

Cumberland County Schools
Parent Curriculum Guide



Fourth Grade

ENGLISH LANGUAGE ARTS

The elementary language arts curriculum is organized around a balanced literacy framework of teaching. Using this approach, students build an understanding of the four strands of literacy: reading, writing, speaking and listening, and language. As students advance through each grade and master the standards in reading, writing, speaking, listening and language, they are able to exhibit an understanding of increasingly complex skills. The following grade-specific standards define what students should understand and be able to do by the end of the year to progress towards college and career readiness in each particular area.

Reading: Literature

Key Ideas and Details

1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.
3. Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).

Craft and structure

4. Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).
5. Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.
6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

Integration of Knowledge and Ideas

7. Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.
8. (Not applicable to literature)
9. Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.



Reading: Informational Text

Key Ideas and Details

1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.
3. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

Craft and Structure

4. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.
5. Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.
6. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

Reading: Informational Text (Continued)

Integration of Knowledge and Ideas

7. Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.
8. Explain how an author uses reasons and evidence to support particular points in a text.
9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

Range of Reading and Level of Text Complexity

10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading: Foundational Skills

Phonics and Word Recognition

1. Know and apply grade-level phonics and word analysis skills in decoding words.
 - a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

Fluency

2. Read with sufficient accuracy and fluency to support comprehension.
 - a. Read grade-level text with purpose and understanding.
 - b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.
 - c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Writing

Text Types and Purposes

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
 - a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.
 - b. Provide reasons that are supported by facts and details.
 - c. Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition).
 - d. Provide a concluding statement or section related to the opinion presented.
2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
 - a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
 - b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
 - c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Provide a concluding statement or section related to the information or explanation presented.
3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
 - a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
 - b. Use dialogue and description to develop experiences and events or show the responses of characters to situations.
 - c. Use a variety of transitional words and phrases to manage the sequence of events.
 - d. Use concrete words and phrases and sensory details to convey experiences and events precisely.
 - e. Provide a conclusion that follows from the narrated experiences or events.

Writing (Continued)

Production and Distribution of Writing

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

Research to Build and Present Knowledge

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

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.



Speaking and Listening

Comprehension and Collaboration



1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others’ ideas and expressing their own clearly.
 - a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions and carry out assigned roles.
 - c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
 - d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Identify the reasons and evidence a speaker provides to support particular points.

Speaking and Listening

Presentation of Knowledge and Ideas

4. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
6. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.

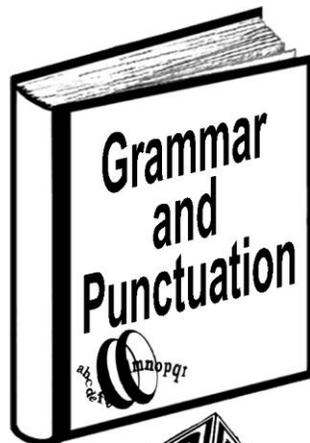
Language

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Use relative pronouns (*who*, *whose*, *whom*, *which*, *that*) and relative adverbs (*where*, *when*, *why*).
 - b. Form and use the progressive (e.g., *I was walking*; *I am walking*; *I will be walking*) verb tenses.
 - c. Use modal auxiliaries (e.g., *can*, *may*, *must*) to convey various conditions.
 - d. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*).
 - e. Form and use prepositional phrases.
 - f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
 - g. Correctly use frequently confused words (e.g., *to*, *too*, *two*; *there*, *their*).
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use correct capitalization.
 - b. Use commas and quotation marks to mark direct speech and quotations from a text.
 - c. Use a comma before a coordinating conjunction in a compound sentence.
 - d. Spell grade-appropriate words correctly, consulting references as needed.

Knowledge of Language

3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Choose words and phrases to convey ideas precisely.
 - b. Choose punctuation for effect.
 - c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).



Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.
 - a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., telegraph, photograph, autograph).
 - c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - a. Explain the meaning of simple similes and metaphors (e.g., as pretty as a picture) in context.
 - b. Recognize and explain the meaning of common idioms, adages, and proverbs.
 - c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., *wildlife*, *conservation*, and *endangered* when discussing animal preservation).

