



**Course Description**  
**K–2 Science**  
**Florida**  
**2016-2017**



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## Kindergarten Course Description

### Big Idea 1: The Practice of Science

#### Topic 1: Science Practices

**Description:** [SC.K.N.1.1; SC.K.N.1.2; SC.K.N.1.3; SC.K.N.1.4; SC.K.N.1.5] In this topic students will recognize the importance of making careful observations using the five senses, and collecting and recording the information for learning Science.

**Instruction Module** **See, Feel, and Hear:** In this Instruction Module, students are introduced to energy forms such as light, heat, and sound, Students recognize that these energy forms are observed through the senses of sight, touch, and hearing and identify some of the sources of these energy forms.

**Instruction Module** **Describing Rocks:** In this Instruction Module, students observe that rocks come in different shapes, sizes, colors, and textures. By comparing the characteristics of different rocks, they learn to sort them into the various categories. Students also understand the different uses of rocks and soils by learning about the numerous ways in which rocks help us in our daily lives.

**Instruction Module** **Fruit from a Seed:** In this Instruction Module, students observe the changes that a plant undergoes in its life cycle. They will identify a seed, a seedling, a flower, the fruit, the leaf, the stem, and the root of a plant. Students also understand that a plant needs sunlight, food, soil, and air to survive and grow. By comparing the adult plant with the young plant, students learn to identify the similarities and differences between the two.

**Glossary** **See, Feel, and Hear**  
**Describing Rocks**  
**Fruit from a Seed**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Activities** Expository - Patterns and Properties

**Quiz** See, Feel, and Hear  
Describing Rocks  
Fruit from a Seed

**Teacher Resources** See, Feel, and Hear  
Describing Rocks  
Fruit from a Seed



## Big Idea 5: Earth in Space and Time

### Topic 1: Repeating Patterns and Objects in the Sky

**Description:** [SC.K.E.5.2, SC.K.E.5.3; SC.K.E.5.4; SC.K.E.5.5; SC.K.E.5.6] In this topic students will learn to recognize the repeating patterns of day and night, the apparent movement of the Sun across the sky, the phases of the Moon, and seasonal changes, and describe other objects that can be observed in the sky.

**Instruction Module** **Daily Changes and Repeating Patterns:** In this Instruction Module, students identify events that have repeating patterns such as changing seasons of the year, changes of objects in the sky, such as the Sun and Moon that cause day and night, and changes in the shape of the moon.

**Instruction Module** **Sky World:** In this Instruction Module, students identify the changes that occur in the sky through the day. They observe the changes that occur during sunset and sunrise. They also observe how the sky can change from clear to cloudy. They learn about stars and the phases of the Moon.

**Glossary** **Daily Changes and Repeating Patterns**  
**Sky World**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivity** **Model-making:** In this interactivity, students trace the apparent movement of the Sun during a single day. Students mark the position of the Sun through the day, with respect to a fixed point.

**Activities** Expository - Daily Changes and Repeating Patterns  
Expository - Observing Objects in the Sky

**Quiz** Daily Changes and Repeating Patterns  
Sky World

**Teacher Resources** Daily Changes and Repeating Patterns  
Sky World



## Big Idea 8: Properties of Matter

### Topic 1: Describing and Sorting Objects

**Description:** [SC.K.P.8.1] In this topic students will learn that objects can be described, compared, and sorted by observable properties such as size, shape, mass, and texture, and recognize that matter can be solid, liquid, or gas.

**Instruction Module** **Describing Objects:** In this Instruction Module, students learn that objects can be described, compared with each other, and sorted based on their size, shape, and mass. They learn to describe objects as heavy, light, big, and small. They are introduced to the basic concepts of mass and volume. The students also learn that objects can change properties by heating and cooling. They can freeze, melt, and evaporate. They can be solid, liquid, or gas.

**Glossaries** **Describing Objects**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Quiz** Describing Objects

**Teacher Resources** Describing Objects

## Big Idea 9: Changes in Matter

### Topic 1: Changes in Matter

**Description:** [SC.K.P.9.1] In this topic students will learn to recognize and describe the changes in physical properties of matter caused by cutting, folding, or sanding and compare them with the changes caused by heating or cooling.

**Instruction Module** **Changes in Matter:** In this Instruction Module, students are presented with examples to demonstrate that cutting, folding, sanding, freezing, or melting changes the physical properties of objects but does not change the matter that makes up the object. They observe and compare changes caused by heating and cooling. They recognize that heating can sometimes change the matter that the object is made of.



<b>Glossaries</b>	<b>Changes in Matter</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
<b>Quiz</b>	Changes in Matter
<b>Teacher Resources</b>	Changes in Matter

## Big Idea 10: Forms of Energy

### Topic 1: See, Feel, and Hear

**Description:** [SC.K.P.10.1; SC.K.L.14.1] In this topic students will learn about energy forms such as light, heat, and sound, understand that these energy forms can be sensed by our sense organs, and recognize that things that make sound vibrate.

