

4th Grade

2009-2010

Textbooks and supplies you will need to follow the grid.

Language Arts

Houghton Mifflin Anthology titled Traditions
Student Practice Book and Teachers Edition Practice Book
Themed paperback books according to which theme you're in (**these will be found on GL shelves in the library**)
Daily 6-Trait Writing and TE Packet
Teacher Created Writing Packet

Mathematics

Macmillan McGraw-Hill California Mathematics with TE CD inside cover
Mastering the California Mathematics Standards
Reteach and Skills Practice Workbook (**only for those who need extra help**)
Manipulative kit (**only for those who need extra help**)

Science

Harcourt – California Science
Content Support Workbook
Content Support TE
Lab Manual Workbook and TE
Assessment Guide

Social Studies

Harcourt – Reflections
Homework/Practice Book
Assessment Guide
Maps

INTRODUCTION

Fourth grade students will be building on the skills and academic goals achieved during third grade, at the same time using those skills to develop, explore, and expand their knowledge of the world around them. The Fourth grade themes; *Journeys, American Stories, That's Amazing, Problem Solver, Heroes, and Nature*, encapsulates the idea that fourth graders are inventive, problem solvers, and eager to explore all that is pertinent to their busy lives. The fourth grade yearlong plan encompasses the California State Content Standards as well as the integration of theme-based materials that cover the gamut from biographies, to nature, and more. Parents who follow the grid will have planning flexibility while maintaining content consistency.

In fourth grade, literacy development remains paramount, however, students will be encouraged to explore and discover outside of the realm of “text” based materials. For example, “additional reading” suggestions are integrated with the language arts to include in depth studies of each theme that is introduced. If you follow the general content and assignments on the plan, you will have covered the fourth grade Content Standards. Your student will be tackling many new concepts and skills this year, and hopefully, both parent and child will find that fourth grade was a wonderful Journey.

CURRICULUM

READING

Language Arts is centered on the Reading anthologies by Houghton-Mifflin. In fourth grade there is one reader and two practice books with six (6) themes; *Journeys; American Stories; that's Amazing; Problem Solvers; Heroes; Nature-Friend and Foe*.

Reading is designed to cover approximately two-three stories per week with additional enrichment activities (poetry, art projects, writing prompts, cooking, etc.) and literature units. Each week, the story(ies) should be read daily, together with your child. The reading level of the selected stories may be above your child's reading level, however, do not be concerned. These readings are specifically designed to create a challenge and foster growth in your child's reading abilities. The stories are meant to be repeated and re-read such that your student can gain confidence and security in his/her reading. Remember that the key to a successful reading lesson is to plan ahead, know the skills you want to focus on and be prepared to model, guide, and instruct your child rather than just assign. The following is a sample format with ideas you may want to adopt and modify to fit your lesson plans, as well as your child's needs.

Days 1 and 2: Introduce the story(ies). Work to build on your child's prior knowledge, have him/her make predictions based on the title, illustrations, take a “picture walk” (go through the story without reading it using the pictures to guess what the story will be about). Reinforce concepts about print (capital letters, punctuation, spaces between words, directionality, title, author, illustrator, etc.), point to each word as you read, and most importantly, enjoy the story.

Days 3 and 4: Have a read aloud using funny voices to match the characters. Take turns reading out loud. Make a point of discussing the story. Be sure your student can sequence (tell the order of events). Ask your child questions that will make him think (details, inferences, cause/effect). By the end of the week, your child should be able to read the story without too much help from you, as well as be able to retell the story in his/her own words.

Days 1 through 5: Complete the corresponding workbook pages in the Practice Book.

ADDITIONAL READING

Aside from the reading textbook, your child should read for a minimum of 20 minutes a day. Select some books that will challenge his/her reading ability and some that are easy enough to build self-confidence.

Each reporting period there are a number of books that will connect with, enhance, and enrich the core curriculum (reading, science, social studies) in some way. They are listed on the grid by reading level. (easy, on level, challenge). Most books are available from VOCS, however, if they are not then the Kern County Library should have a copy available for check out. You may know of additional books that are theme related, These books are not required reading, however, it is very important that you supplement the textbook with daily free reading. VOCS has made a conscious effort to procure tradebooks listed on the grids for our library. A number of the tradebooks have corresponding literature units available for your use.

