



**The Zula Patrol Curriculum Alignment with  
District of Columbia Standards for Grades Pre-K - 3**

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***Legend***

SM = Simple Machines Exploration Mission Module

MSCR = Mixtures, Solutions, and Chemical Reactions Exploration Mission Module

FR = Force Exploration Mission Module

HB = Habitats Exploration Mission Module

MA = Matter Exploration Mission Module

LT = Light Exploration Mission Module

H<sub>2</sub>O = Water Exploration Mission Module

PALC = Plants, Animals, and Life Cycles Mission Module

All = All current and future Zula activities and lesson plans

FK = Future Mission Exploration Modules

**Zula Modules address all the following standards and  
specific objectives as noted.**

**Pre-Kindergarten**

**Science**

Scientific Thinking and Inquiry

PK.1 Children develop inquiry process skills

- PK.1.1 Ask questions and make predictions. (All)
- PK.1.2 Explore cause and effect. (All)
- PK.1.3 Use tools to explore and investigate. (All)
- PK.1.4 Collect, organize, and record information. (All)
- PK.1.5 Discuss and draw conclusions and form generalizations. (All)
- PK.1.6 Communicate observations and findings through a variety of methods. (All)

Earth Science

PK.2 Children are familiar with the Earth and the natural world.

- PK.2.1 Observe and describe the natural world around them. (HB, PALC, FK)

- PK.2.2 Explore how their actions can cause changes in the environment. (FK)

### Physical Science

PK.3 Children are familiar with the physical properties and uses of materials and objects.

- PK.3.1 Explore the physical properties of objects and materials. (SM, H2O, FK)
- PK.3.2 Observe, describe, compare, and categorize objects on the basis of qualities such as weight, shape, size, color, and temperature. (SM, H2O, FK)
- PK.3.3 Experiment with how things move and change. (SM, FK)

### Life Science

PK.4 Children are familiar with living things (plants and animals) and what they need to survive.

- PK.4.1 Explore and observe changes in plants and animals, their life cycles, and habitats. (PALC, HB, FK)
- PK.4.2 Observe, describe, compare, and categorize plants and animals. (PALC, HB, FK)
- PK.4.3 Identify common needs of plants and animals. (PALC, HB, FK)

## **Language and Literacy**

### Listening and Speaking

LL.3.I.1 Children comprehend oral directions and explanations.

- LL.3.I.1.1 Follow directions of two or more steps. (All)
- LL.3.I.1.2 Demonstrate understanding of explanations. (All)

LL.3.I.3 Children ask questions for a variety of purposes and answer questions of peers and adults.

- LL.3.I.3.1 Ask questions to get information, ask for help, clarify something that is not understood. (All)
- LL.3.I.3.2 Answer questions with increasing detail. (All)

LL.3.I.4 Children acquire and use increasingly rich vocabulary and language for a variety of purposes (receptive and expressive vocabulary).

- LL.4.I.4.1 Use words to describe concrete objects, actions, and feelings. (All)
- LL.4.I.4.2 Integrate new vocabulary into conversations with peers and adults. (All)
- LL.4.I.4.5 Add descriptive words to basic subject, verb, object sentences. (All)
- LL.4.I.4.6 Ask questions to acquire new vocabulary. (All)

### Reading

LL.3.II.1 Children understand and value books and other print materials.

- LL.3.II.1.1 Listen to a wide variety of age appropriate literature read aloud. (All)
- LL.3.II.1.2. Initiate reading behaviors. (All)
- LL.3.II.1.3 Answers questions about stories and other print materials. (All)
- LL.3.II.1.4 Use books and other printed materials to find information. (All)

LL.3.II.3 Children demonstrate understanding of print concepts.

- LL.3.II.3.1 Know that spoken words can be written and read, and written words can be spoken aloud. (All)
- LL.3.II.3.2 Know that print is read from left to right in English and many other languages. (All)

- LL.3.II.5 Children use emerging reading skills to make meaning from print.
- LL.3.II.5.1 Use pictures as clues to the text. (All)

LL.3.II.6 Children comprehend stories and other texts.

- LL.3.II.6.1 Engage actively in read-aloud activities by asking questions, offering ideas, predicting or retelling important parts of a story or informational book. (All)
- LL.3.II.6.2 Retell story events in sequence. (All)

### Writing

LL.3.III.1 Children understand the purposes of writing.