**Instruction Module** **See, Feel, and Hear:** In this Instruction Module, students are introduced to energy forms such as light, heat, and sound. Students recognize that these energy forms are observed through the senses of sight, touch, and hearing and identify some of the sources of these energy forms.

<b>Glossaries</b>	<b>See, Feel, and Hear</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
<b>Quiz</b>	See, Feel, and Hear
<b>Teacher Resources</b>	See, Feel, and Hear

## Big Idea 12: Motion of Objects

### Topic 1: Moving Objects

**Description:** [SC.K.P.12.1] In this topic students will learn to observe and describe the different ways in which objects can move.





<b>Instruction Module</b>	<b>Moving Objects:</b> In this Instruction Module, students are introduced to the different ways in which objects move. They observe objects that move straight, round and round, up and down, and in a zigzag manner. They compare movements that are fast with those that are slow.
<b>Glossaries</b>	<b>Moving Objects</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
<b>Quiz</b>	Moving Objects
<b>Teacher Resources</b>	Moving Objects

## Big Idea 13: Forces and Changes in Motion

### Topic 1: Pushes, Pulls, and Magnets

**Description:** [SC.K.P.13.1] In this topic students will learn how pushes and pulls can change the motion of an object and recognize that magnets can exert force.

<b>Instruction Module</b>	<b>Attractions:</b> In this Instruction Module, students are introduced to magnets. They recognize that magnets attract some objects such as refrigerator doors and paper clips that contain iron. They learn that magnets are of different shapes and sizes and have two ends which are usually colored differently; different colored ends (unlike poles) attract each other and similar colored ends (like poles) repel each other.
<b>Instruction Module</b>	<b>Magnets - Push or Pull?:</b> In this Instruction Module, students recognize that force and motion are part of everyday life and magnets can exert force. They recognize that magnets have two poles and that opposite poles attract each other while similar poles repel each other. They learn that magnets can be used to push or pull objects.
<b>Glossaries</b>	<b>Attractions</b> <b>Magnets - Push or Pull?</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
<b>Quiz</b>	Attractions Magnets - Push or Pull?
<b>Teacher Resources</b>	Attractions



## Big Idea 14: Organization and Development of Living Organisms

### Topic 1: See, Feel, and Hear

**Description:** [SC.K.P.10.1; SC.K.L.14.1] In this topic students will learn about energy forms such as light, heat, and sound, understand that these energy forms can be sensed by our sense organs, and recognize that things that make sound vibrate.

**Instruction Module**      **See, Feel, and Hear:** In this Instruction Module, students are introduced to energy forms such as light, heat, and sound, Students recognize that these energy forms are observed through the senses of sight, touch, and hearing and identify some of the sources of these energy forms.

**Glossaries**      **See, Feel, and Hear**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Quiz**      See, Feel, and Hear

**Teacher Resources**      See, Feel, and Hear

### Topic 2: Plants and Animals

**Description:** [SC.K.L.14.3] In this topic students observe and describe plants and animals.

**Instruction Module**      **Plants and Animals:** In this Instruction Module, students learn that plants and animals have physical characteristics that help them survive in their environment. They learn to identify different parts of a plant such as the roots, stem and leaves and learn about their functions. They learn that physical features of plants such as leaf shape can be used to sort plants into different groups. They also learn that physical characteristics of animals such as body coverings can be used to sort animals into different groups.



<b>Glossaries</b>	The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
<b>Quiz</b>	Plants and Animals
<b>Teacher Resources</b>	Plants and Animals



## Grade 1 Course Description

### Big Idea 1 : The Practice of Science

#### Topic 1: Science Processes

**Description:** [SC.1.N.1.1; SC.1.N.1.2; SC.1.N.1.3; SC.1.N.1.4] In this topic students will learn the importance of asking questions, making observations and comparing them, keeping records.

#### Instruction Module

**Sorting and Changing Matter:** In this Instruction Module, students learn to sort matter by recognizing properties such as size, mass, color, and texture. Students also observe the changes that occur in matter when heated or cooled: melting and freezing.

#### Instruction Module

**Sky World:** In this Instruction Module, students identify the changes that occur in the sky through the day. They observe the changes that occur during sunset and sunrise. They also observe how the sky can change from clear to cloudy. They learn about stars and the phases of the Moon.

#### Instruction Module

**Parts of a Plant:** In this Instruction Module, students learn to identify the various parts of a plant, including the root, stem, leaf, flower, fruit, and seed. Students also learn how each plant part helps the plant by performing individual functions.

#### Glossaries

#### Sorting and Changing Matter

#### Sky World

#### Parts of a Plant

The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

#### Interactivities

**Sort Them:** In this interactivity, students classify objects based on their physical properties of mass, size, shape, and color.

**Model-making:** In this interactivity, students trace the apparent movement of the Sun during a single day. Students mark the position of the Sun through the day, with respect to a fixed point.

**Backyard Bugs:** In this Interactivity, students learn the positions of the various plant parts by placing backyard bugs on the different parts of plants. Students also learn how each plant part helps the bugs in different ways, be it providing them with shelter or food.



