

# CALIFORNIA STATE BOARD ADOPTED STANDARDS

## FIFTH GRADE

English/Language Arts

Mathematics

History/Social Science

Science

Physical Education

Visual & Performing Arts

**Compiled by**

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# ENGLISH/LANGUAGE ARTS

## READING

### 1.0 Word Analysis, Fluency, & Systematic Vocab Development

Students use their knowledge of word origins and word relationships, as well as historical and literary context clues, to determine the meaning of specialized vocabulary and to understand the precise meaning of grade-level-appropriate words.

#### Word Recognition

- 1.1 Read aloud narrative and expository text fluently and accurately and with appropriate pacing, intonation, and expression.

#### Vocabulary and Concept Development

- 1.2 Use word origins to determine the meaning of unknown words.
- 1.3 Understand and explain frequently used synonyms, antonyms, and homographs.
- 1.4 Know abstract, derived roots and affixes from Greek and Latin and use this knowledge to analyze the meaning of complex words (e.g., controversial).
- 1.5 Understand and explain the figurative and metaphorical use of words in context.

### 2.0 Reading Comprehension

Students read and understand grade-level-appropriate material. They describe and connect the essential ideas, arguments, and perspectives of the text by using their knowledge of text structure, organization, and purpose. The selections in Recommended Literature, Kindergarten Through Grade Twelve illustrate the quality and complexity of the materials to be read by students. In addition, by grade eight, students read one million words annually on their own, including a good representation of grade-level-appropriate narrative and expository text (e.g., classic and contemporary literature, magazines, newspapers, online information). In grade five, students make progress toward this goal.

#### Structural Features of Informational Materials

- 2.1 Understand how text features (e.g., format, graphics, sequence, charts, maps) make information accessible and usable.
- 2.2 Analyze text that is organized in sequential or chronological order.

#### Comprehension and Analysis of Grade-Level-Appropriate Text

- 2.3 Discern main ideas and concepts presented in texts, identifying and assessing evidence that supports those ideas.
- 2.4 Draw inferences, conclusions, or generalizations about text and support them with textual evidence and prior knowledge.

#### Expository Critique

- 2.5 Distinguish facts, supported inferences, and opinions in text.

### 3.0 Literary Response & Analysis

Students read and respond to historically or culturally significant works of literature. They begin to find ways to clarify the ideas and make connections between literary works. 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 Identify and analyze the characteristics of poetry, drama, explain the appropriateness of the literary forms chosen by an author for a specific purpose.

#### Narrative Analysis of Grade-Level-Appropriate Text

- 3.2 Identify the main problem or conflict of the plot and explain how it is resolved.
- 3.3 Contrast the actions, motives (e.g., loyalty, selfishness, conscientiousness), and appearances of characters in a work of fiction and discuss the importance of the contrasts to the plot or theme.
- 3.4 Understand that theme refers to the meaning or moral of a selection and recognize themes (whether implied or stated directly) in sample works.
- 3.5 Describe the function and effect of common literary devices (e.g., imagery, metaphor, symbolism).

#### Literary Criticism

- 3.6 Evaluate the meaning of archetypal patterns and symbols that are found in myth and tradition by using literature from different eras and cultures.
- 3.7 Evaluate the author's use of various techniques (e.g., appeal of characters in a picture book, logic and credibility of plots and settings, use of figurative language) to influence readers' perspectives.

# ENGLISH/LANGUAGE ARTS

## WRITING

### 1.0 Writing Strategies

Students write clear, coherent, and focused essays. The writing exhibits the students' awareness of the audience and purpose. Essays contain formal introductions, supporting evidence, and conclusions. Students progress through the stages of the writing process as needed.

#### Organization and Focus

- 1.1 Create multiple-paragraph narrative compositions:
  - a. Establish and develop a situation or plot.
  - b. Describe the setting.
  - c. Present an ending.
- 1.2 Create multiple-paragraph expository compositions:
  - a. Establish a topic, important ideas, or events in sequence or chronological order.
  - b. Provide details and transitional expressions that link one paragraph to another in a clear line of thought.
  - c. Offer a concluding paragraph that summarizes important ideas and details.

#### Research and Technology

- 1.3 Use organizational features of printed text (e.g., citations, end notes, bibliographic references) to locate relevant information.
- 1.4 Create simple documents by using electronic media and employing organizational features (e.g., passwords, entry and pull-down menus, word searches, a thesaurus, spell checks).
- 1.5 Use a thesaurus to identify alternative word choices and meanings.

#### Evaluation and Revision

- 1.6 Edit and revise manuscripts to improve the meaning and focus of writing by adding, deleting, consolidating, clarifying, and rearranging words and sentences.