- LL.3.III.1.1 Dictate ideas and stories. (All)
- LL.3.III.1.2 Write to convey meaning. (All)

LL.3.III.2 Children use emergent writing skills to make letters and words in many settings and for many purposes.

LL.3.III.2.2 Make clear attempts to convey a message in writing. (All)

## **Mathematical Thinking**

### Number Concepts

MT.4.1 Children demonstrate a beginning understanding of number and operations and how they relate to one another.

- MT.4.1.1 Use one-to-one correspondence. (SM, FK)
- MT.4.1.1 Count with understanding to at least 10. (SM, FK)
- MT.4.1.3 Use numbers to tell how many (number quantity). (SM, FK)
- MT.4.1.4 Use numbers and counting as a means to solve problems, predict, and measure quantities. (SM, FK)
- MT.4.1.5 Recognize and name numerals up to 10. (SM, FK)
- MT.4.1.6 Quickly recognize quantity of small groups of objects up to 4. (SM, FK)
- MT.4.1.7 Construct sets of a given number using concrete objects. (SM, FK)
- MT.4.1.9 Use ordinal numbers and positional words in everyday activities. (SM, FK)

### Patterns, Functions, and Algebra

MT.4.2 Children demonstrate a beginning understanding of patterns and use mathematical representations to describe patterns.

- MT.4.2.1 Sort and classify objects by more than one attribute – color, shape, size, number, etc. (SM, FK)
- MT.4.2.2 Recognize, describe, and copy simple patterns. (SM, FK)

### Measurement

MT.4.3 Children use a variety of non-standard and standard tools to measure and use appropriate language terms to describe size, length, weight, and volume.

- MT.4.3.1 Use non-standard and standard units to measure length, weight, and amount of content in familiar objects and to obtain information. (SM, FK)
- MT.4.3.2 Identify appropriate tools of measurement. (SM, FK)
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### Geometry and Spatial Sense

MT.4.4 Children begin to demonstrate an understanding of shape, size, position, direction, and movement, and they describe and classify real objects by shape.

- MT.4.4.1 Recognize, name, and describe simple two- and three-dimensional shapes. (SM, FK)

- MT.4.4.2 Match, sort and classify shapes. (SM, FK)
- MT.4.4.3 Put together and take apart shapes to make new shapes. (SM,FK)
- MT.4.4.4 Create shapes using concrete materials, e.g., straws. (SM, FK)
- MT.4.4.5 Describe, name, and interpret distance and position in space; understand and use positional words. (SM, FK)

#### Data Analysis and Probability

MT.4.5 Children question, collect, organize, represent, interpret, and analyze data to answer questions.

- MT.4.5.1 Graph real objects or pictures of objects (no more than three) as a way to organize information. (SM, FK)
- MT.4.5.2 Describe and analyze information from graphs. (SM, FK)

## **Kindergarten**

### **Science**

#### Scientific Thinking and Inquiry

K.1 Scientific progress is made by asking relevant questions and conducting careful investigations. Students should develop their own questions about objects or events they can observe, and then perform simple investigations.

- K.1.1 Describe objects accurately by drawing pictures. (All)
- K.1.2 Raise questions about the natural world and know that scientific inquiry can be used to seek answers to questions about it. (All)
- K.1.3 Gather information about objects through the use of one or more of the senses, such as sight smell, touch, and (under supervision) taste. (All)
- K.1.4 Use magnifiers to see small features of objects. (FK)
- K.1.5 Use a thermometer to measure temperature. (FK)

#### Earth Science

K.2 Objects in the sky move in predictable patterns.

- K.2.1 Recognize that day and night repeat in a predictable pattern. (FK)
- K.2.2 Recognize that seasons repeat in predictable patterns over time. (FK)
- K.2.3 Know the sun, moon, and stars can be observed at certain times of the day. (FK)

#### Physical Science

K.3. Objects can be described by their observable properties.

- K.3.1 Recognize that objects are made of materials with particular properties, such as clay, cloth, paper, metal, etc. (FK)
- K.3.2. Investigate and compare physical properties of objects (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, ability to float and sink). (H2O,FK)

K.4. The motion of objects can be observed and measured.

- K.4.1 Comparison of an object in relationship to another object. (SM, FR, FK)
- K.4.2 Explain that things move in many different ways, such as straight, zigzag, round and round, back and forth, and fast and slow. (SM, FR, FK)

#### Life Science

K.5. Different types of plants and animals inhabit the Earth.

