

FOURTH GRADE

MATH

NUMBER CONCEPTS AND OPERATIONS

- 4.1 Apply number concepts and operations to real world situations
 - 4.1.1 Use place value to read, write, compare, and order whole numbers through the hundred millionths place.
 - 4.1.2 Use place value to read, write, compare, and order decimals involving tenths and hundredths.
 - 4.1.3 Model and record fraction quantities greater than one.
 - 4.1.4 Compare and order fractions (concrete and pictorial models, including number lines).
 - 4.1.5 Relate decimals to fractions that name tenths and hundredths.
 - 4.1.6 Use addition and subtraction to solve problems involving whole numbers and decimals.
 - 4.1.7 Recall and apply multiplication facts through the fact family of 12.
 - 4.1.8 Recall and apply division facts through the fact family of 12.
 - 4.1.9 Use multiplication to solve problems using two-digit multipliers.
 - 4.1.10 Use division to solve problems involving one-digit divisors.
 - 4.1.11 Round whole numbers to the nearest ten, hundred, or thousand to approximate reasonable results in problem situations.
 - 4.1.12 Estimate a product or quotient beyond basic facts.
 - 4.1.13 Select an appropriate problem-solving strategy including drawing a picture, looking for a pattern, estimating and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.
 - 4.1.14 Use tools such as objects, manipulatives, calculators and other technology to solve problems.

PROBABILITY AND STATISTICS

- 4.2 Gather, organize, display and interpret data.
 - 4.2.1 Gather, organize, record, and display data in graphs where each picture or cell might represent more than one piece of data.
 - 4.2.2 List all possible outcomes of a probability experiment.
 - 4.4.3 Interpret information from graphs on which multiple forms of data are represented.

PATTERNS, FUNCTIONS, AND ALGEBRAIC THINKING

- 4.3 Use patterns as a tool for problem solving.
 - 4.3.1 Use patterns to develop strategies for remembering basic multiplication facts.
 - 4.3.2 Use patterns to solve division problems related to multiplication facts (fact families) such as $9 \times 9 = 81$, $81 \div 9 = 9$.
 - 4.3.3 Use patterns to multiply by 10 and 100.
 - 4.3.4 Describe the relationship between two sets of related data such as ordered pairs in a table.

GEOMETRY AND SPATIAL REASONING

- 4.4 Apply principles of geometry to the environment.
 - 4.4.1 Identify right, acute, and obtuse angles.
 - 4.4.2 Identify models of parallel and perpendicular lines.

- 4.4.3 Describe shapes and solids in terms of vertices, edges and faces.
- 4.4.4 Use reflections to verify that a shape has symmetry.
- 4.4.5 Use reflections and rotations to verify that two shapes are congruent.
- 4.4.6 Locate and name points on a number line using whole numbers, fractions, and decimals.

MEASUREMENT

- 4.5 Interpret real world situations using measurement concepts.
 - 4.5.1 Estimate and measure weight using standard units (ounces, pounds, grams, kilograms).
 - 4.5.2 Estimate and measure capacity using standard units (milliliters, liters, cups, pints, quarts, and gallons).
 - 4.5.3 Solve problems involving perimeter, area, time, and temperature.

READING/LANGUAGE ARTS

READING

- 4.1 Use strategies to comprehend informational text and chapter books.
 - 4.1.1 Apply structural analysis, phonics, and vocabulary study to expand word recognition skills.
 - 4.1.2 Apply knowledge of punctuation to adjust rate, volume and inflection.
 - 4.1.3 Analyze literary characters by comparing the experiences, environment, feelings, and ideas to personal experiences, etc.
 - 4.1.4 Make and revise predictions before, during, and after reading.
 - 4.1.5 Activate, apply, and extend prior knowledge.
 - 4.1.6 Monitor comprehension (survey, question, read, reflect, re-read, self-correct).
 - 4.1.7 Draw conclusions using key points and main ideas.
 - 4.1.8 Infer meaning from context.
 - 4.1.9 Compare story elements and genres.
 - 4.1.10 Use conventions of informational text to enhance comprehension (glossary, index, table of contents, etc.).
 - 4.1.11 Set and monitor personal reading goals (assess strengths and weaknesses).
 - 4.1.12 Recognize and discuss literature as an expression of human experience (cultural awareness and appreciation, diversity, interpersonal relationships, etc.).
 - 4.1.13 Interpret an author's use of figurative language.
 - 4.1.14 Adjust speed of reading to suit purpose and difficulty of the material.
 - 4.1.15 Demonstrate a familiarity with a variety of selected classic fiction, folk tales, and poetry.
 - 4.1.16 Demonstrate a familiarity with a variety of selected non-fiction.