### 2.0 Writing Applications (Genres & Their Characteristics)

Students write narrative, expository, persuasive, and descriptive texts of at least 500 to 700 words in each genre. Student writing demonstrates a command of standard American English and the research, organizational, and drafting strategies outlined in Writing Standard 1.0. Using the writing strategies of grade five outlined in Writing Standard 1.0, students:

- 2.1 Write narratives:
  - a. Establish a plot, point of view, setting, and conflict.
  - b. Show, rather than tell, the events of the story.
- 2.2 Write responses to literature:
  - a. Demonstrate an understanding of a literary work.
  - b. Support judgments through references to the text and to prior knowledge.
  - c. Develop interpretations that exhibit careful reading and understanding.
- 2.3 Write research reports about important ideas, issues, or events by using the following guidelines:
  - a. Frame questions that direct the investigation.
  - b. Establish a controlling idea or topic.
  - c. Develop the topic with simple facts, details, examples, and explanations.
- 2.4 Write persuasive letters or compositions:
  - a. State a clear position in support of a proposal.
  - b. Support a position with relevant evidence.
  - c. Follow a simple organizational pattern.
  - d. Address reader concerns.

# ENGLISH/LANGUAGE ARTS

## 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.

### 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 Identify and correctly use prepositional phrases, appositives, and independent and dependent clauses; use transitions and conjunctions to connect ideas.

#### Grammar

- 1.2 Identify and correctly use verbs that are often misused (e.g., lie/lay, sit/set, rise/raise), modifiers, and pronouns.

#### Punctuation

- 1.3 Use a colon to separate hours and minutes and to introduce a list; use quotation marks around the exact words of a speaker and titles of poems, songs, short stories, and so forth.

#### Capitalization

- 1.4 Use correct capitalization.

#### Spelling

- 1.5 Spell roots, suffixes, prefixes, contractions, and syllable constructions correctly.

## LISTENING & SPEAKING

### 1.0 Listening & Speaking Strategies

Students deliver focused, coherent presentations that convey ideas clearly and relate to the background and interests of the audience. They evaluate the content of oral communication.

#### Comprehension

- 1.1 Ask questions that seek information not already discussed.
- 1.2 Interpret a speaker's verbal and nonverbal messages, purposes, and perspectives.
- 1.3 Make inferences or draw conclusions based on an oral report.

#### Organization and Delivery of Oral Communication

- 1.4 Select a focus, organizational structure, and point of view for an oral presentation.
- 1.5 Clarify and support spoken ideas with evidence and examples.
- 1.6 Engage the audience with appropriate verbal cues, facial expressions, and gestures.

#### Analysis and Evaluation of Oral and Media Communications

- 1.7 Identify, analyze, and critique persuasive techniques (e.g., promises, dares, flattery, glittering generalities); identify logical fallacies used in oral presentations and media messages.
- 1.8 Analyze media as sources for information, entertainment, persuasion, interpretation of events, and transmission of culture.

# ENGLISH/LANGUAGE ARTS

## 2.0 Speaking Applications (Genres & Their Characters)

Students deliver well-organized formal presentations employing traditional rhetorical strategies (e.g., narration, exposition, persuasion, description). 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 five outlined in Listening and Speaking Standard 1.0, students:

- 2.1 Deliver narrative presentations:
  - a. Establish a situation, plot, point of view, and setting with descriptive words and phrases.
  - b. Show, rather than tell, the listener what happens.
- 2.2 Deliver informative presentations about an important idea, issue, or event by the following means:
  - a. Frame questions to direct the investigation.
  - b. Establish a controlling idea or topic.
  - c. Develop the topic with simple facts, details, examples, and explanations.
- 2.3 Deliver oral responses to literature:
  - a. Summarize significant events and details.
  - b. Articulate an understanding of several ideas or images communicated by the literary work.
  - c. Use examples or textual evidence from the work to support conclusions.

# MATHEMATICS

By the end of grade five, students increase their facility with the four basic arithmetic operations applied to fractions, decimals, and positive and negative numbers. They know and use common measuring units to determine length and area and know and use formulas to determine the volume of simple geometric figures. Students know the concept of angle measurement and use a protractor and compass to solve problems. They use grids, tables, graphs, and charts to record and analyze data.

## NUMBER SENSE

- 1.0 Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers:
  - 1.1 Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.
  - 1.2 Interpret percents as a part of a hundred; find decimal and percent equivalents for common fractions and explain why they represent the same value; compute a given percent of a whole number.
  - 1.3 Understand and compute positive integer powers of nonnegative integers; compute examples as repeated multiplication.
  - 1.4 Determine the prime factors of all numbers through 50 and write the numbers as the product of their prime factors by using exponents to show multiples of a factor (e.g.,  $24 = 2 \times 2 \times 2 \times 3 = 2^3 \times 3$ ).
  - 1.5 Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.
- 2.0 Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals:
  - 2.1 Add, subtract, multiply, and divide with decimals; add with negative integers; subtract positive integers from negative integers; and verify the reasonableness of the results.
  - 2.2 Demonstrate proficiency with division, including division with positive decimals and long division with multidigit divisors.
  - 2.3 Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less), and express answers in the simplest form.

- 2.4 Understand the concept of multiplication and division of fractions.
- 2.5 Compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.