- K.5.1 Know that there are many different types of plants and animals. (PALC, HB, FK)

- K.5.2 Describe that plants and animals are alike in some ways and different in others. (PALC, HB, FK)

## **Language and Literacy**

### Questioning, Listening and Contributing

**K.LD-Q.2.** Share information, opinions, and questions, speaking audibly in coherent sentences. (ALL)

**K.LD-Q.3.** Describe people, places, things, location, size, color, shape, and action. (All)

**K.LD-Q.4.** Use appropriate tone and inflection to express ideas, feelings, and needs. (All)

**K.LD-Q.5.** Follow directions that involve one- or two-step related sequences of action. (All)

### Oral Presentation

**K.LD-O.6.** Relate an experience or story in logical sequence. (All)

**K.LD-O.7.** Recite poems, rhymes, and songs, and retell stories in a logical sequence. (All)

### Vocabulary and Concept Development

**K.LD-V.8.** Determine what words mean from how they are used in a sentence, either heard or read. (All)

**K.LD-V.9.** Sort common objects into basic categories (e.g., colors, shapes, foods). (All)

**K.LD-V.10.** Describe common objects and events in both general and specific language. (All)

**K.LD-V.11.** Use language to express spatial (up, down) and temporal (before, after) relationships. (All)

### Print Concepts

**K.BR-PC.1.** Recognize that print represents spoken language and provides information or entertaining stories. (All)

**K.BR-PC.2.** Hold a book right side up and turn pages in the correct direction and order. (All)

**K.BR-PC.3.** Start at the top left of the printed page; track words from left to right, using return sweep; move from the top to the bottom of the page. (All)

**K.BR-PC.4.** Identify different parts of a book (e.g., front cover, back cover, title page) and the information they provide. (All)

**K.BR-PC.8.** Demonstrate the one-to-one correlation between a spoken word and a printed word. (All)

### Expository Text

**K.IT-E.1.** Identify the purpose for reading informational text. (All)

**K.IT-E.2.** Retell important facts from a text heard or read. (All)

**K.IT-E.3.** Make predictions about the content of text using prior knowledge and text features (title, captions, illustrations). (All)

### Document and Procedural Text

**K.IT-DP.4.** Follow a two- or three-step set of directions using picture clues. (All)

### Understanding Text

**K.LT-U.1.** Make predictions about the characters or setting for a story using illustrations and titles. (All)

**K.LT-U.2.** Retell story events in sequence. (All)

**K.LT-U.3.** Ask and answer questions about the important characters, settings, and events. (All)

### Research

**K.R.1.** Generate questions and gather information from several sources in the classroom, school, or public library. (All)

### Expository Writing

**K.W-E.3.** Draw pictures and/or use letters or phonetically spelled words to give others information. (All)

## **Mathematical Thinking**

### Number Sense

**K.NSO-N.1.** Count by ones to at least 20. (SM, H2O, FK)

**K.NSO-N.2.** Represent, name, and order a set of objects (up to 20). (SM, FK)

**K.NSO-N.3.** Match quantities up to at least 10 with numerals and words. (SM, FK)

**K.NSO-N.4.** Compare sets of up to at least 10 concrete objects using appropriate language (e.g., none, more than, fewer than, same number of, one more than). (SM, FK)

**K.NSO-N.5.** Identify positions of objects in sequences (e.g., first, second) up to fifth. (SM, FK)

### Computation and Operations

**K.NSO-C.8.** Use objects and drawings to model and solve related addition and subtraction problems to 10. (SM, FK)

### Estimation

**K.NSO-E.9.** Estimate the number of objects in a group and verify results. (SM, FK)

### Patterns, Relations and Algebra

**K.PRA.1.** Identify the attributes of objects as a foundation for sorting and classifying. (SM, FK)

**K.PRA.2.** Sort and classify objects by attributes and explain; identify objects that do not belong to a particular group. (SM, FK)

### Geometry

**K.G.1.** Name shapes of pattern blocks (e.g., triangle, square, circle). (SM, FK)

**K.G.2.** Describe attributes of two-dimensional shapes (e.g., number of sides, number of corners, size, roundness); sort these shapes. (SM, FK)

**K.G.3.** Identify and compare three-dimensional shapes. (SM, FK)

**K.G.4.** Identify positions of objects in space and use appropriate language to describe and compare their relative positions. (SM, FK)

