, quotation marks, or italics to identify titles of documents.

Capitalization

- 1.6 Capitalize names of magazines, newspapers, works of art, musical compositions, organizations, and the first word in quotations when appropriate.

Spelling

- 1.7 Spell correctly roots, inflections, suffixes and prefixes, and syllable constructions.

LISTENING & SPEAKING

1.0 Listening & Speaking Strategies

Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation.

Comprehension

- 1.1 Ask thoughtful questions and respond to relevant questions with appropriate elaboration in oral settings.
- 1.2 Summarize major ideas and supporting evidence presented in spoken messages and formal presentations.
- 1.3 Identify how language usages (e.g., sayings, expressions) reflect regions and cultures.
- 1.4 Give precise directions and instructions.

Organization and Delivery of Oral Communication

- 1.5 Present effective introductions and conclusions that guide and inform the listener's understanding of important ideas and evidence.
- 1.6 Use traditional structures for conveying information (e.g., cause and effect, similarity and difference, posing and answering a question).
- 1.7 Emphasize points in ways that help the listener or viewer to follow important ideas and concepts.
- 1.8 Use details, examples, anecdotes, or experiences to explain or clarify information.
- 1.9 Use volume, pitch, phrasing, pace, modulation, and gestures appropriately to enhance meaning.

Analysis and Evaluation of Oral Media Communication

- 1.10 Evaluate the role of the media in focusing attention on events and in forming opinions on issues.

ENGLISH/LANGUAGE ARTS

2.0 Speaking Applications (Genres & Their Characters)

Students deliver brief recitations and oral presentations about familiar experiences or interests that are organized around a coherent thesis statement. Student speaking demonstrates a command of standard American English and the organizational and delivery strategies outlined in Listening and Speaking Standard 1.0. Using the speaking strategies of grade four outlined in Listening and Speaking Standard 1.0, students:

- 2.1 Make narrative presentations:
 - a. Relate ideas, observations, or recollections about an event or experience.
 - b. Provide a context that enables the listener to imagine the circumstances of the event or experience.
 - c. Provide insight into why the selected event or experience is memorable.
- 2.2 Make informational presentations:
 - a. Frame a key question.
 - b. Include facts and details that help listeners to focus.
 - c. Incorporate more than one source of information (e.g., speakers, books, newspapers, television or radio reports).
- 2.3 Deliver oral summaries of articles and books that contain the main ideas of the event or article and the most significant details.
- 2.4 Recite brief poems (i.e., two or three stanzas), soliloquies, or dramatic dialogues, using clear diction, tempo, volume, and phrasing.

MATHEMATICS

By the end of grade four, students understand large numbers and addition, subtraction, multiplication, and division of whole numbers. They describe and compare simple fractions and decimals. They understand the properties of, and the relationships between, plane geometric figures. They collect, represent, and analyze data to answer questions.

NUMBER SENSE

- 1.0 Students understand the place value of whole numbers and decimals to two decimal places and how whole numbers and decimals relate to simple fractions. Students use the concepts of negative numbers:
 - 1.1 Read and write whole numbers in the millions.
 - 1.2 Order and compare whole numbers and decimals to two decimal places.
 - 1.3 Round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.
 - 1.4 Decide when a rounded solution is called for and explain why such a solution may be appropriate.
 - 1.5 Explain different interpretations of fractions, for example, parts of a whole, parts of a set, and division of whole numbers by whole numbers; explain equivalents of fractions (see Standard 4.0).
 - 1.6 Write tenths and hundredths in decimal and fraction notations and know the fraction and decimal equivalents for halves and fourths (e.g., $\frac{1}{2} = 0.5$ or $.50$; $\frac{7}{4} = 1 \frac{3}{4} = 1.75$).
 - 1.7 Write the fraction represented by a drawing of parts of a figure; represent a given fraction by using drawings; and relate a fraction to a simple decimal on a number line.
 - 1.8 Use concepts of negative numbers (e.g., on a number line, in counting, in temperature, in “owing”).
 - 1.9 Identify on a number line the relative position of positive fractions, positive mixed numbers, and positive decimals to two decimal places.
- 2.0 Students extend their use and understanding of whole numbers to the addition and subtraction of simple decimals:
 - 2.1 Estimate and compute the sum or difference of whole numbers and positive decimals to two places.
 - 2.2 Round two-place decimals to one decimal or the nearest whole number and judge the reasonableness of the rounded answer.