## ALGEBRA & FUNCTIONS

- 1.0 Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results:
  - 1.1 Use information taken from a graph or equation to answer questions about a problem situation.
  - 1.2 Use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution.
  - 1.3 Know and use the distributive property in equations and expressions with variables.
  - 1.4 Identify and graph ordered pairs in the four quadrants of the coordinate plane.
  - 1.5 Solve problems involving linear functions with integer values; write the equation; and graph the resulting ordered pairs of integers on a grid.

## MEASUREMENT & GEOMETRY

- 1.0 Students understand and compute the volumes and areas of simple objects:
  - 1.1 Derive and use the formula for the area of a triangle and of a parallelogram by comparing it with the formula for the area of a rectangle (i.e., two of the same triangles make a parallelogram with twice the area; a parallelogram is compared with a rectangle of the same area by cutting and pasting a right triangle on the parallelogram).
  - 1.2 Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area for these objects.
  - 1.3 Understand the concept of volume and use the appropriate units in common measuring systems (i.e., cubic centimeter [ $\text{cm}^3$ ], cubic meter [ $\text{m}^3$ ], cubic inch [ $\text{in}^3$ ], cubic yard [ $\text{yd}^3$ ]) to compute the volume of rectangular solids.
  - 1.4 Differentiate between, and use appropriate units of measures for, two- and three-dimensional objects (i.e., find the perimeter, area, volume).

# MATHEMATICS

- 2.0 Students identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures:
- 2.1 Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software).
- 2.2 Know that the sum of the angles of any triangle is  $180^\circ$  and the sum of the angles of any quadrilateral is  $360^\circ$  and use this information to solve problems.
- 2.3 Visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids.

## Statistics, Data Analysis, & Probability

- 1.0 Students display, analyze, compare, and interpret different data sets, including data sets of different sizes:
- 1.1 Know the concepts of mean, median, and mode; compute and compare simple examples to show that they may differ.
- 1.2 Organize and display single-variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graphs are appropriate for various data sets.
- 1.3 Use fractions and percentages to compare data sets of different sizes.
- 1.4 Identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.
- 1.5 Know how to write ordered pairs correctly; for example,  $(x, y)$ .

## 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

## UNITED STATES HISTORY & GEOGRAPHY: MAKING A NEW NATION

Students in grade five study the development of the nation up to 1850, with an emphasis on the people who were already here, when and from where others arrived, and why they came. Students learn about the colonial government founded on Judeo-Christian principles, the ideals of the Enlightenment, and the English traditions of self-government. They recognize that ours is a nation that has a constitution that derives its power from the people, that has gone through a revolution, that once sanctioned slavery, that experienced conflict over land with the original inhabitants, and that experienced a westward movement that took its people across the continent. Studying the cause, course, and consequences of the early explorations through the War for Independence and western expansion is central to students' fundamental understanding of how the principles of the American republic form the basis of a pluralistic society in which individual rights are secured.

### 5.1 Students describe the major pre-Columbian settlements, including the cliff dwellers & pueblo people of the desert Southwest, the American Indians of the Pacific Northwest, the nomadic nations of the Great Plains, & the woodland peoples east of the Mississippi River.

1. Describe how geography and climate influenced the way various nations lived and adjusted to the natural environment, including locations of villages, the distinct structures that they built, and how they obtained food, clothing, tools, and utensils.
2. Describe their varied customs and folklore traditions.
3. Explain their varied economies and systems of government.

### 5.2 Students trace the routes of early explorers & describe the early explorations of the Americas.

1. Describe the entrepreneurial characteristics of early explorers (e.g., Christopher Columbus, Francisco Vázquez de Coronado) and the technological developments that made sea exploration by latitude and longitude possible (e.g., compass, sextant, astrolabe, seaworthy ships, chronometers, gunpowder).
2. Explain the aims, obstacles, and accomplishments of the explorers, sponsors, and leaders of key European expeditions and the reasons Europeans chose to explore and colonize the world (e.g., the Spanish Reconquista, the Protestant Reformation, the Counter Reformation).
3. Trace the routes of the major land explorers of the United States, the distances traveled by explorers, and the Atlantic trade routes that linked Africa, the West Indies, the British colonies, and Europe.
4. Locate on maps of North and South America land claimed by Spain, France, England, Portugal, the Netherlands, Sweden, and Russia.

### 5.3 Students describe the cooperation & conflict that existed among the American Indians & between the Indian nations & the new settlers.

1. Describe the competition among the English, French, Spanish, Dutch, and Indian nations for control of North America.
2. Describe the cooperation that existed between the colonists and Indians during the 1600s and 1700s (e.g., in agriculture, the fur trade, military alliances, treaties, cultural interchanges).
3. Examine the conflicts before the Revolutionary War (e.g., the Pequot and King Philip's Wars in New England, the Powhatan Wars in Virginia, the French and Indian War).
4. Discuss the role of broken treaties and massacres and the factors that led to the Indians' defeat, including the resistance of Indian nations to encroachments and assimilation (e.g., the story of the Trail of Tears).