### Measurement

**K.M.1.** Recognize and compare objects with respect to the attributes of length, volume/capacity, weight, area, and time using appropriate language. (SM, H2O, FK)

**K.M.2.** Make and use estimates of measurements from everyday experiences. (SM, H2O, FK)

**K.M.3.** Use standard and nonstandard units to measure length. (SM, FK)

### Data Analysis, Statistics, and Probability

**K.DASP.1.** Gather data about self and the environment to answer questions of interest to children; record the results using concrete graphs and simple picture graphs to display data. (SM, FK)

**K.DASP.2.** Describe relationships displayed in graphs, tables, or other representations. (All)

# Grade One

## Science

### Scientific Thinking and Inquiry

1.1 Scientific progress is made by asking relevant questions and conducting careful investigations. Students should develop their own questions and perform investigations.

- 1.1.1 Observe, describe, draw, and sort objects as a way of isolating and categorizing some of their properties. (SM, FK)
- 1.1.2 Investigate and make observations to seek answers to questions. (All)
- 1.1.3 Recognize and demonstrate what people can learn about plants and animals by observing them closely over a period of time. (PALC, HB, FK)
- 1.1.4 Use tools, such as rulers and magnifiers, to investigate the world and make observations. (All)
- 1.1.5 Measure the length of objects having straight edges in centimeters or nonstandard units to the nearest unit. (SM, FK)
- 1.1.6 Demonstrate that magnifiers help people see small features of objects. (FK)
- 1.1.7 Describe and compare objects in terms of number, shape, texture, size, mass, color, and motion. (SM, H2O, FR, FK)
- 1.1.8 Write brief informational descriptions of a real object, person, place, or event using information from the observations. (All)

### Earth Science

1.2 The Earth is composed of land, air, and water.

- 1.2.1 Recognize and explain that water, rocks, soil, and living organisms are found on the Earth's surface. (FK)
- 1.2.2 Investigate and explain that air is a mixture of different gases that surrounds us and takes up space, and whose movement we feel as wind. (FK)
- 1.2.3 Observe and measure that the sun supplies heat and light to the Earth and is necessary for most life. (LT, FK)

### Physical Science

1.3 The motion of objects can be observed, measured, and changed.

- 1.3.1 Observe and describe that the way to make something move (faster or slower or in a different direction) is by giving it a push or pull, which is called a force. (FR, FK)
- 1.3.2 Explain that the greater the applied force, the greater the change in the motion of the object. (FR, FK)
- 1.3.3 Demonstrate and observe that magnets supply a force that can be used to make some things move without touching them. (FK)
- 1.3.4 Recognize and demonstrate how things near Earth fall to the ground unless something holds them up. (FK)

### Life Science

1.4 Different types of plant and animals inhabit the Earth.

- 1.4.1 Explain that most living things need food, water, and air. (PALC, HB, FK)
- 1.4.2 Observe and describe that there can be differences, such as size or markings, among the individuals within one particular plant or animal group. Variation is a normal characteristic of many kinds of living things. (FK)
- 1.4.3 Observe and explain that animals eat plants and/or other animals for food. (PALC, HB, FK)

- 1.4.4 Recognize that animals (including humans) and plants are living things that grow, reproduce, and need food, air, and water. (PALC, HB, FK)
- 1.4.5 Identify the external features that local plants and animals have that enable them to survive in their environment. (PALC, HB, FK)

## **Language and Literacy**

### Questioning, Listening and Contributing

**1.LD-Q.3.** Describe familiar objects, people, and events and their attributes with specific words and phrases. (All)

**1.LD-Q.4.** Give, restate, and follow oral directions that involve two unrelated sequences of action. (All)

### Oral Presentation

**1.LD-O.5.** Retell stories using standard grammar rules, sequencing story events by answering who, what, where, when, how, and why questions. (All)

### Vocabulary and Concept Development

**1.LD-V.8.** Classify common words into conceptual categories (e.g., animals, foods, opposites). (All)

**1.LD-V.10.** Determine meanings of words by using a beginning dictionary. (All)

### Print Concepts

**1.BR-PC.3.** Identify the author and title of a book, and use a book's table of contents. (All)

**1.BR-PC.4.** Know the order of the letters of the alphabet. (All)

### Expository Text

**1.IT-E.1.** Identify the topic of text heard or read. (All)

**1.IT-E.2.** Respond appropriately to questions based on facts in text heard or read. (All)

**1.IT-E.3.** Make predictions about the content using text features (e.g., title, table of contents, headings, bold print). (All)