- 3.0 Students solve problems involving addition, subtraction, multiplication, and division of whole numbers and understand the relationships among the operations:
 - 3.1 Demonstrate an understanding of, and the ability to use, standard algorithms for the addition and subtraction of multidigit numbers.
 - 3.2 Demonstrate an understanding of, and the ability to use, standard algorithms for multiplying a multidigit number by a two-digit number and for dividing a multidigit number by a one-digit number; use relationships between them to simplify computations and to check results.
 - 3.3 Solve problems involving multiplication of multidigit numbers by two-digit numbers.
 - 3.4 Solve problems involving division of multidigit numbers by one-digit numbers.
- 4.0 Students know how to factor small whole numbers:
 - 4.1 Understand that many whole numbers break down in different ways (e.g., $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$).
 - 4.2 Know that numbers such as 2, 3, 5, 7, and 11 do not have any factors except 1 and themselves and that such numbers are called prime numbers.

ALGEBRA & FUNCTIONS

- 1.0 Students use and interpret variables, mathematical symbols, and properties to write and simplify expressions and sentences:
 - 1.1 Use letters, boxes, or other symbols to stand for any number in simple expressions or equations (e.g., demonstrate an understanding and the use of the concept of a variable).
 - 1.2 Interpret and evaluate mathematical expressions that now use parentheses.
 - 1.3 Use parentheses to indicate which operation to perform first when writing expressions containing more than two terms and different operations.
 - 1.4 Use and interpret formulas (e.g., $\text{area} = \text{length} \times \text{width}$ or $A = lw$) to answer questions about quantities and their relationships.
 - 1.5 Understand that an equation such as $y = 3x + 5$ is a prescription for determining a second number when a first number is given.
- 2.0 Students know how to manipulate equations:
 - 2.1 Know and understand that equals added to equals are equal.

MATHEMATICS

- 2.2 Know and understand that equals multiplied by equals are equal.

MEASUREMENT & GEOMETRY

- 1.0 Students understand perimeter and area:
- 1.1 Measure the area of rectangular shapes by using appropriate units, such as square centimeter (cm^2), square meter (m^2), square kilometer (km^2), square inch (in^2), square yard (yd^2), or square mile (mi^2).
- 1.2 Recognize that rectangles that have the same area can have different perimeters.
- 1.3 Understand that rectangles that have the same perimeter can have different areas.
- 1.4 Understand and use formulas to solve problems involving perimeters and areas of rectangles and squares. Use those formulas to find the areas of more complex figures by dividing the figures into basic shapes.
- 2.0 Students use two-dimensional coordinate grids to represent points and graph lines and simple figures:
- 2.1 Draw the points corresponding to linear relationships on graph paper (e.g., draw 10 points on the graph of the equation $y = 3x$ and connect them by using a straight line).
- 2.2 Understand that the length of a horizontal line segment equals the difference of the x-coordinates.
- 2.3 Understand that the length of a vertical line segment equals the difference of the y-coordinates.
- 3.0 Students demonstrate an understanding of plane and solid geometric objects and use this knowledge to show relationships and solve problems:
- 3.1 Identify lines that are parallel and perpendicular.
- 3.2 Identify the radius and diameter of a circle.
- 3.3 Identify congruent figures.
- 3.4 Identify figures that have bilateral and rotational symmetry.
- 3.5 Know the definitions of a right angle, an acute angle, and an obtuse angle. Understand that 90° , 180° , 270° , and 360° are associated, respectively, with $1/4$, $1/2$, $3/4$, and full turns.

- 3.6 Visualize, describe, and make models of geometric solids (e.g., prisms, pyramids) in terms of the number and shape of faces, edges, and vertices; interpret two-dimensional representations of three-dimensional objects; and draw patterns (of faces) for a solid that, when cut and folded, will make a model of the solid.
- 3.7 Know the definitions of different triangles (e.g., equilateral, isosceles, scalene) and identify their attributes.
- 3.8 Know the definition of different quadrilaterals (e.g., rhombus, square, rectangle, parallelogram, trapezoid).