<b>Activities</b>	Expository - Observing Objects in the Sky Expository - Parts of a Plant
<b>Quiz</b>	Sorting and Changing Matter Sky World Parts of a Plant
<b>Teacher Resources</b>	Sorting and Changing Matter Sky World Parts of a Plant

## Big Idea 5: Earth in Space and Time

### Topic 1: Day and Night, and Seasons

**Description:** [SC.1.E.5.1] In this topic students will recognize the objects visible in the sky during the day and during night including the Sun, Moon, and stars, and recognize the cycle of seasons.

**Instruction Module** **Day and Night, and Seasons:** In this Instruction Module students learn that there are different objects visible in the sky during the day and different objects visible at night. They observe the changes in the shape of objects in the sky during the day and during the night. They learn to differentiate seasons of the year based on activities, surroundings, and temperature.

**Glossaries** **Day and Night, and Seasons:** The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Activities** Expository - Day and Night, and Seasons

**Quiz** Day and Night, and Seasons

**Teacher Resources** Day and Night, and Seasons



## Big Idea 6: Earth Structures

### Topic 1: Rocks, Soil, and Water

**Description:** [SC.1.E.6.1; SC.1.E.6.2] In this topic students will learn to describe rocks, soil, and water that cover Earth's surface, and recognize how they are useful to humans.

#### Instruction Module

**Using Rocks, Soil, and Water:** In this Instruction Module, students will learn to identify and compare the color, composition and the different layers of soil and sort components of soil such as sand, silt and clay based on size, and texture. They also learn to identify different sources of water such as lakes, streams, rivers and oceans. Identify useful products formed from rocks, soil and water.

#### Instruction Module

**Describing Water:** In this Instruction Module, students observe and describe physical properties of water including color and clarity. They learn that water is found in different forms such as clouds, rain, snow and ice. They also identify natural sources of water such as lakes, rivers and oceans and classify them as freshwater and salt water. Students recognize that water is very useful and is used for a variety of purposes such as drinking, washing, cooking, cleaning and farming.

#### Glossaries

##### Describing Water

##### Using Rocks, Soil, and Water

The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

#### Interactivities

**Rock, Soil, and Water Products:** In the Interactive section of the module, students Identify and group objects as water product, soil product and rock product.

#### Quiz

Using Rocks, Soil, and Water  
Describing Water

#### Teacher Resources

Using Rocks, Soil, and Water  
Describing Water

### Topic 2: Earth's Changing Surface

**Description:** [SC.1.E.6.3] In this topic students learn how some changes to Earth's surface happen slowly and some happen fast.



<b>Instruction Module</b>	<b>Soil Formation:</b> In this Instruction Module, students learn that soil is formed by the weathering of rock and is made up of sand, silt, clay and humus. They learn that weathering is a slow process and can be caused by various factors such as differences in temperatures and the forces of air, water, and ice.
<b>Instruction Module</b>	<b>Earth's Ever Changing Surface:</b> In this Instruction Module, students recognize how processes such as volcanic eruptions, earthquakes, and landslides can cause rapid changes to Earth's surface.
<b>Interactivities</b>	<b>Earth's Ever-Changing Surface:</b> In this interactivity, students are presented with “before” and “after” pictures of landforms changed by earthquakes, volcanoes, and glaciers. The students identify the natural forces that changed them.
<b>Journals</b>	Journal - Earth's Ever-Changing Surface
<b>Activities</b>	Activity - Earth's Changing Surface: Changes that Occur Quickly
<b>Quiz</b>	Soil Formation Earth's Ever-Changing Surface

## Big Idea 8: Properties of Matter

### Topic 1: Sorting and Changing Matter

**Description:** [SC.1.P.8.1] In this topic students will learn that matter has mass and occupies space, and that matter can be sorted based on its properties such as size, shape, color, mass, and texture.

<b>Instruction Module</b>	<b>Sorting and Changing Matter:</b> In this Instruction Module, students learn to sort matter by recognizing properties such as size, mass, color, and texture. Students also observe the changes that occur in matter when heated or cooled: melting and freezing.
<b>Glossaries</b>	<b>Sorting and Changing Matter</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
<b>Interactivities</b>	<b>Sort Them!:</b> In this interactivity, students classify objects based on their physical properties of mass, size, shape, and color.
<b>Quiz</b>	Sorting and Changing Matter



## Big Idea 12: Motion of Objects

### Topic 1: How Do They Move?

**Description:** [SC.1.P.12.1] In this topic students will learn to describe the different ways in which an object can move and identify the changes in location of a moving object.

#### Instruction Module

**How Do They Move?:** In this Instruction Module, students observe various moving objects and identify how they are moving. They recognize the different ways in which objects can move such as, in a straight line, up and down, back and forth, round and round, and fast and slow. They learn to describe the change in the location of an object using words such as closer to, nearer to, and farther from.

#### Glossaries

##### How Do They Move?

The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

#### Interactivities

**Moving Animals:** In this Interactivity students observe animals moving in different ways and identify the words that describe the movement of each animal.