LANGUAGE ARTS

Within your reading Practice Book are sections devoting 2 to 3 pages per week to each of the language arts skills: spelling, grammar, writing, vocabulary, and comprehension.

Spelling: There is a weekly work list at the back of the practice book. The spelling is created to go hand in hand with the reading curriculum. Give a pre-test, do the workbook pages, and by the end of the week administer a final test.

Writing: Refer to the writing section for weekly writing lessons. Often, parents are hesitant to teach writing because they are unsure of the proper procedures and formats. The teacher created packet along with the Daily 6-Trait Writing gives excellent suggestions and is the perfect guide for student writing proficiency. It is a step-by-step process for writing everything from sentences, to letters, to paragraphs, and provides for consistent practice with a goal of published works.

Grammar: The grammar pages in your practice book give writing support as well as teach language conventions necessary for fourth grade proficiency.

Vocabulary: Vocabulary is a necessary skill for improving reading accuracy, comprehension, and fluency. The weekly words build this skill in a manageable and efficient manner.

Comprehension: Each week the workbook focuses on a comprehension skill that will improve your student's ability to question, answer, infer, predict, and ultimately comprehend the stories he/she is reading.

MATHEMATICS

Our school-wide recommended curriculum for math is Macmillan McGraw-Hill, this curriculum is closely correlated to the State Standards. The chapters in the book cover place value, adding/subtracting, multiplication, division/multiple divisors, fractions, mixed numbers, geometry, measurements, temperature, decimals, data, statistics, probability, and algebra. The curriculum offers an abundance of practice to support mastery of concepts. There is an additional Reteach and Skills Practice Workbook available for those students who may need additional support. There will be a Teachers Edition CD included with each book to support instruction. Parents should spend adequate time on instruction and check for understanding prior to student's independent practice. Manipulative kits will be available for check out with each math book.

Mastering the CA Standards (MCS) – (**the BLUE side of the book**) provides additional practice for the California Standards test students take in the spring of each year. Macmillan McGraw-Hill publishes a practice book to prepare students for this test. Pages have been assigned on the fourth grade grid to give students practice over time. Concepts reviewed include number sense, algebra and functions, measurement and geometry, statistics, data analysis, and probability.

SCIENCE

Harcourt Science is the text that we recommend for science, and in addition to the regular science reading, an assessment guide, Content Support Book and Lab Manual will coincide with the current subject that is being studied. The Harcourt book does an excellent job of covering the state standards for life science, physical science, earth, and health sciences. In addition, we have an extensive science kit program that offers a means for experimentation”, another area required by state standards. A “tool kit” is also provided to coincide with lab experiments within the reading content.

SOCIAL STUDIES

State Standards require all fourth graders to know the State of California. Through reading *Reflections*, your student's knowledge of pioneer times will become comprehensive through research projects, field trips, journaling, reading, art, and videos.

Map Skills – gives students a basic knowledge of reading and interpreting maps as well as the skills necessary to do so.

ART

While Art is an enrichment subject, it is always a favorite of young students. Art ideas are scattered throughout the reading anthologies and give both art appreciation lessons as well as creative projects. There are also ideas on your grid to integrate with your studies throughout the year We do have a collection of seasonal projects if you would like additional activities and numerous books on artists and art appreciation in our library.

ENRICHMENT

You will want to take advantage of the many field trips that are offered throughout the school year. Trips are planned regularly so watch your newsletter for any excursion that you feel will be appropriate for your child or that peaks your interest.

MULTIMEDIA

Be sure to ask your resource teacher about videos, tapes, CD's and software that may be applicable to your course of study. In addition, there are numerous websites that offer educational challenges for your child. Also, be sure to check out the "Cool Internet Sites" binder located in the Parent Place. It has a plethora of web addresses appropriate for student study. A great source for lesson plans and academic support in all subjects is www.ceea.org.