Statistics, Data Analysis, & Probability

- 1.0 Students organize, represent, and interpret numerical and categorical data and clearly communicate their findings:
- 1.1 Formulate survey questions; systematically collect and represent data on a number line; and coordinate graphs, tables, and charts.
- 1.2 Identify the mode(s) for sets of categorical data and the mode(s), median, and any apparent outliers for numerical data sets.
- 1.3 Interpret one- and two-variable data graphs to answer questions about a situation.
- 2.0 Students make predictions for simple probability situations:
- 2.1 Represent all possible outcomes for a simple probability situation in an organized way (e.g., tables, grids, tree diagrams).
- 2.2 Express outcomes of experimental probability situations verbally and numerically (e.g., 3 out of 4; $3/4$).

MATHEMATICS

MATHEMATICAL REASONING

- 1.0 Students make decisions about how to approach problems:
 - 1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.
 - 1.2 Determine when and how to break a problem into simpler parts.
- 2.0 Students use strategies, skills, and concepts in finding solutions:
 - 2.1 Use estimation to verify the reasonableness of calculated results.
 - 2.2 Apply strategies and results from simpler problems to more complex problems.
 - 2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
 - 2.4 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
 - 2.5 Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.
 - 2.6 Make precise calculations and check the validity of the results from the context of the problem.
- 3.0 Students move beyond a particular problem by generalizing to other situations:
 - 3.1 Evaluate the reasonableness of the solution in the context of the original situation.
 - 3.2 Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.
 - 3.3 Develop generalizations of the results obtained and apply them in other circumstances.

HISTORY/SOCIAL SCIENCE

CALIFORNIA: A CHANGING STATE

Students learn the story of their home state, unique in American history in terms of its vast and varied geography, its many waves of immigration beginning with pre-Columbian societies, its continuous diversity, economic energy, and rapid growth. In addition to the specific treatment of milestones in California history, students examine the state in the context of the rest of the nation, with an emphasis on the U.S. Constitution and the relationship between state and federal government.

4.1 Students demonstrate an understanding of the physical & human geographic features that define places & 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, & economic life & interactions among people of California from the pre-Columbian societies to the Spanish mission & 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 huntergatherer 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.

HISTORY/SOCIAL SCIENCE

4.3 Students explain the economic, social, & political life in California from the establishment of the Bear Flag Republic through the Mexican-American War, the Gold Rush, & 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 & industrial power, tracing the transformation of the California economy & 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 turn of the 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, & powers of the local, state, & 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).

SCIENCE

PHYSICAL SCIENCES

1. Electricity and magnetism are related effects that have many useful applications in everyday life.
As a basis for understanding this concept:
 - a. Students know how to design and build simple series and parallel circuits by using components such as wires, batteries, and bulbs.
 - b. Students know how to build a simple compass and use it to detect magnetic effects, including Earth's magnetic field.
 - c. Students know electric currents produce magnetic fields and know how to build a simple electromagnet.
 - d. Students know the role of electromagnets in the construction of electric motors, electric generators, and simple devices, such as doorbells and earphones.
 - e. Students know electrically charged objects attract or repel each other.
 - f. Students know that magnets have two poles (north and south) and that like poles repel each other while unlike poles attract each other.
 - 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:
 - a. Students know plants are the primary source of matter and energy entering most food chains.
 - 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.
 - 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:
 - a. Students know ecosystems can be characterized by their living and nonliving components.

- 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.
- c. Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.
- d. Students know that most microorganisms do not cause disease and that many are beneficial.

EARTH SCIENCES

4. The properties of rocks and minerals reflect the processes that formed them.
As a basis for understanding this concept:
 - a. Students know how to differentiate among igneous, sedimentary, and metamorphic rocks by referring to their properties and methods of formation (the rock cycle).
 - 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.
5. Waves, wind, water, and ice shape and reshape Earth's land surface.
As a basis for understanding this concept:
 - 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.
 - b. Students know natural processes, including freezing and thawing and the growth of roots, cause rocks to break down into smaller pieces.
 - 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).