### Document and Procedural Text

**1.IT-DP.4.** Follow a set of written multistep directions with picture cues to assist. (All)

### Understanding Text

**1.LT-U.1.** Make predictions about what will happen next in a story and explain why the predictions were or were not confirmed. (All)

**1.LT-U.2.** Sequence a series of events in a literary selection heard or read. (All)

### Research

**1.R.1.** Generate questions and gather information from several sources in the classroom, school, or public library. (All)

### Media

**1.M.1.** Identify techniques used in television to present commercials and other information (animation, close-ups, sound effects, music, graphics). (All)

## **Mathematical Thinking**

### Number Sense

**1.NSO-N.1.** Count, read, and write whole numbers to 110 and relate them to the quantities they represent. (SM, H2O, FK)

### Computation and Operations

**1.NSO-C.9.** Demonstrate an understanding of various meanings of addition and subtraction, such as addition as combination (i.e., plus, combined with, more), subtraction as comparison (i.e., how much less, how much more), equalizing (i.e., how many more are needed to make these equal), and separation (i.e., how much remaining). (SM, H2O, FK)

### Geometry

**1.G.1.** Describe attributes and parts of two- and three-dimensional shapes (e.g., length of sides and number of corners, edges, faces, and sides). (SM, FK)

**1.G.4.** Combine shapes and take them apart to make other shapes. (SM, FK)

**1.G.5.** Arrange and describe objects in space by proximity, position, and direction (e.g., near, far, below, above, up, down, behind, in front of, next to, left or right of). (SM, FK)

### Measurement

**1.M.1.** Compare the length, weight, and volume of two or more objects by using direct comparison. (SM, H2O, FK)

**1.M.2.** Make and use estimates of measurement, including time and weight. (SM, H2O, FK)

**1.M.3.** Measure the length of objects by repeating a nonstandard or standard unit. (SM, FK)

### Data Analysis, Statistics, and Probability

**1.DASP.1.** Use surveys and observations to gather data about themselves and their surroundings. (All)

**1.DASP.2.** Represent and compare data (e.g., largest, smallest, most often, least often) using tally charts, pictures, and bar graphs. (SM, H2O, FK)

**1.DASP.3.** Ask and answer simple questions related to data representations. (All)

## **Grade Two**

### **Science**

#### Scientific Thinking and Inquiry

2.1 Scientific progress is made by asking relevant questions and conducting careful investigations. Students should develop their own questions and perform investigations.

- 2.1.1 Describe objects as accurately as possible and compare observations with those made and reported by others. (All)
- 2.1.2 Make new observations when there is disagreement among observers or among successive observations. (All)
- 2.1.3 Demonstrate the ability to work with a team, but still reach and communicate one's own conclusions about findings. (All)
- 2.1.4 Use tools, such as thermometers, magnifiers, rulers, or balances, to investigate, observe, measure, design, and build things. (All)
- 2.1.5 Measure objects in standard units and include units in reports of measurements with simple calculations. (SM, H2O, FK)

- 2.1.6 Draw pictures and write brief, coherent descriptions that correctly portray key features of an object. (All)
- 2.1.7 Recognize and explain that people are more likely to believe ideas when they are supported by observations. (All)
- 2.1.8 Explain that some events can be predicted with near certainty, such as a sunrise and sunset, and some cannot, such as storms. (FK)
- 2.1.9 Explain that sometimes a person can make general discoveries about a group of objects or organisms, such as insects, plants, or rocks, by studying just a few of them, even though the group may vary in details. Understand that this is not inconsistent with the existence of biological variation. (FK)
- 2.1.10 Make simple line and bar graphs. (SM, FK)

### Science and Technology

2.2 Although each of the human enterprises of science and technology has a character and history of its own, each is dependent on and reinforces the other.