Fourth Grade Writing Sample

The writing standards call for students to write for a variety of purposes and to use technology to produce and publish their writing. Students are expected to write in varied genres, building mastery in a range of skills and applications.

Fourth graders will continue to compose three different types of writing: opinion pieces, narrative texts, and informative/ explanatory texts. Students produce clear coherent writing in which the organization is appropriate to task, purpose, and audience. They develop and strengthen writing through editing with guidance and support from peers. They use technology to produce and publish a minimum of one page typed writing. Students will demonstrate exemplary command of the conventions of standard written English.

The following is an example of narrative where students were asked to respond to the following prompt: "One morning you wake up and find a strange pair of shoes next to your bed. The shoes are glowing. In several paragraphs, write a story telling what happens."

Student Sample - Grade 4: Narrative

Glowing Shoes (Common Core Standards Appendix C)

One quiet, Tuesday morning, I woke up to a pair of bright, dazzling shoes, lying right in front of my bedroom door. The shoes were a nice shade of violet and smelled like catnip. I found that out because my cats, Tigger and Max, were rubbing on my legs, which tickled.

When I started out the door, I noticed that Tigger and Max were following me to school. Other cats joined in as well. They didn't even stop when we reached Main Street!

"Don't you guys have somewhere to be?" I quizzed the cats.

"Meeeeeeooooow!" the crowd of cats replied.

As I walked on, I observed many more cats joining the stalking crowd. I moved more swiftly. The crowd of cats' walk turned into a prance. I sped up. I felt like a rollercoaster zooming past the crowded line that was waiting for their turn as I darted down the sidewalk with dashing cats on my tail.

When I reached the school building . . . SLAM! WHACK! "Meeyow!" The door closed and every single cat flew and hit the door.

Whew! Glad that's over! I thought.

I walked upstairs and took my seat in the classroom.

"Mrs. Miller! Something smells like catnip! Could you open the windows so the smell will go away? Pleeeeease?" Zane whined.

"Oh, sure! We could all use some fresh air right now during class!" Mrs. Miller thoughtfully responded.

"Nooooooo!" I screamed.

When the teacher opened the windows, the cats pounced into the building.

"It's a cat attack!" Meisha screamed

Everyone scrambled on top of their desks. Well, everyone except Cade, who was absolutely obsessed with cats.

"Awww! Look at all the fuzzy kitties! They're sooo cute! Mrs. Miller, can I pet them?" Cade asked, adorably.

"Why not! Pet whichever one you want!" she answered.

"Thanks! Okay, kitties, which one of you wants to be petted by Cade Dahlin?" he asked the cats. None of them answered. They were all staring at me.

"Uh, hi?" I stammered.

Rrrriiiiiing! The recess bell rang. Everyone, including Mrs. Miller, darted out the door.

Out at recess, Lissa and I played on the swings.

"Hey! Look over there!" Lissa shouted. Formed as an ocean wave, the cats ran toward me.

Luckily, Zane's cat, Buddy, was prancing along with the aroma of catnip surrounding his fur. He ran up to me and rubbed on my legs. The shoes fell off. Why didn't I think of this before? I notioned.

"Hey Cade! Catch!"

Cade grabbed the shoes and slipped them on.

The cats changed directions and headed for Cade.

"I'm in heaven!" he shrieked.



MATHEMATICS

The elementary mathematics curriculum is designed to develop deep understanding of foundational math ideas. In order to allow time for such understanding, each grade level focuses on concepts and skills related to two-four focal points (including geometry, number sense, and fractions). The scope and sequence of the curriculum allows students to develop understanding of concepts, key ideas, and the structure of mathematics. Through this study, students will also develop behaviors of proficient mathematicians. They will learn how to justify their thinking, reason abstractly, use precise language, and notice patterns.

Operations and Algebraic Thinking

Use the four operations with whole numbers to solve problems.

1. Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Gain familiarity with factors and multiples.

4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

Generate and analyze patterns.

5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.

Number and Operations in Base Ten

Generalize place value understanding for multi-digit whole numbers.

1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.*
2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
3. Use place value understanding to round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations - Fractions

Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.
 - a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
 - b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 \frac{1}{8} = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.
 - c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
 - d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
 - a. Understand a fraction a/b as a multiple of $1/b$. For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.
 - b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)
 - c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?