SCIENCE

INVESTIGATION & 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:

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

PHYSICAL EDUCATION

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

- 1.16 Perform locomotor and nonlocomotor movements to a steady beat.
- 1.17 Clap in time to a simple, rhythmic beat.

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.

PHYSICAL EDUCATION

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 adductors, 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 periods.

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.

PHYSICAL EDUCATION

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 activities.

VISUAL & PERFORMING ARTS

DANCE

1.0 ARTISTIC PERCEPTION

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

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

Development of Motor Skills and Technical Expertise

- 1.1 Demonstrate mental concentration and physical control in performing dance skills.
- 1.2 Demonstrate the ability to use smooth transitions when connecting one movement phrase to another.

Comprehension and Analysis of Dance Elements

- 1.3 Demonstrate increased range and use of space, time, and force/energy concepts (e.g., pulse/accents, melt/collapse, weak/strong).
- 1.4 Explain the principles of variety, contrast, and unity and apply to a dance sequence.

Development of Dance Vocabulary

- 1.5 Describe a specific movement, using appropriate dance vocabulary.
- 1.6 Identify, define, and use phrasing in dances learned or observed.

2.0 CREATIVE EXPRESSION

Creating, Performing, and Participating in Dance

Students apply choreographic principles, processes, and skills to create and communicate meaning through the improvisation, composition, and performance of dance.

Creation/Invention of Dance Movements

- 2.1 Create, develop, and memorize set movement patterns and sequences.
- 2.2 Improvise extended movement phrases.

Application of Choreographic Principles and Processes to Creating Dance

- 2.3 Describe, discuss, and analyze the process used by choreographers to create a dance.
- 2.4 Create a dance study that has a beginning, a middle, and an end. Review, revise, and refine.

Communication of Meaning in Dance

- 2.5 Convey a range of feelings through shape/postures and movements when performing for peers.

- 2.6 Perform improvised movement and dance studies with focus and expression.

Development of Partner and Group Skills

- 2.7 Demonstrate additional partner and group skills (e.g., imitating, leading/following, mirroring, calling/responding, echoing).

3.0 HISTORICAL & CULTURAL CONTEXT

Understanding the Historical Contributions and Cultural Dimensions of Dance

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.

Development of Dance

- 3.1 Perform and identify dances from various countries with different arrangements of dancers (e.g., lines, circles, couples).
- 3.2 Name the musical accompaniment and explain how it relates to the dances they have studied.

History and Function of Dance

- 3.3 Perform and describe dances that reflect the geographical place in which the dances are performed (e.g., deserts, rain forests, islands).

Diversity of Dance

- 3.4 Perform and identify folk/traditional and social dances from California history.

VISUAL & PERFORMING ARTS

4.0 AESTHETIC VALUING

Responding to, Analyzing, and Making Judgments About Works of Dance

Students critically assess and derive meaning from works of dance, performance of dancers, and original works based on the elements of dance and aesthetic qualities.

Description, Analysis, and Criticism of Dance

- 4.1 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).
- 4.2 Name and use specific criteria in assessing personal and professional dance choreography (e.g., contrast, phrasing, unity).

Meaning and Impact of Dance

- 4.3 Describe ways in which a dancer effectively communicates ideas and moods (strong technique, projection, and expression).
- 4.4 List the expectations the audience has for a performer and vice versa.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connecting and Applying What Is Learned in Dance to Learning in Other Art Forms and Subject Areas and to Careers

Students apply what they learn in dance to learning across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to dance.

Connections and Applications Across Disciplines

- 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).
- 5.2 Describe how dancing develops strength, flexibility, and endurance in accordance with physical education standards.
- 5.3 Demonstrate a recognition of personal space and respect for the personal space of others.

Development of Life Skills and Career Competencies

- 5.4 Analyze the choreographic process and its relation to the writing process (e.g., brain-storming, exploring and developing ideas, putting ideas into a form, sequencing).

VISUAL & PERFORMING ARTS

MUSIC

1.0 ARTISTIC PERCEPTION

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

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

Read and Notate Music

- 1.1 Read, write, and perform melodic notation for simple songs in major keys, using solfege.
- 1.2 Read, write, and perform diatonic scales.
- 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).