WRITING

- 4.2 Apply strategies for analysis and revision of writing to define clarity and purpose for multi-paragraph compositions (expressive and narrative).
 - 4.2.1 Apply the writing process to create a piece of writing (pre-writing, drafting, revising, editing, and publishing).
 - 4.2.2 Use correct forms of grammar, word usage, parts of speech, mechanics, punctuation and spelling in daily writing.
 - 4.2.3 Use dialogue in writing.
 - 4.2.4 Adapt writing style to fit a variety of audiences and purposes (letters, poetry,

stories, reports, etc.).

- 4.2.5 Write legibly using cursive and manuscript forms in daily writing.
- 4.2.6 Expand sentences using descriptive words and phrases.
- 4.2.7 Increase fluency in writing paragraphs.
- 4.2.8 Develop a bibliography to document sources used in a written research report.
- 4.2.9 Use multiple representations of information to find information for research topics (i.e., encyclopedias, dictionaries, maps, charts, photos, key words, indexes, cross references and letters on volumes).
- 4.2.10 Edit and revise using checklists and conferences (peers, self, teachers, etc.).
- 4.2.11 Set and monitor personal writing goals (strengths, weaknesses).
- 4.2.12 Use written responses to reflect on information (oral, print, media).
- 4.2.13 Choose to write and increase fluency through frequent, regular independent practice (journals, writer's workshop, etc.).
- 4.2.14 Apply narrative writing strategies, details, and ideas to develop a sense of audience.
- 4.2.15 Demonstrate an individual, authentic voice in expressive writing.
- 4.2.16 Demonstrate ability to persuade through writing (i.e.: states a clear position, elaborates on this position with reasons, examples, and information that is organized and generally relevant to the author's purpose).

LISTENING

- 4.3 Demonstrate purposeful listening by summarizing orally presented information.
 - 4.3.1 Identify key points and ideas.
 - 4.3.2 Infer the speaker's purpose.
 - 4.3.3 Differentiate between relevant and irrelevant information.
 - 4.3.4 Discriminate between fact and opinion.
 - 4.3.5 Demonstrate understanding of speaker's point of view.
 - 4.3.6 Analyze media presentations to draw conclusions.
 - 4.3.7 Demonstrate positive receptive body language (eye contact, attentiveness, etc.).

SPEAKING

- 4.4 Orally present information for a specific purpose and audience.
 - 4.4.1 Respond to information with relevant comments.
 - 4.4.2 Ask relevant questions to clarify meaning.
 - 4.4.3 Use appropriate rate, volume and clarity.
 - 4.4.4 Demonstrate positive body language.
 - 4.4.5 Respond orally to literature.
 - 4.4.6 Participate in group discussions.
 - 4.4.7 Participate in dramatic activities.

SCIENCE

Please see the [Core Knowledge Sequence](#) that is used in this area for additional curriculum standards and information.

LIFE SCIENCES

- 4.1 Understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment.
 - 4.1.1 Describe factors that impact the behavior of a plant or animal (i.e., kinds and

numbers of organisms present, availability of food and resources, physical characteristics of the environment).

- 4.1.2 Construct and use classification systems based on the structure of organisms.
- 4.1.3 Compare/contrast differences among living things of the same kind and describe the resulting advantages/disadvantages in survival and reproduction.
- 4.1.4 Distinguish between inherited traits and learned characteristics to explain likenesses between offspring and parents.