Understand decimal notation for fractions, and compare decimal fractions.

5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.² For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.
6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.
7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.

Measurement and Data

1

2

3

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...

Measurement and Data (Continued)

1

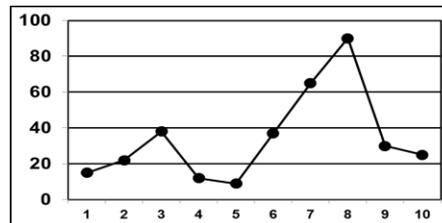
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3

- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
- Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

Represent and interpret data.

- Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*



Geometry

Geometric measurement: understand concepts of angle and measure angles.

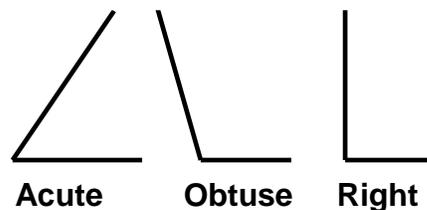
- Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:
 - An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.
 - An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
- Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
- Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Geometry

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

- Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
- Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
- Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

ANGLES



SCIENCE

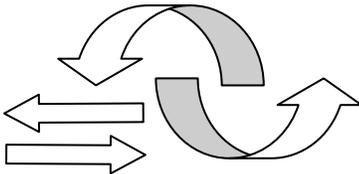
In fourth grade, students will analyze the systems of Forces and Motion, Properties of Matter, Rotation of the Earth, Fossils, Food and Nutrition, Environmental Changes, and Adaptations and Behaviors. Students will learn the properties of systems: they consist of combinations of organisms, objects, ideas, and numbers; they may be made up of subsystems; they have structure, function, feedback, and equilibrium; and they can be open or closed. Knowledge of these systems will give students an understanding of the interrelatedness of mass, energy, objects, and organization.

Physical Science

Forces and Motion

Explain how various forces affect the motion of an object.

1. Explain how magnets interact with all things made of iron and with other magnets to produce motion without touching them.
2. Explain how electrically charged objects push or pull on other electrically charged objects and produce motion.



Matter, Properties, and Change

Understand the composition and properties of matter before and after they undergo a change or interaction.

1. Compare the physical properties of samples of matter: strength, hardness, flexibility, ability to conduct heat, ability to conduct electricity, ability to be attracted by magnets, reactions to water and fire.
2. Explain how minerals are identified using tests for the physical properties of hardness, color, luster, cleavage, and streak.
3. Classify rocks as metamorphic, sedimentary or igneous based on their composition, how they are formed, and the processes that create them.



Energy: Conservation and Transfer

Recognize that energy takes various forms that may be grouped based on their interaction with matter.

1. Recognize the basic forms of energy (light, sound, heat, electrical, and magnetic) as the ability to cause motion or create change.
2. Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, and absorbed.

Earth Science

Earth in the Universe

Explain the causes of day and night and phases of the moon.

1. Explain the cause of day and night, based on the rotation of Earth on its axis.
2. Explain the monthly changes in the appearance of the moon, based on the moon's orbit around the Earth.

Earth History

Understand the use of fossils and changes in the surface of the earth as evidence of the history of Earth and its changing life forms.

1. Compare fossils (including molds, casts, and preserved parts of plants and animals) to one another and to living organisms.
2. Infer ideas about Earth's early environments from fossils of plants and animals that lived long ago.
3. Give examples of how the surface of the earth changes due to slow processes such as erosion and weathering, and rapid processes such as landslides, volcanic eruptions, and earthquakes.

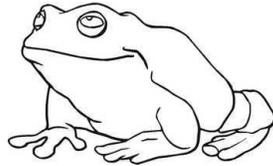


Life Science

Ecosystems

Understand the effects of environmental changes, adaptations, and behaviors that enable animals (including humans) to survive in changing habitats.

1. Give examples of changes in an organism's environment that are beneficial to it and some that are harmful.
2. Explain how animals meet their needs by using behaviors in response to information received from the environment.
3. Explain how humans can adapt their behavior to live in changing habitats (e.g., recycling wastes, establishing rain gardens, planting trees and shrubs to prevent flooding and erosion).
4. Explain how differences among animals of the same population sometimes give individuals an advantage in surviving and reproducing in changing habitats.