# HISTORY/SOCIAL SCIENCE

5. Describe the internecine Indian conflicts, including the competing claims for control of lands (e.g., actions of the Iroquois, Huron, Lakota [Sioux]).
6. Explain the influence and achievements of significant leaders of the time (e.g., John Marshall, Andrew Jackson, Chief Tecumseh, Chief Logan, Chief John Ross, Sequoyah).

## 5.4 Students understand the political, religious, social, & economic institutions that evolved in the colonial era.

1. Understand the influence of location and physical setting on the founding of the original 13 colonies, and identify on a map the locations of the colonies and of the American Indian nations already inhabiting these areas.
2. Identify the major individuals and groups responsible for the founding of the various colonies and the reasons for their founding (e.g., John Smith, Virginia; Roger Williams, Rhode Island; William Penn, Pennsylvania; Lord Baltimore, Maryland; William Bradford, Plymouth; John Winthrop, Massachusetts).
3. Describe the religious aspects of the earliest colonies (e.g., Puritanism in Massachusetts, Anglicanism in Virginia, Catholicism in Maryland, Quakerism in Pennsylvania).
4. Identify the significance and leaders of the First Great Awakening, which marked a shift in religious ideas, practices, and allegiances in the colonial period, the growth of religious toleration, and free exercise of religion.
5. Understand how the British colonial period created the basis for the development of political self-government and a free-market economic system and the differences between the British, Spanish, and French colonial systems.
6. Describe the introduction of slavery into America, the responses of slave families to their condition, the ongoing struggle between proponents and opponents of slavery, and the gradual institutionalization of slavery in the South.
7. Explain the early democratic ideas and practices that emerged during the colonial period, including the significance of representative assemblies and town meetings.

## 5.5 Students explain the causes of the American Revolution.

1. Understand how political, religious, and economic ideas and interests brought about the Revolution (e.g., resistance to imperial policy, the Stamp Act, the Townshend Acts, taxes on tea, Coercive Acts).
2. Know the significance of the first and second Continental Congresses and of the Committees of Correspondence.
3. Understand the people and events associated with the drafting and signing of the Declaration of Independence and the document's significance, including the key political concepts it embodies, the origins of those concepts, and its role in severing ties with Great Britain.
4. Describe the views, lives, and impact of key individuals during this period (e.g., King George III, Patrick Henry, Thomas Jefferson, George Washington, Benjamin Franklin, John Adams).

## 5.6 Students understand the course & consequences of the American Revolution.

1. Identify and map the major military battles, campaigns, and turning points of the Revolutionary War, the roles of the American and British leaders, and the Indian leaders' alliances on both sides.
2. Describe the contributions of France and other nations and of individuals to the outcome of the Revolution (e.g., Benjamin Franklin's negotiations with the French, the French navy, the Treaty of Paris, The Netherlands, Russia, the Marquis Marie Joseph de Lafayette, Tadeusz Kościuszko, Baron Friedrich Wilhelm von Steuben).
3. Identify the different roles women played during the Revolution (e.g., Abigail Adams, Martha Washington, Molly Pitcher, Phillis Wheatley, Mercy Otis Warren).
4. Understand the personal impact and economic hardship of the war on families, problems of financing the war, wartime inflation, and laws against hoarding goods and materials and profiteering.
5. Explain how state constitutions that were established after 1776 embodied the ideals of the American Revolution and helped serve as models for the U.S. Constitution.

# HISTORY/SOCIAL SCIENCE

6. Demonstrate knowledge of the significance of land policies developed under the Continental Congress (e.g., sale of western lands, the Northwest Ordinance of 1787) and those policies' impact on American Indians' land.
7. Understand how the ideals set forth in the Declaration of Independence changed the way people viewed slavery.

## **5.7 Students describe the people & events associated with the development of the U.S. Constitution & analyze the Constitution's significance as the foundation of the American republic.**

1. List the shortcomings of the Articles of Confederation as set forth by their critics.
2. Explain the significance of the new Constitution of 1787, including the struggles over its ratification and the reasons for the addition of the Bill of Rights.
3. Understand the fundamental principles of American constitutional democracy, including how the government derives its power from the people and the primacy of individual liberty.
4. Understand how the Constitution is designed to secure our liberty by both empowering and limiting central government and compare the powers granted to citizens, Congress, the president, and the Supreme Court with those reserved to the states.
5. Discuss the meaning of the American creed that calls on citizens to safeguard the liberty of individual Americans within a unified nation, to respect the rule of law, and to preserve the Constitution.
6. Know the songs that express American ideals (e.g., "America the Beautiful," "The Star Spangled Banner").