EARTH SCIENCE

- 4.2 Understand the composition of the earth, its history, the natural processes that shape it, and its place in the universe.
 - 4.2.1 Describe factors that result in change to the earth's surface (i.e., wind, water, waves, and ice).
 - 4.2.2 Compare/contrast changes to the earth's surface due to rapid processes (i.e., landslides, volcanoes, earthquakes) and slow processes (i.e., erosion and weathering).
 - 4.2.3 Describe the effect of the sun as the major source of energy generating winds, ocean currents, water cycle, and growth of plants.
 - 4.2.4 Describe the basic composition, properties and structure of earth's atmosphere.
 - 4.2.5 Describe existing weather conditions by collecting data and recording changes in weather conditions (i.e., humidity, temperature, air pressure, cloud types, wind, precipitation).
 - 4.2.6 Identify changes to the earth's atmosphere and oceans that can affect weather, weather patterns and predictions.

PHYSICAL SCIENCE

- 4.3 Understand common properties, forms, and changes in matter and energy.
 - 4.3.1 Observe and record changes in the states of matter caused by the addition or reduction of heat.
 - 4.3.2 Conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy.
 - 4.3.3 Gather information including temperature, magnetism, hardness, and mass using appropriate tools to identify physical properties of matter.
 - 4.3.4 Demonstrate that electricity can flow in a circuit and can produce heat, light, sound, and magnetic effects.

HEALTH

- 4.4 Understand how to maintain and promote personal health.
 - 4.4.1 Name and locate major components of the body systems.
 - 4.4.2 Explain the interrelationships of the body systems.
 - 4.4.3 Describe the harmful effects of alcohol, nicotine, and other drugs on physical, mental, and social health.
 - 4.4.4 Describe factors that influence the prevention and spread of disease (personal habits, environmental hazards, unhealthy environments, etc.).

Focus: State History

SOCIAL STUDIES

Please see the [Core Knowledge Sequence](#) that is used in this area for additional curriculum standards and information.

HISTORY

- 4.1 Understand the similarities and differences of groups indigenous to the state before European exploration.
 - 4.1.1 Identify the groups in the state before European exploration and describe the regions in which they lived.
 - 4.1.2 Compare/contrast the ways of life of the indigenous groups in the state.
- 4.2 Understand the causes and effects of European exploration of the state and the Western Hemisphere.
 - 4.2.1 Summarize reasons for European exploration and settlement of the state.
 - 4.2.2 Identify the accomplishments of significant explorers to the state and explain their impact.
 - 4.2.3 Identify the contributions of significant historical figures to the state.
- 4.3 Understand the causes and effects of major conflicts in the early history of the state.
 - 4.3.1 Analyze the causes of major conflicts and identify significant events associated with those conflicts.
 - 4.3.2 Describe the successes and problems resulting from the conflicts.
 - 4.3.3 Explain the impact of conflict on the state.
 - 4.3.4 Identify leaders important to the founding of the state.
- 4.4 Understand the political, economic, and social changes in the state during its history.
 - 4.4.1 Describe the growth and development of industry in the state.
 - 4.4.2 Identify the impact of urbanization, use of natural resources, and the growth of industry on the way of life in the state.

GEOGRAPHY

- 4.5 Use geographic tools to collect, analyze, and interpret data.
 - 4.5.1 Apply geographic tools, including grid systems, legends, symbols, scales, and compass roses, to construct and interpret maps.
 - 4.5.2 Translate geographic data into a variety of formats including graphs and maps.
- 4.6 Understand the concept of regions.
 - 4.6.1 Describe a variety of regions in the state that result from human activity (i.e., political, population, and economic).
 - 4.6.2 Describe a variety of regions in the state that result from physical characteristics (i.e., land form, climate, vegetation, etc.).
 - 4.6.3 Compare the regions of the state with regions in the United States and other parts of the world.
 - 4.6.4 Explain the geographic factors that influence patterns of settlement in the state.
- 4.7 Understand how people adapt to and modify their environment.
 - 4.7.1 Describe how and why people have adapted to and modified the environment in the state.
 - 4.7.2 Analyze the consequences of human modification of the environment in the state, past and present.