Molecular Biology

Understand food and the benefits of vitamins, minerals, and exercise.

1. Classify substances as food or non-food items based on their ability to provide energy and materials for survival, growth, and repair of the body.
2. Explain the role of vitamins, minerals, and exercise in maintaining a healthy body.



SOCIAL STUDIES

Fourth grade is the first formal introduction to North Carolina, its ethnic diversity, its rich culture, the economic energy of its people, and its geographic regions. Fourth grade students will explore the social disciplines of our state's history, geography, government, culture, and economics. Students will also study American Indian groups indigenous to North Carolina before European contact, the impact of colonization, and key historical events leading up to the Civil War and Reconstruction. Students will prepare for their role as responsible and informed citizens of North Carolina as they examine the North Carolina Constitution and the concept of separation of powers in each branch of state government. Finally, students will explore North Carolina's economy by examining how natural resources have influenced economic development in our state.

History

Analyze the chronology of key historical events in North Carolina history.

1. Summarize the change in cultures, everyday life, and status of indigenous American Indian groups in North Carolina before and after European exploration.
2. Explain how and why North Carolina was established.
3. Explain how people, events, and developments brought about changes to communities in various regions of North Carolina.
4. Analyze North Carolina's role in major conflicts and wars from the Pre-Colonial period through Reconstruction.

Understand how notable structures, symbols, and place names are significant to North Carolina.

1. Explain why important buildings, statues, monuments, and place names are associated with the state's history.
2. Explain the historical significance of North Carolina's state symbols.



Geography and Environmental Literacy

Understand how human, environmental, and technological factors affect the growth and development of North Carolina.

1. Summarize changes that have occurred in North Carolina since statehood (population growth, transportation, communication, and land use).
2. Explain the impact that human activity has on the availability of natural resources in North Carolina.
3. Exemplify the interactions of various peoples, places, and cultures in terms of adaptation and modification of the environment.
4. Explain the impact of technology (communication, transportation, and inventions) on North Carolina's citizens, past and present.



Economics and Financial Literacy

Understand how a market economy impacts life in North Carolina.

1. Understand the basic concepts of a market economy: price, supply, demand, scarcity, productivity, and entrepreneurship.
2. Understand how scarcity and choice in a market economy impacts business decisions.
3. Analyze the historical and contemporary role that major North Carolina industries have played in the state, nation, and world.
4. Explain the impact of entrepreneurship on the economy of North Carolina.

Understand the economic factors when making personal choices.

1. Explain how personal financial decisions such as spending, saving, and paying taxes can positively and/or negatively affect everyday life.
2. Explain how scarcity of personal financial resources affects the choices people make based on their wants and needs.

Civics and Governance

Understand the development, structure, and function of North Carolina's government.

1. Summarize the key principles and revisions of the North Carolina Constitution.
2. Compare the roles and responsibilities of state elected leaders.
3. Explain the influence of the colonial history of North Carolina on the governing documents of our state.
4. Compare North Carolina's government with local governments.

Analyze the North Carolina Constitution.

1. Analyze the preamble and the articles of the North Carolina Constitution in terms of rights and responsibilities.
2. Give examples of rights and responsibilities of citizens according to North Carolina's Constitution.
3. Differentiate between rights and responsibilities reflected in the North Carolina Constitution.

Culture

Understand the impact of various cultural groups on North Carolina.

1. Explain how the settlement of people from various cultures affected the development of regions in North Carolina (languages, foods, and traditions).

2. Explain how the artistic expression of various groups represents the cultural heritage of North Carolina.

INFORMATION AND TECHNOLOGY

The Information and Technology curriculum prepares students to use computer technology for school, work, and personal use; for accessing and applying information; for problem solving; and for communicating ideas and data. Elementary school students will leave each grade level with a greater, more established ability to utilize the tools of technology not only for research but as avenues of reinforcement for learned concepts.

Sources of Information

Apply criteria to determine appropriate information resources for specific topics and purposes.