## **5.8 Students trace the colonization, immigration, & settlement patterns of the American people from 1789 to the mid-1800s, with emphasis on the role of economic incentives, effects of the physical & political geography, & transportation systems.**

1. Discuss the waves of immigrants from Europe between 1789 and 1850 and their modes of transportation into the Ohio and Mississippi Valleys and through the Cumberland Gap (e.g., overland wagons, canals, flatboats, steamboats).
2. Name the states and territories that existed in 1850 and identify their locations and major geographical features (e.g., mountain ranges, principal rivers, dominant plant regions).
3. Demonstrate knowledge of the explorations of the trans-Mississippi West following the Louisiana Purchase (e.g., Meriwether Lewis and William Clark, Zebulon Pike, John Fremont).
4. Discuss the experiences of settlers on the overland trails to the West (e.g., location of the routes; purpose of the journeys; the influence of the terrain, rivers, vegetation, and climate; life in the territories at the end of these trails).
5. Describe the continued migration of Mexican settlers into Mexican territories of the West and Southwest.
6. Relate how and when California, Texas, Oregon, and other western lands became part of the United States, including the significance of the Texas War for Independence and the Mexican-American War.

## **5.9 Students know the location of the current 50 states & the names of their capitals.**

# SCIENCE

## PHYSICAL SCIENCE

### 1. Elements and their combinations account for all the varied types of matter in the world.

As a basis for understanding this concept:

- a. Students know that during chemical reactions the atoms in the reactants rearrange to form products with different properties.
- b. Students know all matter is made of atoms, which may combine to form molecules.
- c. Students know metals have properties in common, such as high electrical and thermal conductivity. Some metals, such as aluminum (Al), iron (Fe), nickel (Ni), copper (Cu), silver (Ag), and gold (Au), are pure elements; others, such as steel and brass, are composed of a combination of elemental metals.
- d. Students know that each element is made of one kind of atom and that the elements are organized in the periodic table by their chemical properties.
- e. Students know scientists have developed instruments that can create discrete images of atoms and molecules that show that the atoms and molecules often occur in well-ordered arrays.
- f. Students know differences in chemical and physical properties of substances are used to separate mixtures and identify compounds.
- g. Students know properties of solid, liquid, and gaseous substances, such as sugar ( $C_6H_{12}O_6$ ), water ( $H_2O$ ), helium (He), oxygen ( $O_2$ ), nitrogen ( $N_2$ ), and carbon dioxide ( $CO_2$ ).
- h. Students know living organisms and most materials are composed of just a few elements.
- i. Students know the common properties of salts, such as sodium chloride (NaCl).

## LIFE SCIENCES

### 2. Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials.

As a basis for understanding this concept:

- a. Students know many multicellular organisms have specialized structures to support the transport of materials.
- b. Students know how blood circulates through the heart chambers, lungs, and body and how carbon dioxide ( $CO_2$ ) and oxygen ( $O_2$ ) are exchanged in the lungs and tissues.
- c. Students know the sequential steps of digestion and the roles of teeth and the mouth, esophagus, stomach, small intestine, large intestine, and colon in the function of the digestive system.
- d. Students know the role of the kidney in removing cellular waste from blood and converting it into urine, which is stored in the bladder.
- e. Students know how sugar, water, and minerals are transported in a vascular plant.
- f. Students know plants use carbon dioxide ( $CO_2$ ) and energy from sunlight to build molecules of sugar and release oxygen.
- g. Students know plant and animal cells break down sugar to obtain energy, a process resulting in carbon dioxide ( $CO_2$ ) and water (respiration).

# SCIENCE

## EARTH SCIENCES

### 3. **Water on Earth moves between the oceans and land through the processes of evaporation and condensation.**

As a basis for understanding this concept:

- a. Students know most of Earth's water is present as salt water in the oceans, which cover most of Earth's surface.
- b. Students know when liquid water evaporates, it turns into water vapor in the air and can reappear as a liquid when cooled or as a solid if cooled below the freezing point of water.
- c. Students know water vapor in the air moves from one place to another and can form fog or clouds, which are tiny droplets of water or ice, and can fall to Earth as rain, hail, sleet, or snow.
- d. Students know that the amount of fresh water located in rivers, lakes, underground sources, and glaciers is limited and that its availability can be extended by recycling and decreasing the use of water.
- e. Students know the origin of the water used by their local communities.

### 4. **Energy from the Sun heats Earth unevenly, causing air movements that result in changing weather patterns.**

As a basis for understanding this concept:

- a. Students know uneven heating of Earth causes air movements (convection currents).
- b. Students know the influence that the ocean has on the weather and the role that the water cycle plays in weather patterns.
- c. Students know the causes and effects of different types of severe weather.
- d. Students know how to use weather maps and data to predict local weather and know that weather forecasts depend on many variables.
- e. Students know that the Earth's atmosphere exerts a pressure that decreases with distance above Earth's surface and that at any point it exerts this pressure equally in all directions.

### 5. **The solar system consists of planets and other bodies that orbit the Sun in predictable paths.**

As a basis for understanding this concept:

- a. Students know the Sun, an average star, is the central and largest body in the solar system and is composed primarily of hydrogen and helium.
- b. Students know the solar system includes the planet Earth, the Moon, the Sun, eight other planets and their satellites, and smaller objects, such as asteroids and comets.
- c. Students know the path of a planet around the Sun is due to the gravitational attraction between the Sun and the planet.