#### Quiz

How Do They Move?

Teacher Resources    How Do They Move?

## Big Idea 13: Forces and Changes in Motion

### Topic 1: Pushes or Pulls

**Description:** [SC.1.P.13.1] In this topic students will learn how pushes and pulls can change the motion of an object, and recognize how the force exerted by magnets can be used to push or pull.

#### Instruction Module

**Magnets – Push or Pull?:** In this Instruction Module, students recognize that force and motion are part of everyday life and magnets can exert force. They recognize that magnets have two poles and that opposite poles attract each other while similar poles repel each other. They learn that magnets can be used to push or pull objects.





<b>Glossaries</b>	<p><b>Pushes or Pulls</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.</p>
<b>Interactivities</b>	<p><b>Magnets – Push or Pull?:</b> In this Interactivity, students identify objects that are attracted or "pulled" by magnets. They “use” a magnet to pick up the magnetic objects. Then, they use a magnet to attract and repel or push other magnets in order to “collect” them.</p>
<b>Quiz</b>	Magnets – Push or Pull?
<b>Teacher Resources</b>	Magnets – Push or Pull?

## Big Idea 14: Organization and Development of Living Organisms

### Topic 1: Living Things and Their Environment

**Description:** [SC.1.L.14.1] In this topic students will observe and recognize how external characteristics of living things are related to its environment.

#### Instruction Module

**Animals and Their Environments:** In this Instruction Module, students learn that animals have unique external features, which help them survive in a particular environment. They learn to identify the external features that help each animal survive in its environment. Students also learn that different parts of the world have different environments and the animal’s features are suited to that specific environment.

<b>Glossaries</b>	<p><b>Animals and Their Environments</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.</p>
<b>Interactivities</b>	<p><b>What Helps Me Survive?:</b> In this Interactivity, students identify the external features that help an animal survive in its environment.</p>
<b>Activities</b>	Expository - Entomologists-Scientists Who Study Insects



Quiz Animals and Their Environments

Teacher Resources Animals and Their Environments

## Topic 2: Parts of a Plant

**Description:** [SC.1.L.14.2] In this topic students will identify parts of plants including stem, roots, leaves, and flowers.

**Instruction Module** **Parts of a Plant:** In this Instruction Module, students learn to identify the various parts of a plant, including the root, stem, leaf, flower, fruit, and seed. Students also learn how each plant part helps the plant by performing individual functions.

**Glossaries** **Parts of a Plant**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivities** **Backyard Bugs:** In the interactivity, students learn the positions of the various plant parts by placing backyard bugs on the different parts of plants. Students also learn how each plant part helps the bugs in different ways, be it providing them with shelter or food.

**Activities** Expository - The Parts of a Plant

**Quiz** Parts of a Plant

**Teacher Resources** Parts of a Plant

## Topic 3: Living and Nonliving Things

**Description:** [SC.1.L.14.1; SC.1.L.14.3] In this topic students will learn to recognize the basic needs of living things and differentiate between living and nonliving things.

**Instruction Module** **Needs of Plants and Animals:** In this Instruction Module, students recognize the difference between living things and nonliving things based on their basic needs or lack of needs. They are introduced to the concept of an offspring.



<b>Glossaries</b>	<b>Needs of Plants and Animals</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
<b>Activities</b>	Expository – Needs of Plants and Animals
<b>Quiz</b>	Needs of Plants and Animals
<b>Teacher Resources</b>	Needs of Plants and Animals

## Big Idea 16: Heredity and Reproduction

### Topic 1: Life Cycles of Plants and Animals

**Description:** [SC.1.L.16.1] In this topic students will learn that all living things including plants have life cycles, and that plants and animals resemble their parents.

**Instruction Module**

**Fruit from a Seed:** In this Instruction Module, students understand the changes that a plant undergoes in its life cycle. They learn to identify a seed, a seedling, a flower, the fruit, the leaf, the stem, and the root of a plant. Students also understand that a plant needs sunlight, food, soil, and air to survive and grow. By comparing the adult plant with the young plant, students learn to identify the similarities and differences between the two.

**Instruction Module**

**Life Cycle of Animals:** In this Instruction Module, students learn that the life cycle of an animal consists of different stages such as birth, growth, and reproduction. They learn to identify and describe the stages in the life cycle of different animals such as a chicken and a frog. They learn that some animals such as frogs and butterflies produce young that look very different from their parents while other animals such as birds and mammals produce young that closely resemble their parents. They also compare the young of different animals with their parents.

**Glossaries**

**Fruit from a Seed**  
**Life Cycle of Animals**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.



<b>Interactivities</b>	<b>One...Two...Three...Grow!:</b> In this Interactivity, students apply their understanding of life cycles to match different young ones with their parents. They compare the physical features of the young with different sets of parents in order to make correct matches.
<b>Activities</b>	Expository - Patterns and Properties
<b>Quiz</b>	Fruit from a Seed Life Cycle of Animals
<b>Teacher Resources</b>	Fruit from a Seed Life Cycle of Animals

## Big Idea 17: Interdependence

### Topic 1: Satisfying Basic Needs

**Description:** [SC.1.L.17.1] In this topic student will recognize that all organisms interact and depend on each other and on their environment to satisfy their basic needs which include air, water, food, and space.