Listen to, Analyze, and Describe Music

- 1.4 Describe music according to its elements, using the terminology of music.
- 1.5 Classify how a variety of instruments from diverse cultures produce sound (e.g., idiophone, aerophone, chordophone, membranophone).
- 1.6 Recognize and describe aural examples of musical forms, including rondo.

2.0 CREATIVE EXPRESSION

Creating, Performing, and Participating in Music

Students apply vocal and instrumental musical skills in performing a varied repertoire of music. They compose and arrange music and improvise melodies, variations, and accompaniments, using digital/electronic technology when appropriate.

Apply Vocal and Instrumental Skills

- 2.1 Sing a varied repertoire of music from diverse cultures, including rounds, descants, and songs with ostinatos, alone and with others.
- 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.

Compose, Arrange, and Improvise

- 2.3 Compose and improvise simple rhythmic and melodic patterns on classroom instruments.

3.0 HISTORICAL & CULTURAL CONTEXT

Understanding the Historical Contributions and Cultural Dimensions of Music

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.

Role of Music

- 3.1 Explain the relationship between music and events in history.

Diversity of Music

- 3.2 Identify music from diverse cultures and time periods.
- 3.3 Sing and play music from diverse cultures and time periods.
- 3.4 Compare musical styles from two or more cultures.
- 3.5 Recognize the influence of various cultures on music in California.

4.0 AESTHETIC VALUING

Responding to, Analyzing, and Making Judgments About Works of Music

Students critically assess and derive meaning from works of music and the performance of musicians according to the elements of music, aesthetic qualities, and human responses.

Analyze and Critically Assess

- 4.1 Use specific criteria when judging the relative quality of musical performances.

Derive Meaning

- 4.2 Describe the characteristics that make a performance a work of art.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connecting and Applying What Is Learned in Music to Learning in Other Art Forms and Subject Areas and to Careers

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.

VISUAL & PERFORMING ARTS

Connections and Applications

- 5.1 Identify and interpret expressive characteristics in works of art and music.
- 5.2 Integrate several art disciplines (dance, music, theatre, or the visual arts) into a well-organized presentation or performance.
- 5.3 Relate dance movements to express musical elements or represent musical intent in specific music.

Careers and Career-Related Skills

- 5.4 Evaluate improvement in personal musical performances after practice or rehearsal.

Creation/Invention in Theatre

- 2.2 Retell or improvise stories from classroom literature in a variety of tones (gossipy, sorrowful, comic, frightened, joyful, sarcastic).
- 2.3 Design or create costumes, props, makeup, or masks to communicate a character in formal or informal performances.

3.0 HISTORICAL & CULTURAL CONTEXT

Understanding the Historical Contributions and Cultural Dimensions of Theatre

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.

Role and Cultural Significance of Theatre

- 3.1 Identify theatrical or storytelling traditions in the cultures of ethnic groups throughout the history of California.

History of Theatre

- 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.

4.0 AESTHETIC VALUING

Responding to, Analyzing, and Critiquing Theatrical Experiences

Students critique and derive meaning from works of theatre, film/video, electronic media, and theatrical artists on the basis of aesthetic qualities.

Critical Assessment of Theatre

- 4.1 Develop and apply appropriate criteria or rubrics for critiquing performances as to characterization, diction, pacing, gesture, and movement.
- 4.2 Compare and contrast the impact on the audience of theatre, film, television, radio, and other media.

Derivation of Meaning from Works of Theatre

- 4.3 Describe students responses to a work of theatre and explain what the scriptwriter did to elicit those responses.

THEATRE

1.0 ARTISTIC PERCEPTION

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

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

Development of the Vocabulary of Theatre

- 1.1 Use the vocabulary of theatre, such as plot, conflict, climax, resolution, tone, objectives, motivation, and stock characters, to describe theatrical experiences.

Comprehension and Analysis of the Elements of Theatre

- 1.2 Identify a character's objectives and motivations to explain that character's behavior.
- 1.3 Demonstrate how voice (diction, pace, and volume) may be used to explore multiple possibilities for a live reading. Examples: I want you to go. I want you to go. I want you to go.