## 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. Classify objects (e.g., rocks, plants, leaves) in accordance with appropriate criteria.
- b. Develop a testable question.
- c. Plan and conduct a simple investigation based on a student-developed question and write instructions others can follow to carry out the procedure.
- d. Identify the dependent and controlled variables in an investigation.
- e. Identify a single independent variable in a scientific investigation and explain how this variable can be used to collect information to answer a question about the results of the experiment.
- f. Select appropriate tools (e.g., thermometers, meter sticks, balances, and graduated cylinders) and make quantitative observations.
- g. Record data by using appropriate graphic representations (including charts, graphs, and labeled diagrams) and make inferences based on those data.
- h. Draw conclusions from scientific evidence and indicate whether further information is needed to support a specific conclusion.
- i. Write a report of an investigation that includes conducting tests, collecting data or examining evidence, and drawing conclusions.

# 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 small-group balance stunts by distributing weight and base of support.

### Locomotor Movement

- 1.2 Jump for height, using proper takeoff and landing form.
- 1.3 Jump for distance, using proper takeoff and landing form.

### Manipulative Skills

- 1.4 Enter, jump, and leave a long rope turned by others.
- 1.5 Throw a flying disc accurately at a target and to a partner, using the backhand movement pattern.
- 1.6 Throw and catch an object underhand and overhand while avoiding an opponent.
- 1.7 Field a thrown ground ball.
- 1.8 Punt a ball, dropped from the hands, at a target.
- 1.9 Stop a kicked ball by trapping it with the foot while moving.
- 1.10 Strike a dropped ball, with a racket or paddle, toward a target by using the forehand movement pattern.
- 1.11 Hit a softly tossed ball backhanded with a paddle or racket.
- 1.12 Strike a tossed ball, with different implements, from a side orientation.
- 1.13 Serve a lightweight ball over a low net, using the underhand movement pattern.
- 1.14 Dribble a ball (by hand or foot) while preventing another person from stealing the ball.
- 1.15 Dribble a ball and kick it toward a goal while being guarded.
- 1.16 Pass a ball back and forth with a partner, using a chest pass and bounce pass.
- 1.17 Volley a tossed ball to an intended location.

### Rhythmic Skills

- 1.18 Design and perform a creative dance, combining locomotor patterns with intentional changes in speed and direction.

- 1.19 Design and perform a routine to music that involves manipulation of an object.

## 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 importance of open space in playing sport-related games.
- 2.2 Explain the differences in applying and receiving force when jumping for height and distance.

### Body Management

- 2.3 Explain how to adjust body position to catch a ball thrown off-center.

### Manipulative Skills

- 2.4 Identify the following phases for striking a ball: preparation, application of force, follow-through, and recovery.

### Rhythmic Skills

- 2.5 Design a routine to music, changing speed and direction while manipulating an object.

## STANDARD 3

**Students assess and maintain a level of physical fitness to improve health and performance.**

### Fitness Concepts

- 3.1 Demonstrate how to warm up muscles and joints before running, jumping, kicking, throwing, and striking.
- 3.2 Plan a day of healthful balanced meals and snacks designed to enhance the performance of physical activities.

### 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 for increasing aerobic capacity.

### Muscular Strength/Endurance

- 3.4 Perform an increasing number of oblique curl-ups on each side.
- 3.5 Perform increasing numbers of triceps push-ups.



# PHYSICAL EDUCATION

## **Flexibility**

- 3.6 Perform flexibility exercises that will stretch particular muscle areas for given physical activities.

## **Body Composition**

- 3.7 Sustain continuous movement for an increasing period of time while participating in moderate to vigorous physical activities.

## **Assessment**

- 3.8 Assess health-related physical fitness by using a scientifically based health-related fitness assessment.
- 3.9 Meet age- and gender-specific fitness standards for aerobic capacity, muscular strength, flexibility, and body composition, using a scientifically based health-related fitness assessment.

## **STANDARD 4**

**Students demonstrate knowledge of physical fitness concepts, principles, & strategies to improve health & performance.**

### **Fitness Concepts**

- 4.1 Record and analyze food consumption for one day and make a plan to replace foods with healthier choices and adjust quantities to enhance performance in physical activity.
- 4.2 Explain why dehydration impairs temperature regulation and physical and mental performance.
- 4.3 Develop and describe three short-term and three long-term fitness goals.
- 4.4 Examine personal results of a scientifically based health-related physical fitness assessment and identify one or more ways to improve performance in areas that do not meet minimum standards.
- 4.5 Explain the elements of warm-up and cool-down activities.
- 4.6 Record water intake before, during, and after physical activity.
- 4.7 Describe the principles of training and the application to each of the components of health-related physical fitness.

### **Aerobic Capacity**

- 4.8 Identify the heart rate intensity (target heart-rate range) that is necessary to increase aerobic capacity.
- 4.9 Determine the intensity of personal physical activity, using the concept of perceived exertion.