- 2.2.1 Give examples of how our lives would be different without such technologies as automobiles, computers, and electric motors. (SM, FK)

### Earth Science

2.3 Weather can be observed, measured, and described.

- 2.3.1 Explain how weather patterns occur continually on Earth. (FK)
- 2.3.2 Explain that air temperature, humidity, wind speed and direction, and precipitation make up the weather in a particular place and time. (FK)
- 2.3.3 Investigate and compare weather changes from day to day and place to place. (FK)
- 2.3.4 Describe and chart that the temperature and amounts of rain or snow vary in the same months in each place every year. (FK)
- 2.3.5 Explain the difference between weather and climate. (FK)
- 2.3.6 Describe the differences among the various forms of precipitation (rain, snow, sleet, and hail). (FK)

### Physical Science

2.5 Materials come in different states, including solids, liquids, and gases.

- 2.5.1 Recognize that solids have a definite shape; liquids and gases take the shape of their containers. (MA)
- 2.5.2 Recognize that materials can be manipulated to change some of their properties (e.g., cooling or heating). (MA)
- 2.5.3 Investigate and explain that water, like many other substances, can be a liquid, a solid, or a gas, and it can transform from one state to another. (MA)
- 2.4.4 Explain how water can be transformed from one state to another by adding or taking away heat energy. (MA)
- 2.5.5 Describe when water is frozen into ice and the ice is allowed to melt, the amount of water is the same as it was at the beginning. (MA)
- 2.5.6 Investigate and explain how water left in an open container seems to disappear into the air (evaporation), but water in a small closed container does not disappear. (MA)

### Life Science

2.6 Plants and animals have structures that serve different functions in growth, survival, and reproduction

- 2.6.1 Observe and identify the visible, external features of plants and animals and describe how these features help them live in different environments. (PALC, HB, FK)

- 2.6.2 Observe and cite examples of how some animals and plants change their appearance as the seasons change. (FK)

2.7 Living things depend on one another and their environment for survival.

- 2.7.1 Observe and describe how animals may use plants, or even other animals, for shelter and nesting. (PALC, HB, FK)
- 2.7.2 Explain that food for almost all kinds of animals can be traced through a food web back to green plants. (HB, FK)
- 2.7.3 Observe and explain that plants and animals both need to take in water, animals need to take in food, and green plants need light. (PALC, HB, FK)
- 2.7.4 Recognize and explain that materials in nature, such as grass, twigs, sticks, and leaves, can be recycled and used again, sometimes in different forms, as birds do in making their nests. (HB, FK)
- 2.7.5 Observe and describe how the local environment (water, dry land) supports a wide variety of plants and animals. (PALC, HB, FK)
- 2.7.6 Cite examples of how animals and plants sometimes cause changes in their surroundings. While some of these changes are easy to see, some are very small and hard to recognize, even though they can be important. (FK)
- 2.7.8 Recognize that most microorganisms do not cause disease and many are beneficial. (FK)

2.8 Many different types of plants and animals inhabit the Earth.

- 2.8.1 Recognize and explain that living things are found almost everywhere in the world in habitats such as the oceans, rivers, rainforests, mountain ranges, arctic tundra, farms, cities, and other environments. Recognize that some habitats are extreme, such as the very deepest parts of the oceans or inside hot springs. (PALC, HB, FK)
- 2.8.2 Recognize that the numbers and types of living things can vary greatly from place to place. (HB, FK)
- 2.8.3 Give examples of the many kinds of organisms that lived in the past that are now extinct (have died out), and explain how these organisms were similar to, and other very different from, organisms that are alive today. (FK)
- 2.8.4 Describe that plants and animals in our city have habitats that are essential to their survival. (FK)

## **Language and Literacy**

### Questioning, Listening and Contributing

**2.LD-Q.3.** Provide descriptions with careful attention to sensory detail. (All)

**2.LD-Q.4.** Ask questions to clarify confusion about a topic. (All)

**2.LD-Q.5.** Give, restate, and follow oral directions that involve a series of unrelated sequences of action. (All)

### Oral Presentation

**2.LD-O.6.** Relate an important event in life or describe personal interests, maintaining focus on the topic and speaking clearly at an understandable pace. (All)

### Vocabulary and Concept Development

**2.LD-V.12.** Determine meanings and uses of words (parts of speech) with the aid of a beginning dictionary. (All)

### Expository Text

**2.IT-E.1.** Identify the purpose and restate important facts from a text heard or read. (All)

- 2.IT-E.2.** Answer questions about text heard or read. (All)  
**2.IT-E.3.** Make predictions about the content using text features (e.g., title, table of contents, headings, captions, key words) and explain why the predictions were or were not confirmed. (All)

#### Document and Procedural Text

- 2.IT-DP.4.** Follow a set of written multistep directions. (All)

#### Understanding Text

- 2.LT-U.1.** Identify major and minor characters in several stories. (All)