ECONOMICS

- 4.8 Understand patterns of work and economic activities.
 - 4.8.1 Explain how people in different regions of the state earn their living.
 - 4.8.2 Compare and contrast the economic activities of the different regions of the United States.
 - 4.8.3 Explain how a region's location, climate, and natural resources influence its economy.
 - 4.8.4 Analyze the effects of immigration, migration and limited resources on the economic development and growth of the state.
- 4.9 Understand how the state, the nation, and other parts of the world are economically interdependent.
 - 4.9.1 Identify factors that have resulted in increased economic interdependence (i.e., technological changes, industry, agriculture, exports and imports, etc.).

CIVICS/GOVERNMENT

- 4.10 Understand the organization of government in the state.
 - 4.10.1 Identify characteristics of early government and their influence on the later development of government.
 - 4.10.2 Identify the important ideas in historic documents of the state.
 - 4.10.3 Describe the basic functions of the branches of state government.
- 4.11 Understand the important customs, symbols and celebrations of the state.
 - 4.11.1 Identify state symbols, customs and celebrations.
 - 4.11.2 Explain the significance of state symbols, customs, and celebrations.
- 4.12 Understand the importance of participation in the democratic process.
 - 4.12.1 Explain the role of the individual in state and local elections.
 - 4.12.2 Describe ways individuals can participate voluntarily in civic affairs at state and local levels.
 - 4.12.3 Identify leaders in state and local governments.
 - 4.12.4 Identify leadership qualities of state and local leaders, past and present.

SOCIOLOGY/ANTHROPOLOGY

- 4.13 Understand the contributions to the state of people from various racial, ethnic, and religious groups.
 - 4.13.1 Describe customs, celebrations and traditions of various culture groups in the state.
 - 4.13.2 Summarize the contributions of various groups of people to the development of the state.

MUSIC

Please see the [Core Knowledge Sequence](#) that is used in this area for additional curriculum standards and information.

- 4.1 The student describes and analyzes musical sound and demonstrates musical artistry. The student is expected to:
 - 4.1.1 Categorize a variety of musical sounds, including children's and adults' voices; woodwind, brass, string, percussion, keyboard, and electronic instruments; and instruments from various cultures.
 - 4.1.2 Use musical terminology in explaining sound, music, music notation, musical instruments and voices, and musical performances.
 - 4.1.3 Identify forms presented aurally such as AB, ABA and rondo.

- 4.2 The student performs a varied repertoire of music. The student is expected to:
 - 4.2.1 Sing or play classroom instruments independently or in groups.
 - 4.2.2 Sing songs from diverse cultures and styles.
- 4.3 The student reads and writes music notations. The student is expected to:
 - 4.3.1 Read and write music notations, using a system (letters, numbers, syllables).
 - 4.3.2 Read and write music that incorporates basic rhythmic patterns in simple meters in compositions.
 - 4.3.3 Identify music symbols and terms referring to dynamics and tempo, interpreting them appropriately when performing
- 4.4 The student relates music to history, to society, and to culture. The student is expected to:
 - 4.4.1 Identify aurally presented excerpts of music representing diverse genres, styles, periods, and cultures.
 - 4.4.2 Perform songs and movement from diverse cultures.
 - 4.4.3 Identify relationships between music and other fine arts
 - 4.4.4 Perform music representative of America.
- 4.5 The student responds to and evaluates music and musical performance. The student is expected to:
 - 4.5.1 Apply basic criteria for evaluating musical performances and compositions.
 - 4.5.2 Exhibit audience etiquette during live performance.
 - 4.5.3 Justify, using music terminology, personal preferences for specific music works and styles.

PHYSICAL EDUCATION

The three basic concepts addressed in the physical education standards are movement, physical activity /health and social development.