- 4.10 Compare target heart rate and perceived exertion during physical activity.

- 4.11 Measure and record the heart rate before, during, and after vigorous physical activity.

- 4.12 Explain how technology can assist in the pursuit of physical fitness.

## **Muscular Strength/Endurance**

- 4.13 Explain the benefits of having strong arm, chest, and back muscles.

## **Flexibility**

- 4.14 Explain the benefits of stretching after warm-up activities.

## **Body Composition**

- 4.15 Explain why body weight is maintained when calorie intake is equal to the calories expended.
- 4.16 Describe the short- and long-term benefits of maintaining body composition within the healthy fitness zone.

## **STANDARD 5**

**Students demonstrate & utilize knowledge of psychological & sociological concepts, principles, & strategies that apply to the learning & performance of physical activity.**

### **Self-Responsibility**

- 5.1 Improve the level of performance on one component of health-related physical fitness and one identified motor skill by participating in fitness and skill development activities outside school.
- 5.2 Work toward a long-term physical activity goal and record data on one's progress.
- 5.3 Distinguish between acts of physical courage and physically reckless acts and explain the key characteristics of each.
- 5.4 Act in a safe and healthy manner when confronted with negative peer pressure during physical activity.

### **Social Interaction**

- 5.5 Contribute ideas and listen to the ideas of others in cooperative problem-solving activities.
- 5.6 Acknowledge orally the contributions and strengths of others.

### **Group Dynamics**

- 5.7 Accommodate individual differences in others' physical abilities in small-group activities.
- 5.8 Appreciate physical games and activities reflecting diverse heritages.



# 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 focus, physical control (e.g., proper alignment, balance), and coordination in performing locomotor and axial movement.
- 1.2 Name and use a wide variety of movements (e.g., isolations/whole body).

#### **Comprehension and Analysis of Dance Elements**

- 1.3 Demonstrate a greater dynamic range in movement utilizing space, time, and force/energy concepts.
- 1.4 Incorporate the principles of variety, contrast, and unity with dance studies.

#### **Development of Dance Vocabulary**

- 1.5 Use appropriate dance vocabulary to describe dances.

### 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 Movement**

- 2.1 Create, memorize, and perform complex sequences of movement with greater focus, force/energy, and intent.
- 2.2 Invent multiple possibilities to solve a given movement problem and analyze problem-solving strategies and solutions.

#### **Application of Choreographic Principles and Processes to Creating Dance**

- 2.3 Describe and incorporate simple dance forms in dance studies (e.g., AB form, canon).
- 2.4 Demonstrate principles of opposing weight and force/energy, balance and counterbalance, or cantilever.

#### **Communication of Meaning in Dance**

- 2.5 Convey a wide range of feeling and expression through gestures, posture, and movement.

#### **Development of Partner and Group Skills**

- 2.6 Demonstrate cooperation, collaboration, and empathy in working with partners and in groups (e.g., leading/following, mirroring, calling/responding, echoing, opposing).

### 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 Describe how and why a traditional dance may be changed when performed on stage for an audience.

#### **History and Function of Dance**

- 3.2 Identify and perform folk/traditional, social, and theatrical dances done by Americans in the eighteenth and nineteenth centuries.

#### **Diversity of Dance**

- 3.3 Select traditional dances that men, women, or children perform and explain the purpose(s) of the dances.

### 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 according to the elements of dance and aesthetic qualities.

#### **Description, Analysis, and Criticism of Dance**

- 4.1 Use dance vocabulary to identify and support personal preferences for dances observed or performed.
- 4.2 Apply specific criteria to analyze and assess the quality of a dance performance by well-known dancers or dance companies (e.g., technical skill, musicality, dynamics, mood).

#### **Meaning and Impact of Dance**

- 4.3 Identify the special and challenging characteristics of the experience of dancing for an audience.
- 4.4 Explain how outstanding dancers affect audience members emotionally or intellectually.

# VISUAL & PERFORMING ARTS

## 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 Describe how historical events relate to dance forms (e.g., the rebellion of the 1960s was represented in popular social dances with a move from partners to individual expression).
- 5.2 Describe how dancing requires good health-related habits (e.g., individual and group goals for flexibility, strength, endurance, stress management, nutrition).
- 5.3 Cite examples of the use of technology in the performing arts.

#### Development of Life Skills and Career Competencies

- 5.4 Demonstrate social skills that enable students to become leaders/teachers and followers/ learners.

## 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 simple melodic notation in treble clef in major and minor keys.
- 1.2 Read, write, and perform major and minor scales.
- 1.3 Read, write, and perform rhythmic notation, including quarter-note triplets and tied syncopation.

### Listen to, Analyze, and Describe Music

- 1.4 Analyze the use of music elements in aural examples from various genres and cultures.
- 1.5 Identify vocal and instrumental ensembles from a variety of genres and cultures.
- 1.6 Identify and describe music forms, including theme and variations and twelve-bar blues.