2.0 CREATIVE EXPRESSION

Creating, Performing, and Participating in Theatre

Students apply processes and skills in acting, directing, designing, and script writing to create formal and informal theatre, film/videos, and electronic media productions and to perform in them.

Development of Theatrical Skills

- 2.1 Demonstrate the emotional traits of a character through gesture and action.

VISUAL & PERFORMING ARTS

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connecting and Applying What Is Learned in Theatre, Film/Video, and Electronic Media to Other Art Forms and Subject Areas and to Careers

Students apply what they learn in theatre, film/video, and electronic media across subject areas. They develop competencies and creative skills in problem solving, communication, and time management that contribute to lifelong learning and career skills. They also learn about careers in and related to theatre.

Connections and Applications

- 5.1 Dramatize events in California history.
- 5.2 Use improvisation and dramatization to explore concepts in other content areas.

Careers and Career-Related Skills

- 5.3 Exhibit team identity and commitment to purpose when participating in theatrical experiences.

VISUAL ARTS

1.0 ARTISTIC PERCEPTION

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

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

Develop Perceptual Skills and Visual Arts Vocabulary

- 1.1 Perceive and describe contrast and emphasis in works of art and in the environment.
- 1.2 Describe how negative shapes/forms and positive shapes/forms are used in a chosen work of art.
- 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.
- 1.4 Describe the concept of proportion (in face, figure) as used in works of art.

Analyze Art Elements and Principles of Design

- 1.5 Describe and analyze the elements of art (e.g., color, shape/form, line, texture, space, value), emphasizing form, as they are used in works of art and found in the environment.

2.0 CREATIVE EXPRESSION

Creating, Performing, and Participating in the Visual Arts

Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.

Skills, Processes, Materials, and Tools

- 2.1 Use shading (value) to transform a two-dimensional shape into what appears to be a three-dimensional form (e.g., circle to sphere).
- 2.2 Use the conventions of facial and figure proportions in a figure study.
- 2.3 Use additive and subtractive processes in making simple sculptural forms.
- 2.4 Use fibers or other materials to create a simple weaving.

Communication and Expression Through Original Works of Art

- 2.5 Use accurate proportions to create an expressive portrait or a figure drawing or painting.
- 2.6 Use the interaction between positive and negative space expressively in a work of art.
- 2.7 Use contrast (light and dark) expressively in an original work of art.
- 2.8 Use complementary colors in an original composition to show contrast and emphasis.

3.0 HISTORICAL & CULTURAL CONTEXT

Understanding the Historical Contributions and Cultural Dimensions of the Visual Arts

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.

Role and Development of the Visual Arts

- 3.1 Describe how art plays a role in reflecting life (e.g., in photography, quilts, architecture).

Diversity of the Visual Arts

- 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.
- 3.3 Research and describe the influence of religious groups on art and architecture, focusing primarily on buildings in California both past and present.

VISUAL & PERFORMING ARTS

4.0 AESTHETIC VALUING

Responding to, Analyzing, and Making Judgments About Works in the Visual Arts

Students analyze, assess, and derive meaning from works of art, including their own, according to the elements of art, the principles of design, and aesthetic qualities.

Derive Meaning

- 4.1 Describe how using the language of the visual arts helps to clarify personal responses to works of art.
- 4.2 Identify and describe how a person's own cultural context influences individual responses to works of art.
- 4.3 Discuss how the subject and selection of media relate to the meaning or purpose of a work of art.

Make Informed Judgments

- 4.4 Identify and describe how various cultures define and value art differently.
- 4.5 Describe how the individual experiences of an artist may influence the development of specific works of art.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connecting and Applying What Is Learned in the Visual Arts to Other Art Forms and Subject Areas and to Careers

Students apply what they learn in the visual arts across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to the visual arts.

Connections and Applications

- 5.1 Select a nonobjective painting, work in small groups to interpret it through dance/movement, and then write a paragraph reporting on the arts experience.
- 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.

Visual Literacy

- 5.3 Construct diagrams, maps, graphs, timelines, and illustrations to communicate ideas or tell a story about a historical event.

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.

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