- 4.1 The student demonstrates competency in fundamental movement patterns and proficiency in a few specialized movement forms. The student is expected to:
 - 4.1.1 Demonstrates changes in speed during straight, curved, and zigzag pathways in dynamic situations.
 - 4.1.2 Catch an object while traveling such as catch a football pass on the run.
 - 4.1.3 Jump and land for height and distance using key elements for creating and absorbing force such as bending knees, swinging arms, and extending.
 - 4.1.4 Demonstrate body control in jumping and landing such as land on feet, bend knees, and absorb force.
 - 4.1.5 Create a movement sequence with a beginning, middle and end.
 - 4.1.6 Travel into and out of a rope turned by others without hesitating.
 - 4.1.7 Demonstrate key elements in manipulative skills such as volleying, hand dribble, foot dribble, and punt, striking with body part, racquet, or bat.
- 4.2 The student applies movement concepts and principals to the learning and development of motor skills. The student is expected to:
 - 4.2.1 Identify similar movement elements in sports skills such as underhand throwing and underhand volleyball serving.
 - 4.2.2 Make appropriate changes in performance based on feedback.
- 4.3 The student exhibits a health enhancing, physically–active lifestyle that improves health and provides opportunities for enjoyment and challenge. The student is expected to:
 - 4.3.1 Describe and select physical activities that provide for enjoyment and challenge.

- 4.3.2 Identify and demonstrate a variety of exercises that promote flexibility.
- 4.3.3 Participate in activities that develop and maintain muscular strength and endurance.
- 4.3.4 Identify opportunities for participation in physical activity in the community such as organized recreational sports, dance classes, karate etc.
- 4.4 The student knows the benefits from being involved in daily physical activity and factors that affect physical performance. The student is expected to:
 - 4.4.1 Describe the effects of exercise on heart rate through the use of manual pulse checking.
 - 4.4.2 Participate in moderate to vigorous physical activities on a daily basis.
 - 4.4.3 Explain the relationship between physical activity and stress relief and demonstrate stress relief activities such as brisk walking, gentle stretching, and muscle tension and release.
 - 4.4.4 Describe the need for rest and sleep in recovering from exercise.
- 4.5 The student understands safety practices associated with physical activity and space. The student is expected to:
 - 4.5.1 Use equipment safely and properly.
 - 4.5.2 Select and use proper attire and safety equipment that promotes participation and prevent injury.
 - 4.5.3 Identify potential risks associated with physical activities.
- 4.6 The student understands basic components such as strategies and rules of structured physical activities including, but not limited to, games, sports and dance. The student is expected to:
 - 4.6.1 Distinguish between compliance and noncompliance with rules and regulations.
 - 4.6.2 Analyze potential risks associated with unsafe movement and improper use of equipment.
- 4.7 The student develops positive self-management and social skills needed to work independently and with others in physical activity settings. The student is expected to:
 - 4.7.1 Follow rules, procedures, and etiquette.
 - 4.7.2 Respond to winning and losing with dignity and understanding.
 - 4.7.3 Demonstrate effective communication, consideration and respect for the feelings of others during physical activities such as encourage others, allow others equal turns, and invite others to participate.

VISUAL ARTS

Please see the [Core Knowledge Sequence](#) that is used in this area for additional curriculum standards and information.

- 4.1 Develop perceptions to increase visual awareness and sensitivity to surroundings. The student develops and organizes ideas from the environment. The student is expected to:
 - 4.1.1 Communicates ideas about self, family, school, and community, using sensory knowledge and life experiences.
 - 4.1.2 Choose appropriate vocabulary to discuss the use of art elements such as color, texture, form, line, space, and value and art principles such as emphasis, pattern, rhythm, balance, proportion, and unity.
- 4.2 Expresses ideas through original artworks, using a variety of media with appropriate skill. The student is expected to:

- 4.2.1 Integrates a variety of ideas about self, life events, family, and community in original artworks.
- 4.2.2 Invent ways to produce artworks and to explore photographic imagery, using a variety of art media and materials.
- 4.2.3 Design original artwork.
- 4.3 Demonstrates an understanding of art history and culture as records of human achievement. The student is expected to:
 - 4.3.1 Identify main ideas expressed in art.
 - 4.3.2 Compare and contrast selected artworks from a variety of cultural settings.
 - 4.3.3 Identify the roles of art in American society.
- 4.4 Makes informed judgments about personal artworks and the works of others. The student is expected to:
 - 4.4.1 Describe intent and form conclusions about personal artworks.
 - 4.4.2 Interpret ideas and moods in original artworks, portfolios, and exhibitions by peers and others.