**Instruction Module**  
**Basic Needs of Living Things:** In this Instruction Module students learn the differences between living and nonliving things. They recognize the factors that make something living or nonliving. They learn about the basic needs of living things.

**Instruction Module**  
**Depending on Each Other:** In this Instruction Module, students learn about how living things in an environment depend on each other to meet their basic needs. They learn that animals depend on plants for food, air and shelter and plants depend on animals for spreading their seeds and sometimes for water and nutrients (as in the case of indoor plants). They also learn that animals sometimes depend on each other to meet their basic needs. They understand that plants convert energy from sunlight to a form that can be used by them and animals and that such an interdependence for energy can be depicted using diagrams called food chains.

**Glossaries**  
**Depending on Each Other Satisfying Basic Needs**  
 The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.



<b>Interactivities</b>	<p><b>Snap It Up!</b> In this interactivity, students observe and record different examples of interdependence among plants and animals in a park, forest, and pond environment.</p> <p><b>Match' em:</b> In the interactivity, students match an organism with its food needs and shelter.</p>
<b>Activities</b>	Expository - Organisms and Environments
<b>Quiz</b>	Basic Needs of Living Things Depending on Each Other
<b>Teacher Resources</b>	Basic Needs of Living Things Depending on Each Other

## Grade 2 Course Description

### Big Idea 1: The Practice of Science

#### Topic 1: Scientific Investigations

**Description:** [SC.2.N.1.1; SC.2.N.1.3; SC.2.N.1.3] In this topic students will learn to observe the natural world, raise questions, and conduct simple investigations.

**Instruction Module**

**Effect of Energy on Matter:** In this Instruction Module, students observe how increasing or decreasing amounts of light, heat, and sound energy affect various objects. They observe the effects of light energy on brightness, sound energy on loudness and softness, and investigate how the amount of heat energy can make some things melt or freeze.

**Instruction Module**

**Life Cycle of Insects:** In this Instruction Module, students learn that the life cycles of some insects such as butterflies, ladybugs, and moths include four distinct stages namely the egg, larva, pupa and adult. They learn that the life cycles of some other insects such as dragonflies, cockroaches and grasshoppers include three stages namely the egg, nymph and adult, and that the nymph resembles the adult. They compare and describe the different stages in the life cycle of an insect. They also understand that metamorphosis is the changes in form as an insect goes through the different stages of its life cycle.

**Instruction Module**

**Weather and The Water Cycle:** In this Instruction Module, students will learn to measure and record patterns in data and seasonal information to understand and predict the weather. They identify the importance of weather and the seasons on clothing and activities. They are introduced to



different tools that measure and record weather conditions. They also understand the processes in the water cycle, including evaporation, condensation, and precipitation.

<p><b>Glossaries</b></p>	<p><b>Effect of Energy on Matter</b>  <b>Life Cycle of Insects</b>  <b>Weather and The Water Cycle</b></p> <p>The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.</p>
<p><b>Interactivities</b></p>	<p><b>Costume Mayhem!:</b> In the Interactive section of this module, students apply their knowledge and understanding of a butterfly life cycle. They observe the physical features of each stage in order to correctly identify it. Once all the stages are identified, students arrange the different stages in the correct order of occurrence.</p> <p><b>Increasing Heat Energy:</b> In this interactivity students investigate how increasing heat energy can affect objects. They heat various materials and record the time taken for each one to melt completely.</p> <p><b>The Indoor Water Cycle:</b> In the interactivity, students first match clothing and activities with the correct seasons and then label the seasons. They also solve a jigsaw puzzle to complete pictures of seasonal cycle, water cycle, and the day and night cycle and label them.</p>
<p><b>Activities</b></p>	<p>Expository – Entomologists  Expository - Meteorologists: Scientists Who Study Weather</p>
<p><b>Quiz</b></p>	<p>Effect of Energy on Matter  Life Cycle of Insects  Weather and The Water Cycle</p>
<p><b>Teacher Resources</b></p>	<p>Effect of Energy on Matter  Life Cycle of Insects  Weather and The Water Cycle</p>



## Big Idea 6: Earth Structures

### Topic 1: Natural Resources

**Description:** [SC.2.E.6.1] In this topic, students will learn that all life is dependent on natural resources including rocks, soil, and water, and recognize that Earth is made up of rocks of various sizes, shapes, textures, and colors.

**Instruction Module**      **Natural Resources:** In this Instruction Module, students learn that rocks are found everywhere and can be described and classified based on their physical properties such as size, texture, and color. They also learn to identify and compare the properties of natural sources of freshwater and saltwater, and distinguish between natural and manmade resources.

**Glossaries**      **Natural Resources**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivities**      **Get Resourceful!:** In this interactivity students identify and classify resources as natural and manmade resources.