1. Use various types of resources to gather information (including print and online media).
2. Use relevant sources of information for an assigned task.
3. Use reliable sources of information.

Informational Text

Apply appropriate strategies when reading for enjoyment and for information.

1. Implement appropriate reading strategies when reading for information.

2. Explain the importance of relevant characteristics in various genres.

Technology as a Tool

Use technology tools and skills to reinforce classroom concepts and activities.

1. Use a variety of technology tools to gather data and information (e.g., web-based resources, e-books, online communication tools, etc.).

2. Use a variety of technology tools to organize data and information (e.g., word processor, graphic organizer, audio and visual recording, online collaboration tools, etc.).

3. Use technology tools to present data and information (multimedia, audio and visual recording, online collaboration tools, etc.).

Research Process

Apply a research process as part of collaborative research.

1. Implement a research process by collaborating effectively with other students.



Safety and Ethical Issues

Understand issues related to the safe, ethical, and responsible use of information and technology resources.

1. Understand the guidelines for responsible use of technology hardware.
2. Understand ethical behavior (copyright, not plagiarizing, netiquette) when using resources.
3. Understand internet safety precautions (personal information, passwords, etc.).

MUSIC

Music is deeply embedded in our existence, adding depth and dimension to our environment, exalting the human spirit, and contributing in important ways to our quality of life. The K-5 music program is designed to develop musical literacy. The processes of creating, performing, and understanding music are the primary goals of the music program. While performance is an important aspect of music study, it does not substitute for students' development of creative processes and of broader integrated experiences and understandings. Through creating, students are able to be imaginative, think critically, and approach tasks in new or different ways.

Musical Literacy

Apply the elements of music and musical techniques in order to sing and play music with accuracy and expression.

1. Apply expressive qualities when singing or playing a varied repertoire of music representing genres and styles from diverse cultures.
2. Execute the performance of vocal ostinatos, partner songs, counter-melodies, and rounds in two or more parts.
3. Use voice and/or instruments to execute melodic movement through pentatonic melodies on the treble staff.

Interpret the sound and symbol systems of music.

1. Interpret rhythm patterns, including whole, half, dotted half, quarter, and eighth notes and rests in 2/4, 3/4, and 4/4 meter signatures.
2. Interpret through voice and/or instruments simple pitch notation in the treble clef in major keys.
3. Interpret standard symbols and traditional terms for dynamics, tempo, and articulation while performing music.
4. Use standard symbols to notate rhythm, meter, and dynamics in simple patterns.

Create music using a variety of sound and notational sources.

1. Use improvisation to create statistically appropriate answers to given rhythmic and melodic phrases.
2. Create compositions and arrangements using a variety of traditional and non-traditional sound sources.
3. Create rhythmic compositions which include the use of whole, dotted half, half, and quarter notes; whole, half, and quarter rests; and beamed eighth notes in duple and triple time and which are arranged using a variety of sound sources.

Musical Response

Understand the interacting elements to respond to music and music performances.

1. Illustrate perceptual skills by moving to, and answering questions about, and describing aural examples of music of various styles and cultures.

2. Explain personal preferences for specific musical works and styles, using appropriate music terminology.

3. Design a set of criteria for evaluating music performances and compositions.

4. Classify instruments into Western orchestral categories of wind, string, percussion, and brass.

Contextual Relevancy

Understand global, interdisciplinary, and 21st century connections with music.

1. Understand how music has affected, and is reflected in, the culture, traditions, and history of North Carolina.
2. Understand the relationships between music and concepts from other areas.

Visual Arts

From the beginning of time, the compulsion to create a visual vocabulary has been as innate in every society as the desire to acquire a system of spoken symbols. A child discovers objects, those objects take on meaning, and this meaning is denoted and communicated through the various means of expression available to that child. The visual arts program is designed to develop visual literacy by promoting fluency in the various modes of visual communication. Students learn the visual arts by using a wide range of subject matter, media, and means to express their ideas, emotions, and knowledge. Through participation in visual arts, students have the opportunity to recognize and celebrate the creativity and diversity inherent in all of us.

Visual Literacy

Use the language of visual arts to communicate effectively.