## 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, including rounds, descants, and songs with ostinatos and songs in two-part harmony, by oneself 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 and two-part harmony, by oneself and with others. Compose, Arrange, and Improvise
- 2.3 Compose, improvise, and perform basic rhythmic, melodic, and chordal patterns independently 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 Describe the social functions of a variety of musical forms from various cultures and time periods (e.g., folk songs, dances).

#### Diversity of Music

- 3.2 Identify different or similar uses of musical elements in music from diverse cultures.
- 3.3 Sing and play music from diverse cultures and time periods.
- 3.4 Describe the influence of various cultures and historical events on musical forms and styles.
- 3.5 Describe the influences of various cultures on the music of the United States.

# VISUAL & PERFORMING ARTS

## 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 re-sponses.

#### **Analyze and Critically Assess**

- 4.1 Identify and analyze differences in tempo and dynamics in contrasting music selections.

#### **Derive Meaning**

- 4.2 Develop and apply appropriate criteria to support personal preferences for specific musical works.

## 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.

#### **Connections and Applications**

- 5.1 Explain the role of music in community events.

#### **Careers and Career-Related Skills**

- 5.2 Identify ways in which the music professions are similar to or different from one another.

## 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 sense memory, script, cue, monologue, dialogue, protagonist, and antagonist, to describe theatrical experiences.

### **Comprehension and Analysis of the Elements of Theatre**

- 1.2 Identify the structural elements of plot (exposition, complication, crisis, climax, and resolution) in a script or theatrical experience.

## 2.0 CREATIVE EXPRESSION

### **Creating, Performing, and Participating in Theatre**

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

#### **Development of Theatrical Skills**

- 2.1 Participate in improvisational activities to explore complex ideas literature and life.
- 2.2 Demonstrate the use of blocking (stage areas, levels, and actor's position, such as full front, quarter, profile, and full back) in dramatizations.

#### **Creation/Invention in Theatre**

- 2.3 Collaborate as an actor, director, scriptwriter, or technical artist in creating formal or informal theatrical 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 Select or create appropriate props, sets, and costumes for pageant.
- 3.2 Interpret how theatre and storytelling forms (past and present) of various cultural groups may reflect their beliefs and traditions.

#### **History of Theatre**

- 3.3 Analyze ways in which theatre, television, and film play a part in our daily lives.
- 3.4 Identify types of early American theatre, such as melodrama and musical theatre.

# VISUAL & PERFORMING ARTS

## 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 for critiquing the writers, and technical artists in theatre, film, and video.

#### **Derivation of Meaning from Works of Theatre**

- 4.2 Describe devices actors use to convey meaning or intent in commercials on television.

## 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 Use theatrical skills to dramatize events and concepts as reenacting the signing of the Declaration of Independence in history–social science.

#### **Careers and Career-Related Skills**

- 5.2 Identify the roles and responsibilities of performing and technical artists in theatre, film, television, and electronic media.

## 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 Identify and describe the principles of design in visual compositions, emphasizing unity and harmony.
- 1.2 Identify and describe characteristics of representational, abstract, and nonrepresentational works of art.

#### **Analyze Art Elements and Principles of Design**

- 1.3 Use their knowledge of all the elements of art to describe similarities and differences works of art and 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 one-point perspective to create the illusion of space.
- 2.2 Create gesture and contour observational drawings.
- 2.3 Demonstrate beginning skill in the manipulation of digital imagery (e.g., computer-generated art, digital photography, or videography).

#### **Communication and Expression Through Original Works of Art**

- 2.4 Create an expressive abstract composition based on real objects.
- 2.5 Assemble a found object sculpture (as assemblage) or a mixed media two-dimensional composition that reflects unity and harmony and communicates a theme.
- 2.6 Use perspective in an original work of art to create a real or imaginary scene.
- 2.7 Communicate values, opinions, or personal insights through an original work of art.

# VISUAL & PERFORMING ARTS

## 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 local and national art galleries and museums of art.
- 3.2 Identify and describe various fine, traditional, and folk arts from historical periods worldwide.

#### **Diversity of the Visual Arts**

- 3.3 Identify and compare works of art from various regions of the United States.
- 3.4 View selected works of art from a major culture and observe changes in materials and styles over a period of time.

## 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 Identify how selected principles of design are used in personal responses to and evaluation of the work of art.
- 4.2 Compare the different purposes of a specific culture for creating art.

#### **Make Informed Judgments**

- 4.3 Develop and use specific criteria as individuals and in groups to assess works of art.
- 4.4 Assess their own works of art, using specific criteria, and describe what changes they would make for improvement.

## 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 Use linear perspective to depict geometric objects in space.

#### **Visual Literacy**

- 5.2 Identify and design icons, logos, and other graphic devices as symbols for ideas and information.

#### **Careers and Career-Related Skills**

- 5.3 Research and report on what various types of artists (e.g., architects, designers, graphic artists, animators) produce and how their works play a role in our everyday environment.

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