**Quiz**      Natural Resources

**Teacher Resources**      Natural Resources

### Topic 2: Soil Formation

**Description:** [SC.2.E.6.2; SC.2.E.6.1] In this topic, students will learn about the process by which soil is formed, identify the various components of soil, and describe and classify soil based on its properties including particle size and ability to retain water.

**Instruction Module**      **Soil Formation:** In this Instruction Module, students are introduced to the various components of soil and learn to differentiate between sand, silt, and clay based on particle size and texture. Students learn how soils are formed by weathering of rock and the decomposition of plant and animal remains.

**Interactivities**      **What s in the Soil?:** In the interactive section of this module, students identify the different components of soil in a soil sample.



Quiz

Soil Formation

## Big Idea 7: Earth Systems and Patterns

### Topic 1: Day and Night, Weather, and Seasons

**Description:** [SC.2.E.7.1; SC.2.E.7.4] In this topic, students will recognize changing patterns in nature such as day and night, weather conditions, and seasonal patterns.

**Instruction Module**

**Day and Night, and Seasons:** In this Instruction Module, students learn that there are different objects visible in the sky during the day and different objects visible at night. They observe the changing patterns of objects in the sky during the day and during the night, and recognize seasonal patterns.

**Instruction Module**

**Weather Information:** In this Instruction Module, students will learn to describe weather and learn that weather information can be recorded by observing, measuring, and describing weather conditions such as hot or cold, clear or cloudy, calm or windy, and rainy or icy; they will recognize that air is all around us and moving air is wind.

**Glossaries**

**Day and Night, and Seasons**  
**Weather Information**

The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivities**

**What s the Season?:** In the Interactive section of the module, students identify the activities performed during the course of the day and the greetings that are associated with different times of the day. They identify and differentiate the activities associated with the different seasons.

**What to Wear?:** In the Interactive section of the module, students will demonstrate an understanding of how weather affects their daily lives by selecting appropriate clothing based on different weather conditions.

**Activities**

Expository – Observing Objects in the Sky

**Quiz**

Day and Night, and Seasons  
Weather Information





**Teacher Resources** Day and Night, and Seasons  
Weather Information

## Topic 2: Weather and the Water Cycle

**Description:** [SC.2.E.7.1; SC.2.E.7.2; SC.2.E.7.3; SC.2.E.7.4] In this topic, student will learn to identify the different tools used to measure and record weather conditions, recognize patterns in the data collected, and describe the processes involved in the water cycle including evaporation, condensation, and precipitation.

**Instruction Module** **Weather and The Water Cycle:** In this Instruction Module, students will learn to measure and record patterns in data and seasonal information to understand and predict the weather. They identify the importance of weather and the seasons on clothing and activities. They are introduced to different tools that measure and record weather conditions. They also understand the processes in the water cycle, including evaporation, condensation, and precipitation.

**Glossaries** **Weather and the Water Cycle**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivities** **The Indoor Water Cycle:** In the interactivity, students first match clothing and activities with the correct seasons and then label the seasons. They also solve a jigsaw puzzle to complete pictures of seasonal cycle, water cycle, and the day and night cycle and label them.

**Activities** Expository – Meteorologists: Scientists Who Study Weather

**Quiz** Weather and the Water Cycle

**Teacher Resources** Weather and the Water Cycle



## Big Idea 8: Properties of Matter

### Topic 1: Physical Properties of Matter

**Description:** [SC.2.P.8.1; SC.2.P.8.2; SC.2.P.8.3; SC.2.P.8.4] In this topic students will learn that matter has mass and occupies space, and can exist as solids, liquids or gases; they learn that matter can be classified based on its properties including size, shape, color, temperature, relative mass, texture, sinking or floating in water, and attraction to magnets.

**Instruction Module** **Physical Properties of Matter:** In this Instruction Module, students recognize that all things are made of matter. They are introduced to the physical properties of matter including shape, relative mass, relative temperature, texture, flexibility, and whether a material is a solid, liquid, or gas, sinks or floats in water, and is attracted to magnets. They learn that these physical properties help us to describe, identify, and classify matter.

**Glossaries** **Physical Properties of Matter**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivities** **Physical Properties of Matter:** In the interactivity, students “use” a double pan balance to compare masses and classify them as “heavier” or “lighter” than a given object. Then, they compare their temperatures and classify them as “warm”, “cold”, or “normal”. Finally, they “use” a magnet to classify the objects as magnetic or nonmagnetic object.

**Quiz** Physical Properties of Matter

**Teacher Resources** Physical Properties of Matter

## Big Idea 9: Changes in Matter

### Topic 1: Changes in Matter

**Description:** [SC.2.P.9.1] In this topic students will recognize that matter can undergo a variety of changes, some of which result in changes in physical properties while some result in changes in the material that the object is made of.

**Instruction Module** **Changes in Matter:** In this instruction module, students are presented with examples to demonstrate that cutting, folding, sanding, freezing, or melting changes the physical properties of objects but does not change the matter that makes up the object.



They observe and compare changes caused by heating and cooling. They recognize that heating can sometimes change the matter that the object is made of.