FOURTH GRADE SUGGESTIONS

Core Reading

Sign of the Beaver – Elizabeth George
Holes – Luis Sachar
Little House on the Prairie – Larua Ingalls Wilder
James and the Giant Peach – Roald Dahl
A Year Down Yonder – Richard Peck
Island of the Blue Dolphins – Scott O'Dell
By the Great Horn Spoon – Sid Fleischman
Patty Reed's Doll – Rachel Laurgaard
Esperanza Rising – Pam Ryan
Charlie and the Chocolate Factory – Roald Dahl

Suggested Projects

Research an Indian Tribe – collect data for a tribe of choice and include important facts.

Inventioning – Think of a "bug" in life and create an invention to solve the problem.

Timeline of Inventions / Inventors (women inventors)

Clothing/Costume – Make one of Patty Reeds' Dolls after reading the story.

Make an Indian costume for a particular tribe. Possibly one from our geographical era.

Tell what the customary attire is and what makes it different or the same from other tribes.

Journal – Gold Rush:

Pretend you are heading to California during the Gold Rush and document your trip in a journal.

Include things such as, weather, living conditions, hardships, illness, etc.

Immigration:

Write a journal of events from the perspective of an immigrant coming over on a ship. Include details they may encounter during this trip.

Diary:

Pretend you are panning for gold during the Gold Rush. Keep a daily diary of events. Include living conditions, other people you may meet, hardships encountered, etc.

Mission – Create a small-scale replica of a mission of your choice. Include some important facts about your mission in a written report.

Railroad Project – draw/trace the first railroad path from starting point to finish. Include dates as the rail progressed.

Statehood – write a report on the state of California include some facts and details about the state. Also include what you like about the state.

World War II – find an individual to interview that was affected in one way or another by this war. They could either have been in the war or on the home front during this period.

Suggested Field Trips

Kern County Museum – see primary sources

CALM – California Living Museum

Pioneer Village – war time artifacts, immigration artifacts, Pioneer/gold Rush period, Black Gold

Gene Autry Museum – Gold Rush period

Getty Museum – Gold Rush era

California Science Center / IMAX Theater – www.casciencectr.org

Petersen Automotive Museum

Mourning Cloak Ranch

Tehachapi Botanical Garden – (661) 822-1661

American Indian Pow-Wow

June annual event in Tehachapi

(661) 882-1118

Tomo Kahni State Park

Tour by reservations only

(661) 942-0662

California Mission

Tour one of the Missions

Fort Tejon

Civil War re-enactments are an annual event every April in Fort Tejon

Bakersfield Art Museum

Grade Four

English-language Arts Content Standards.

Reading

1.0 Word Analysis, Fluency, and Systematic Vocabulary 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 and 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.

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 and 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 and 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 and 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, ad-verbs, 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 and Speaking

1.0 Listening and 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.

2.0 Speaking Applications (Genres and Their Characteristics)

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.

Questions: State Board of Education | 916-319-0827

Grade Four

Mathematics Content Standards.

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., $1/2 = 0.5$ or $.50$; $7/4 = 1\ 3/4 = 1.75$).
- 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 and 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., area = length \times 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.

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

Measurement and 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, and 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; $3/4$).

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.

Grade Four

History-Social Science Content Standards.

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 and human geographic features that define places and regions in California.

1. Explain and use the coordinate grid system of latitude and longitude to determine the absolute locations of places in California and on Earth.

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

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

1. Discuss the major nations of California Indians, including their geographic distribution, economic activities, legends, and religious beliefs; and describe how they depended on, adapted to, and modified the physical environment by cultivation of land and use of sea resources.
2. Identify the early land and sea routes to, and European settlements in, California with a focus on the exploration of the North Pacific (e.g., by Captain James Cook, Vitus Bering, Juan Cabrillo), noting especially the importance of mountains, deserts, ocean currents, and wind patterns.
3. Describe the Spanish exploration and colonization of California, including the relationships among soldiers, missionaries, and Indians (e.g., Juan Crespi, Junipero Serra, Gaspar de Portola).
4. Describe the mapping of, geographic basis of, and economic factors in the placement and function of the Spanish missions; and understand how the mission system expanded the influence of Spain and Catholicism throughout New Spain and Latin America.
5. Describe the daily lives of the people, native and nonnative, who occupied the presidios, missions, ranchos, and pueblos.
6. Discuss the role of the Franciscans in changing the economy of California from a hunter-gatherer economy to an agricultural economy.
7. Describe the effects of the Mexican War for Independence on Alta California, including its effects on the territorial boundaries of North America.
8. Discuss the period of Mexican rule in California and its attributes, including land grants, secularization of the missions, and the rise of the rancho economy.