#### Connections

- 2.LT-C.4.** Make relevant connections (e.g., relationships, cause/effect, comparisons) between earlier events and later events in text. (All)

#### Research

- 2.R.1.** Generate questions and gather information from several sources in the classroom, school, or public library. (All)

#### Expository Writing

- 2.W-E.2.** Write or dictate letters or short accounts of personal experiences in a logical order. (All)

### **Mathematical Thinking**

#### Number Sense

- 2.NSO-N.1.** Count, read, and write whole numbers to 1,000 and relate them to the quantities they represent. (SM, H2O, FK)

#### Geometry

- 2.G.1.** Identify, describe, draw, and compare two-dimensional shapes, including both polygonal (up to six sides) and curved figures such as circles. (SM, FK)

- 2.G.2.** Classify familiar two- and three-dimensional shapes by common attributes such as shape of curved and straight lines, number and shape of faces, edges, and vertices. (SM, FK)

#### Measurement

- 2.M.1.** Measure and compare the length of common objects using metric and U.S. customary units to the nearest centimeter or inch. (SM, FK)

- 2.M.2.** Make and use estimates of measurement including time, volume, weight, area, and perimeter. (SM, H2O, FK)

- 2.M.3.** Select and correctly use the appropriate measurement tool (ruler, balance scale, thermometer). (All)

#### Data Analysis, Statistics, and Probability

- 2.DASP.1.** Use interviews, surveys, and observations to gather data about themselves and their surroundings. (All)

- 2.DASP.2.** Organize, classify, and represent data using tallies, charts, tables, bar graphs, pictographs, and Venn diagrams; interpret the representations. (All)

- 2.DASP.3.** Formulate inferences (draw conclusions) and make educated guesses (conjectures) about a situation based on information gained from data. (All)

## Grade Three

### Science

#### Scientific Thinking and Inquiry

3.1 Scientific progress is made by asking relevant questions and conducting careful investigations. As a basis for understanding this concept, and to address the content in this grade, students should develop their own questions and perform investigations.

- 3.1.1 Recognize and explain that when a scientific investigation is repeated, carefully and under the same conditions, a similar (but not necessarily identical) result is expected. (All)
- 3.1.2 Participate in different types of guided scientific investigations, such as observing objects and events and collecting specimens for analysis including longer-term investigations that take place over several days, weeks, or months. (All)
- 3.1.3 Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers. (All)
- 3.1.4 Discuss the results of investigations and consider the explanations of others. (All)
- 3.1.5 Demonstrate the ability to work cooperatively while respecting the ideas of others and communicating one's own conclusions about findings. (All)
- 3.1.6 Measure and mix dry and liquid materials in prescribed amounts, following reasonable safety precautions. (MSCR, H2O)
- 3.1.7 Keep a notebook that describes ongoing observations and that is still understandable weeks or months later. (All)
- 3.1.8 Appropriately use simple tools – such as clamps, rulers, scissors, and hand lenses, as well as other technology – to help solve problems. (All)
- 3.1.9 Make sketches and write descriptions to aid in explaining procedures or ideas. (All)
- 3.1.10 Ask, “How do you know?” in appropriate situations, and attempt reasonable answers when others ask the same question. (All)
- 3.1.11 Explain that one way to make sense of something is to think of how it compares to something more familiar. (All)

#### Science and Technology

3.2 Although each of the human enterprises of science and technology has a character and history of its own, each is dependent on and reinforces the other.

- 3.2.3 Construct something to perform a task, by using commonly available materials such as paper, cardboard, wood, plastic, or metal, or by using existing objects. (H2O, FK)

#### Earth Science

3.3 Objects in the Sky move in regular and predictable patterns.

- 3.3.1 Observe and describe the apparent motion of the sun and moon over a time span of one day. (LT, FK)
- 3.3.2 Using a globe demonstrate how the Earth rotates on its axis every 24 hours, producing the night-and-day cycle. (FK)
- 3.3.3 Observe and describe how there are more stars in the sky than anyone can easily count, but they are not spaced or spread evenly. (FK)
- 3.3.4 Observe and describe that the sun can be seen only in the daytime; the moon can be seen sometimes at night and sometimes during the day. (FK)
- 3.3.5 Observe and describe the changes that occur in the observable shape of the moon over the course of a month (i.e., the moon looks a little different every day, but looks the same again about every four weeks).