1. Use appropriate art vocabulary to compare artists' styles.
2. Apply personal choices while creating art.
3. Infer meaning from art.
4. Understand how the Elements of Art are used to develop a composition.
5. Understand how the Principles of Design work in relation to each other.

Apply creative and critical thinking skills to artistic expression.

1. Identify different successful solutions to artistic problems.
2. Use ideas and imagery from North Carolina as sources for creating art.
3. Create abstract art that expresses ideas.

Create art using a variety of tools, media, and processes, safely and appropriately.

1. Apply a variety of methods of manipulating a single tool, safely and appropriately.
2. Compare characteristics of a variety of media.
3. Create art using the processes of drawing, painting, weaving, printing, stitchery, collage, mixed media, sculpture, ceramics, and current technology.

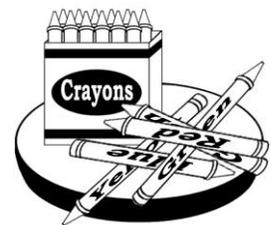
Contextual Relevancy

Understand global, historical, societal, and cultural contexts of the visual arts.

1. Understand how the visual arts have affected, and are reflected in, the culture, traditions, and history of North Carolina.
2. Recognize key contributions of North Carolina artists in art history.
3. Classify North Carolina artists in terms of styles, genre, and/or movements.
4. Explain how place and time influence ideas, issues, and themes found in art.
5. Analyze the effect of the geographic location and physical environment on the media and subject matter of North Carolina art and artists.

Understand the interdisciplinary connections and life applications of the visual arts.

1. Exemplify visual arts industries in North Carolina.
2. Apply skills and concepts learned in other disciplines, such as math, science, language arts, social studies, and other arts, in the visual arts.
3. Understand individual roles, while applying collaborative skills in creating art.
4. Explain the effect of technology on the way products look and how they are created.



Critical Response

Use critical analysis to generate responses to a variety of prompts.

1. Use visual clues to interpret the content of art.
2. Critique personal art based on teacher-established criteria.

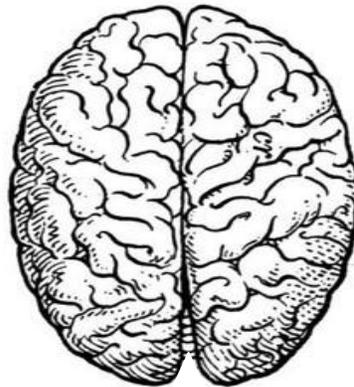
Healthful Living

The Healthful Living curriculum is a combination of health education and physical education. It includes a planned, sequential K-12 program that integrates information about specific health topics. The mission is to provide students with a program that is capable of enhancing the quality of life, raising the level of health, and favorably influencing the learning process.

Mental and Emotional Health

Apply positive stress management strategies.

1. Summarize effective coping strategies to manage eustress and distress.
2. Implement healthy strategies for handling stress, including asking for assistance.



Understand the relationship between healthy expression of emotions, mental health, and healthy behavior.

1. Identify unique personal characteristics that contribute to positive mental health.
2. Explain how effective problem solving aids in making healthy choices.

Personal and Consumer Health

Understand wellness, disease prevention, and recognition of symptoms.

1. Explain how to prevent or control common childhood illnesses and conditions such as asthma, allergies, diabetes, and epilepsy.
2. Recognize methods that prevent the spread of germs that cause communicable diseases.

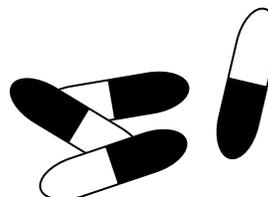
Understand body systems and organs, functions, and their care.

1. Identify the basic components and functions of the respiratory system.
2. Summarize habits to care for the skin.



Analyze health information and products.

1. Outline the functions of various health products.
2. Analyze advertisements of health products and services in terms of claims made and the validity of those claims.



Understand necessary steps to prevent and respond to unintentional injury.

1. Explain why it is safe to be a friend of someone who has a disease or health condition (cancer, HIV, asthma, or epilepsy).
2. Identify personal protection equipment needed for sports or recreational activities.
3. Illustrate skills for providing first aid for choking victims (including the Heimlich maneuver).