<b>Glossaries</b>	<b>Changes in Matter</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
<b>Interactivities</b>	<b>Changes in Matter:</b> In this interactivity, students predict the changes that may be caused by heating and cooling different materials. Then, they place the materials in the oven and the freezer and observe the changes caused by heating and cooling.
<b>Quiz</b>	Changes in Matter
<b>Teacher Resources</b>	Changes in Matter

## Big Idea 10: Forms of Energy

### Topic 1: Using Energy Forms

**Description:** [SC.2.P.10.1] In this topic students will learn to identify forms of energy such as light, heat, and sound, and recognize their uses and effects on matter.

<b>Instruction Module</b>	<b>Energy and Its Uses:</b> In this Instruction Module, students learn about energy and its importance in everyday life. They recognize light energy, heat energy, and sound energy, and the uses of each of the three forms. They understand that while the different forms of energy cannot be touched, they can be experienced in many ways; light energy can be seen, heat energy can be felt, and sound energy can be heard.
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<b>Instruction Module</b>	<b>Effect of Energy on Matter:</b> In this Instruction Module, students observe how increasing or decreasing amounts of light, heat, and sound energy affect various objects. They observe the effects of light energy on brightness, sound energy on loudness and softness, and investigate how the amount of heat energy can make some things melt or freeze.
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<b>Glossaries</b>	<b>Effect of Energy on Matter</b> <b>Energy and Its Uses</b> The interactive multimedia glossary provides both linguistic and
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<b>Interactivities</b>	<p>non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.</p> <p><b>Energize!</b> : In this interactivity, students “energize” various objects in a toy house by identifying the type(s) of energy each of them uses or gives out.</p> <p><b>Increasing Heat Energy:</b> In this interactivity students investigate how increasing heat energy can affect objects. They heat various materials and record the time taken for each one to melt completely.</p>
<b>Quiz</b>	<p>Energy and Its Uses Effect of Energy on Matter</p>
<b>Teacher Resources</b>	<p>Energy and Its Uses Effect of Energy on Matter</p>

## Big Idea 13: Forces and Changes in Motion

### Topic 1: Effects of Pushes and Pulls

**Description:** [SC.2.P.13.1; SC.2.P.13.2; SC.2.P.13.3; SC.2.P.13.4] In this topic, students will learn to identify different types of forces including gravity, friction, and magnetic force and understand how pushes and pulls can change the motion of an object.

<b>Instruction Module</b>	<p><b>On the Move:</b> In this Instruction Module, students observe the changes in position of a moving object and recognize that a push or pull on an object at rest can make the object move. They learn to mark and record the distance an object moves. Students also learn and observe the different kinds of motion in objects, such as a cup rolling and a ruler sliding.</p>
<b>Instruction Module</b>	<p><b>Force:</b> In this Instruction Module, students are introduced to force and the effects of force on an object. They differentiate between balanced and unbalanced forces. They learn how position and motion of an object can be changed by pushing and pulling, and that the effect of the force depends on the mass of the object. They are introduced to forces such as magnetism, friction, and gravity. They learn through examples that force is required to do work and that machines such as pulleys make work easier.</p>
<b>Glossaries</b>	<p><b>On the Move</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.</p>



<b>Interactivities</b>	<p><b>On the Move:</b> In this interactivity, students observe and record the movement of different objects by tracing their motion on a white sheet of paper. This is done by allowing students to dip an object in paint, and then letting it slide down a ramp to trace a path on a white sheet of paper.</p> <p><b>Force:</b> In the interactive section of the module, students observe the changes in motion of different objects and identify the force that caused the changes, such as friction and gravity. They also observe the motion of a toy car on different surfaces and recognize how the nature of the surface affects frictional forces.</p>
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**Activity** Force  
Force – Push or Pull

**Quiz** Force  
On the Move

**Teacher Resources** On the Move

## Topic 2: Pushing and Pulling with Magnets

**Description:** [SC.2.P.13.2] In this topic, students will learn that magnets can make things move without touching them, and recognize some of the uses of magnets.

**Instruction Module** **Using Magnets:** In this Instruction Module, students observe the use of magnets in everyday life. They learn about the different uses of magnets, where to find magnets, and how magnets work. They observe how magnets attract and repel each other.

**Glossaries** **Using Magnets**  
The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivities** **Magnetizing a Needle:** In this interactivity, students learn how to make a magnet and identify the two poles through careful observation. Safety measures while doing an experiment is emphasized.

**Quiz** Using Magnets



## Big Idea 14: Organization and Development of Living Organisms

### Topic 1: Muscular and Skeletal Systems

**Description:** [SC.2.L.14.1] In this topic, students will learn to identify the parts of the muscular and skeletal systems in the human body and describe their functions.