- 3.3.6 Demonstrate and describe that sunlight can be blocked to create shadows, and the direction and length of shadows vary at different times of day. (LT)

### Physical Science

3.4 Energy takes many forms and has many sources.

- 3.4.1 Recognize that energy is needed to carry out almost any kind of change. (FK)
- 3.4.2 Describe basic forms of energy, including mechanical (kinetic and potential), light, sound, heat, chemical, nuclear, and electrical. (FK)
- 3.4.3 Recognize that energy can be transformed from one form to another. (FK)
- 3.4.4 Describe how people use electricity or the chemical energy from burning fuels, such as wood, oil, coal, or natural gas, to obtain heat energy for doing tasks, such as cooking their food and warming their houses. (FK)

### Life Science

3.5 Plants and animals can be classified according to the physical characteristics that they share.

- 3.5.1 Demonstrate that a great variety of living things can be sorted into groups in many ways using various properties, such as how they look, where they live, and how they act, in order to decide which things belong to which group. (PALC, HB, FK)
- 3.5.2 Explain that characteristics used for classification depend on the purpose of the grouping. (HB, FK)

3.6 Plants and animals have predictable life cycles.

- 3.6.1 Recognize that plants and animals go through predictable life cycles that include birth, growth, development, reproduction, and death. (PALC, FK)
- 3.6.2 Describe the life cycle of some living things, such as the frog and butterfly, including how they go through striking changes of body shape and function as they go through metamorphosis. (PALC, FK)
- Compare and contrast how life cycles vary for different living things. (PALC, FK)

## **Language and Literacy**

### Questioning, Listening and Contributing

**3.LD-Q.2.** Retell and paraphrase information shared orally by others. (All)

**3.LD-Q.3.** Respond to questions with appropriate elaboration and detail (e.g., explain, amplify, expand). (All)

### Expository Text

**3.IT-E.1.** Identify the purpose or main point and supporting details in text. (All)

**3.IT-E.1.** Identify the purpose or main point and supporting details in text. (All)

**3.IT-E.3.** Distinguish cause from effect. (All)

**3.IT-E.4.** Identify and use knowledge of common textual features (e.g., title, headings, table of contents, glossary, captions) to make predictions about content. (All)

**3.IT-E.5.** Form questions about text and locate facts in response to those questions. (All)

### Document and Procedural Text

**3.IT-DP.6.** Locate specific information in graphic representations (e.g., charts, maps, diagrams, illustrations, tables, timelines) of text. (All)

**3.IT-DP.7.** Use information from text and text features to determine the sequence of activities needed to carry out a procedure. (All)

### Understanding Text

**3.LT-U.1.** Identify chapter titles and illustrations as parts of a text that help the reader predict what will happen next in a story. (All)

**3.LT-U.3.** Form questions about a text and locate facts/details to answer those questions. (All)

**3.LT-U.4.** Use story details and prior knowledge to understand ideas that are not directly stated in the text. (All)

### Research

**3.R.1.** Identify and apply steps in conducting and reporting research. (All)

- Define the need for information and formulate open-ended research questions.
- Initiate a plan for searching for information.
- Locate resources.
- Use and communicate the information.

### Media

**3.M.1.** Identify techniques used in television (sound effects, music, graphics, close-ups), and use knowledge of these techniques to distinguish between commercials and other information. (All)

## **Mathematical Thinking**

### Number Sense

**3.NSO-N.2.** Represent, compare, and order numbers to 10,000 using various forms, including expanded notation and written out in words. (SM, H2O, FK)

### Geometry

**3.G.1.** Compare and analyze attributes and other features (e.g., number and shape of sides, faces, corners, right angles) of two-dimensional geometric shapes, especially the attributes of triangles (isosceles, equilateral, right) and quadrilaterals (rectangle, square). (SM, FK)

**3.G.2.** Describe, model, draw, compare, and classify three-dimensional and two-dimensional shapes, especially circles and polygons (e.g., triangles and quadrilaterals). (SM, FK)

### Measurement

**3.M.1.** Demonstrate an understanding of such attributes as length, area, and weight; select the appropriate type of unit for measuring each attribute using both the U.S. customary and metric systems. (SM, H2O, FK)

### Data Analysis, Statistics, and Probability

**3.DASP.1.** Collect and organize data using observations, measurements, surveys, or experiments. (All)

**3.DASP.3.** Record all possible outcomes for a simple event using concrete objects. (All)