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

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

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

1. Understand the story and lasting influence of the Pony Express, Overland Mail Service, Western Union, and the building of the transcontinental railroad, including the contributions of Chinese workers to its construction.
2. Explain how the Gold Rush transformed the economy of California, including the types of products produced and consumed, changes in towns (e.g., Sacramento, San Francisco), and economic conflicts between diverse groups of people.

3. Discuss immigration and migration to California between 1850 and 1900, including the diverse composition of those who came; the countries of origin and their relative locations; and conflicts and accords among the diverse groups (e.g., the 1882 Chinese Exclusion Act).
4. Describe rapid American immigration, internal migration, settlement, and the growth of towns and cities (e.g., Los Angeles).
5. Discuss the effects of the Great Depression, the Dust Bowl, and World War II on California.
6. Describe the development and locations of new industries since the nineteenth century, such as the aerospace industry, electronics industry, large-scale commercial agriculture and irrigation projects, the oil and automobile industries, communications and defense industries, and important trade links with the Pacific Basin.
7. Trace the evolution of California's water system into a network of dams, aqueducts, and reservoirs.
8. Describe the history and development of California's public education system, including universities and community colleges.
9. Analyze the impact of twentieth-century Californians on the nation's artistic and cultural development, including the rise of the entertainment industry (e.g., Louis B. Meyer, Walt Disney, John Steinbeck, Ansel Adams, Dorothea Lange, John Wayne).

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

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

Grade Four

Science Content Standards.

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).

Investigation and Experimentation

6. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands,

students should develop their own questions and perform investigations. Students will:

- 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.

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/accent, 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. **15 GRADE FOUR** *Dance 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 AND 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.

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. **16 Dance GRADE FOUR** *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).

PHYSICAL EDUCATION STANDARDS

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

Body Management

- 1.1 Perform simple balance stunts with a partner while sharing a common base of support.
- 1.2 Change direction quickly to maintain the spacing between two players.
- 1.3 Change direction quickly to increase the spacing between two players.
- 1.4 Determine the spacing between offensive and defensive players based on the speed of the players.

Locomotor Movement

- 1.5 Jump a self-turned rope.

Manipulative Skills

- 1.6 Throw and catch an object with a partner while both partners are moving.
- 1.7 Throw overhand at increasingly smaller targets, using proper follow-through.
- 1.8 Throw a flying disc for distance, using the backhand movement pattern.
- 1.9 Catch a fly ball above the head, below the waist, and away from the body.
- 1.10 Kick a ball to a moving partner, using the inside of the foot.
- 1.11 Kick a stationary ball from the ground into the air.
- 1.12 Punt a ball dropped from the hands.
- 1.13 Strike, with a paddle or racket, a lightweight object that has been tossed by a partner.
- 1.14 Serve a lightweight ball to a partner, using the underhand movement pattern.
- 1.15 Strike a gently tossed ball with a bat, using a side orientation.
- 1.16 Keep a foot-dribbled ball away from a defensive partner.
- 1.17 Keep a hand-dribbled ball away from a defensive partner.
- 1.18 Manipulate an object by using a long-handled implement.
- 1.19 Stop a kicked ball by trapping it with the foot while standing still.
- 1.20 Volley a tossed lightweight ball, using the forearm pass.

Rhythmic Skills

- 1.21 Perform a series of basic square-dance steps.
- 1.22 Perform a routine to music that includes even and uneven locomotor patterns.

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.

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.

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.

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 non school 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.