FOREIGN LANGUAGE

Language study is best begun in kindergarten (or earlier) and continued without interruption through grade 12 and beyond. Research confirms that children easily and naturally acquire language at an early age. The degree of proficiency is directly proportional to the amount of time spent by students in meaningful study. The student develops insight into the nature of language and culture by comparing the student's own language and culture to another.

- 1.1 The student communicates in a language other than English using the skills of listening, speaking, reading, and writing.
 - 1.1.1 Students listen to and derive meaning from a variety of foreign language sources. In order to meet this standard the student will:
 - Recognize common expressions;
 - Obtain meaning from diverse listening sources;
 - Demonstrate comprehension through appropriate responses; and
 - Engage in a variety of listening situations.
 - Comprehend common memorized words, expressions, and cognates (a word related to one in another language) when hearing the foreign language spoken from a variety of sources;
 - Demonstrate comprehension of everyday conversations including familiar situations and simple instructions.
 - 1.1.2 Students speak in a foreign language for a variety of purposes and for diverse audiences. In order to meet this standard, a student will:
 - Apply pronunciation rules and intonation patterns;
 - Use vocabulary, grammatical forms, and structures of the target language to convey meaning;
 - Apply knowledge of cultural practices to spoken language;
 - Express needs, tell stories, obtain and convey information, explain concepts and procedures, and persuade; and
 - Interact with speakers of the language in a variety of venues: personal, business, dramatic presentations.
 - Use learned pronunciation and intonation patterns;
 - Speak in predictable, familiar situations using learned vocabulary and phrases;

- Express personal opinions and desires with learned phrases;
- Describe everyday topics using appropriate vocabulary and grammatical structures;
- Ask and answering simple questions.

1.1.3 Students read and derive meaning from a variety of materials written in a foreign language. In order to meet this standard, students will;

- Recognize words, phrases, idiomatic expressions, and grammatical structures;
- Demonstrate comprehension of reading materials written for a variety of purposes;
- Use and apply the information gained from reading;
- Respond to the cultural elements contained in reading materials of the language.
- Recognize and understand cognates (a word related to one in another language) and expressions;
- Infer meaning of unfamiliar words from context;
- Show comprehension of reading materials;
- Identify cultural elements found in reading materials.

1.1.4 Students write in a foreign language for a variety of purposes and for diverse audiences. In order to meet this standards students will;

- Write for purposes such as relating personal experiences, obtaining and conveying information, explaining ideas and opinions, and persuading;
- Write for audiences such as peers, teachers, and community members;
- Plan, draft, revise, proof read, and edit written communications;
- Use correct grammar, sentence structure, vocabulary, spelling, punctuation, and capitalization to convey meaning;
- Write about everyday topics and express personal opinions and desires using learned vocabulary phrases and grammatical structures;
- Obtain and report information for a variety of audiences
- Proofread and rewrite their own work;
- Use appropriate grammar, spelling, capitalization, and punctuation;

2.1 The student gains knowledge and understanding of other cultures. The student is expected to:

- Demonstrate knowledge of aspects of foreign cultures such as daily life, education, history, geography, government, economics, and the arts;
- Apply knowledge of cultural practices when communicating in a foreign language;
- Use the foreign language to access cultural information available only in that language.
- Observe and identify everyday cultural practices (what people do).
- Use culturally appropriate gestures and oral expressions for common or familiar classroom interactions.
- Listen to or read materials in the language from the cultures being studied.