<b>Instruction Module</b>	<b>Muscular and Skeletal Systems:</b> In this Instruction Module, students learn how the muscular and skeletal systems work together to produce movement. They learn about the different types of joints found in the skeletal system and the types of movements that these joints facilitate.
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<b>Glossary</b>	<b>Muscular and Skeletal Systems</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
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<b>Interactivities</b>	<b>Where are your Joints?:</b> In this Interactivity, students compare different types of joints with those found in common objects in order to identify the types of joints shown.
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<b>Quiz</b>	Muscular and Skeletal Systems
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## Big Idea 16: Heredity and Reproduction

### Topic 1: Life Cycle of Plants and Animals

**Description:** [SC.2.L.16.1] In this topic, students will learn to describe the different stages in the life cycles of animals and plants.



**Instruction Module**

**Life Cycle of Animals:** In this Instruction Module, students learn that a cycle is a repeating pattern of events and that a life cycle of an animal consists of different stages in its life such as birth, growth and reproduction. They learn to identify and describe the stages in the life cycle of different animals such as a chicken and a frog. They learn that some animals such as frogs and butterflies produce young that look very different from their parents while other animals such as birds and mammals produce young that closely resemble their parents. They also learn to compare the young of different animals with their parents.

**Instruction Module**

**Life Cycle of Insects:** In this Instruction Module, students learn that the life cycles of some insects such as butterflies, ladybugs, and moths include four distinct stages namely the egg, larva, pupa and adult. They learn that the life cycles of some other insects such as dragonflies, cockroaches and grasshoppers include three stages namely the egg, nymph and adult, and that the nymph resembles the adult. They compare and describe the different stages in the life cycle of an insect. They also understand that metamorphosis is the changes in form as an insect goes through the different stages of its life cycle.

**Instruction Module**

**Plant Life Cycles:** In this Instruction Module, students observe example of plant life cycles and recognize that plants have a complex life cycle. They learn about the different stages in the life cycle of a bean plant and an oak tree.

**Glossaries**

**Life Cycle of Animals  
Life Cycle of Insects**

The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivities**

**One...Two...Three...Grow!:** In this Interactivity, students apply their understanding of life cycles to match different young ones with their parents. They compare the physical features of the young with different sets of parents in order to make correct matches.

**Costume Mayhem!:** In this Interactivity, students apply their knowledge and understanding of a butterfly life cycle. They observe the physical features of each stage in order to correctly identify it. Once all the stages are identified, students arrange the different stages in the correct order of occurrence.

**Activity**

Expository - Entomologists



<b>Quiz</b>	Life Cycle of Animals Life Cycle of Insects
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<b>Teacher Resources</b>	Life Cycle of Animals Life Cycle of Insects
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## Big Idea 17: Interdependence

### Topic 1: Needs of Plants and Animals

**Description:** [SC.2.L.17.1] In this topic, students will learn to differentiate between living and nonliving things and compare the basic needs that all living things have.

<b>Instruction Module</b>	<b>Needs of Plants and Animals:</b> In this Instruction Module, students recognize the difference between living things and nonliving things based on their basic needs or lack of needs. They learn that humans, animals, and plants are living things, and compare their basic needs.
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<b>Glossaries</b>	<b>Needs of Plants and Animals</b> The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.
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<b>Activity</b>	Expository - Needs of Plants and Animal
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<b>Quiz</b>	<b>Needs of Plants and Animals</b>
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<b>Teacher Resources</b>	Needs of Plants and Animals
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### Topic 2: Living Things and their Environment

**Description:** [SC.2.L.17.1; SC.2.L.17.2] In this topic, students will recognize that all organisms interact and depend on each other and their environment; they will learn that organisms have structures and behaviors that allow them to survive in their environment and meet their basic needs.





**Instruction Module** **Living Things and Their Environment:** In this Instruction Module, students identify the basic needs that living things have for survival. They learn how changes in the environment affect behavior such as migration, hibernation, and dormancy of living things. Students also compare the different ways in which organisms depend on the environment and on other organisms to meet their basic needs. They learn how to draw food chains.

**Instruction Module** **Animal and Plant Adaptations:** In this Instruction Module, students learn that adaptations are physical and behavioral features that animals and plants have developed over time to help them survive in their environments. They learn that physical adaptations in animals are body parts such as fins, wings, feet, teeth, claws, beaks and body coverings, and behavioral adaptations include hibernation, migration and living in communities. They learn that some of the physical adaptations in plants include stems, roots, leaves, vines, tendrils and flowers.

**Glossaries** **Living Things and their Environment**  
**Animal and Plant Adaptations**  
 The interactive multimedia glossary provides both linguistic and non-linguistic representations of key terms related to science concepts presented in the Instruction Modules and Interactivities.

**Interactivities** **Build the Energy Bar:** In this interactivity, students will arrange organisms in the correct order in a given food chain.  
**Animal and Plant Adaptations:** In the Interactive section of this module, students apply their understanding of animal and plant adaptations to identify the adaptations in different animals and plants. They also sort the different animal and plant adaptations into physical and behavioral adaptations.

**Activity** Expository - Mammals: Large and Small  
 Expository - The Parts of a Plant

**Quiz** Living Things and Their Environment  
 Animal and Plant Adaptations

**Teacher Resources** Living Things and Their Environment  
 Animal and Plant Adaptations