Interpersonal Communication and Relationships

Understand healthy and effective interpersonal communication and relationships.

1. Explain the importance of showing respect for self and respect and empathy for others.

2. Exemplify empathy toward those affected by disease and disability.

3. Interpret facial expressions and posture to emotions and empathy.

4. Recognize situations that might lead to violence.

5. Exemplify how to seek assistance for bullying.

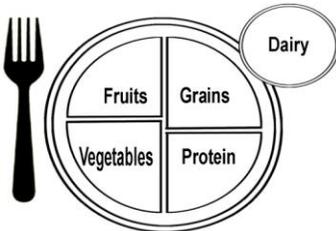
6. Contrast healthy and unhealthy relationships.

Understand the changes that occur during puberty and adolescence.

1. Summarize physical and emotional changes during puberty.

2. Recognize that individuals experience puberty at different rates (early, average, late).

Nutrition and Physical Activity



Apply tools (MyPyramid, Food Facts Label) to plan healthy nutrition and fitness.

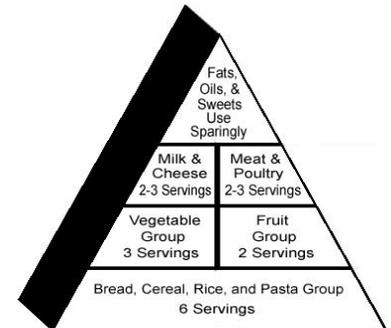
1. Plan meals using MyPyramid.
2. Carry out measures to prevent food-borne illness, including hand washing and appropriate food storage and preparation.
3. Use the Food Facts Label to plan meals and avoid food allergies.

Understand the importance of consuming a variety of nutrient-dense foods and beverages in moderation.

1. Compare unhealthy and healthy eating patterns, including eating in moderation.
2. Explain the effects of eating healthy and unhealthy breakfasts and lunches.

Understand the benefits of nutrition and fitness to disease prevention

1. Explain how nutrition and fitness affect cardiovascular health.
2. Summarize the association between caloric intake and expenditure to prevent obesity.



Alcohol, Tobacco, and Other Drugs

Understand health risks associated with the use of tobacco products.

1. Summarize short-term and long-term effects of cigarettes and smokeless tobacco products.
2. Explain why tobacco is an addictive product.

Understand why people use tobacco products.

1. Identify possible internal and external influences on tobacco use.
2. Explain why people are influenced by various marketing strategies employed by tobacco companies.

Apply risk reduction behaviors to protect self and others from alcohol, tobacco, and other drug use.

1. Use refusal skills to resist the pressure to experiment with tobacco.
2. Select strategies to use in avoiding situations in which tobacco is being used to minimize exposure to second-hand smoke.

Motor Skill Development

Apply competent motor skills and movement patterns needed to perform a variety of physical activities.

1. Execute combinations of more complex locomotor skills and manipulative skills in various physical activity settings.
2. Create movement skill sequences commonly associated with various sports and activities.
3. Implement changes in speed during straight, curved, and zigzag pathways to open and close space using locomotor and manipulative skills.
4. Identify tempo in slow and fast rhythms.

Movement Concepts

Understand concepts, principles, strategies, and tactics that apply to the learning and performance of movement.

1. Apply basic concepts of movement to improve individual performance.
2. Apply elements of form or motor development principles to help others improve their performance.
3. Evaluate skills in a game situation using a rubric based on critical concepts.
4. Classify examples of health-related fitness into the five components.



Physical Education



Health-Related Fitness

Understand the importance of achieving and maintaining a health-enhancing level of physical fitness.

1. Understand why and how to complete a valid and reliable pre and post health-enhancing fitness assessment, including monitoring of the heart.
2. Evaluate oneself in terms of the five recommended behaviors for obesity prevention.
3. Use physiological indicators to adjust physical activity.

Personal/Social Responsibility

Use behavioral strategies that are responsible and enhance respect of self and others and value activity.

1. Use self-control through structure, expectations, and engagement to demonstrate personal responsibility and respect for self and others.
2. Use cooperation and communication skills to achieve common goals.
3. Understand the importance of culture and ethnicity in developing self-awareness and working productively with others.