

# Grade 3 - Science Standards

Standard

E&S Activities

Billy B & Me CD Songs

Standard	E&S Activities	Billy B & Me CD Songs
<b>I. Inquiry</b>		
<p>Process skills and inquiries are not an isolated unit of instruction and should be embedded throughout the content areas. Safety issues should be addressed as developmentally appropriate.</p>		
<b>A. Process Skills</b>		
<b>1. Observe</b>		
a. Use the senses to gather information about objects or events such as size, shape, color, texture, sound, position, and change (qualitative observations).	<b>1 - Energy Detectives</b> <b>4 - What Powers the Move?</b>	
<b>2. Classify</b>		
a. Compare, sort, and group concrete objects according to two attributes.	<b>4 - What Powers the Move?</b>	
b. Arrange objects in sequential order.		
<b>3. Measure</b>		
a. Use standard (U.S. Customary and Metric) to estimate and measure mass, length, area, perimeter, volume, and temperature to the nearest whole unit (quantitative observations).		
<b>4. Communicate</b>		
a. Use drawings, tables, graphs, written and oral language to describe objects and explain ideas and actions.	<b>2 - May the Source Be with You (variation)</b> <b>4 - What Powers the Move?</b>	
<b>5. Infer</b>		
a. Explain or interpret an observation based on data and prior knowledge.	<b>4 - What Powers the Move?</b>	
<b>6. Predict</b>		
a. Use prior knowledge and observations to identify and explain in advance what will happen.	<b>4 - What Powers the Move?</b>	
<b>B. Inquiry</b>		
<b>1. Plan and conduct a simple investigation</b>		
a. Ask a question about objects, organisms, and events in the environment.		
b. Plan and conduct a simple investigation — a fair test.		
c. Use simple equipment and tools to gather data and extend the senses.		
d. Use data to construct a reasonable explanation.		
e. Communicate investigations and explanations.		

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## II. Life Science

### Unit of Study: Habitats and Adaptations

#### A. Characteristics of Organisms

##### 1. Organisms can survive only in habitats in which their needs can be met.

a. Compare and contrast the basic needs of plants and animals.		
b. Select and describe an appropriate habitat for a plant or animal.		
<b>2. Each plant or animal has different structures that serve different functions in growth, survival, and reproduction.</b>		
a. Investigate and predict how structural adaptations, such as methods of movement, defense, rearing young, camouflage, and mimicry function to allow animals to respond to life needs.		
b. Recognize bones, joints, and muscles in the arms and legs of the human body as structural adaptations responsible for movement.		
c. Investigate and predict how physical adaptations, such as seed dispersal, scent, color of flower, and tropism (light and gravity) function to allow plants to respond to life needs.		

#### B. Life Cycles of Organisms

##### 1. Many characteristics of an organism are inherited from the parents of the organism, but other characteristics result from an individual's interactions with the environment.

a. Compare and describe growth of living things based on observations and measurements over time including stages of development and life.		
b. Record and describe the growth and development of a specific plant or animal over time.		

#### C. Organisms and Their Environments

##### 1. All animals depend on plants.

a. Investigate and predict ways living things will interact with each other and the environment.		
b. Interpret the interdependency of plants and animals within a food chain by defining the following, producer, consumer, decomposer, herbivore, carnivore, omnivore, predator and prey.		

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<b>2. When the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.</b>		
a. Describe how habitats and organisms change over time due to many influences (effects of natural forces, wind, rain, water, air, sunlight, and temperature).		
b. Research and describe how habitats are managed and species are monitored in South Carolina. <b>(P)</b>		
c. Investigate and describe behavioral adaptations, such as hibernation, migration, and dormancy that allow living things to respond to seasonal conditions.		
d. Investigate and describe that aquatic and terrestrial habitats support a diversity of plants and animals that share limited resources.		
e. Investigate, communicate, and debate that natural events, natural resources and human influences can affect the survival/extinction of a species. <b>(P)</b>		
f. Determine how humans impact natural resources (renewable and nonrenewable). <b>(P)</b>	<b>2 - May the Source Be with You (variation)</b> <b>4 - What Powers the Move?</b>	<b>Energy Now, Energy Then</b> <b>What, What Is. . .</b> <b>Resources</b> <b>On the Move</b> <b>Reduce, Reuse, Recycle Engine Oil</b> <b>Our Changing World</b> <b>We Can Save Energy</b>

## III. Earth Science

### Unit of Study: Earth Materials

#### A. Properties of Earth Materials

##### 1. The varied earth materials have different physical properties and uses.

a. Describe earth materials (rocks, minerals, water, soil, and fossils) by their physical properties.		
b. State similarities and differences among earth materials.		
c. Classify similar earth materials (e.g., types of rocks/soils) according to their physical properties.		
d. Recognize that rock, clay, silt, sand, and humus are components of soils.		
e. Describe and show that soils are layered (topsoil, subsoil and bedrock).		

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f. Identify that soil provides support and nutrients for plant growth.		
g. Observe and describe the unique physical characteristics of a variety of rock types.		
h. Give examples of how humans obtain and use earth materials as resources. <b>(P, T)</b>	<b>1 - Energy Detectives</b> <b>4 - May the Source Be with You (variation)</b>	<b>What, What Is. . . Resources</b>
i. Explain how fossils provide evidence about prehistoric life and environments.		
j. Explore careers in earth science. <b>(N)</b>		
<b>2. The sun provides the heat necessary to maintain the temperature of the Earth.</b>		
a. Compare the effects of heat from the sun on various earth materials (rocks, soils, and water).		
<b>B. Changes in the Earth</b>		
<b>1. The surface of the Earth changes.</b>		
a. Describe surface features of the Earth (mountains, hills, valleys, plateaus, plains, oceans, lakes and rivers).		
b. Construct and interpret models that illustrate features of the Earth.		
c. Compare some changes in the Earth's surface that are due to slow processes, such as erosion and weathering, with some changes that are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.		
d. Infer how human behavior, such as farming, mining, and construction, changes the Earth's surface. <b>(P, N)</b>		
e. Predict and explain the consequences of natural events, such as fire, flood, drought, erosion, earthquake, and volcanic eruption. <b>(P)</b>		
f. Explore how technologies are used to help predict some natural events. <b>(T)</b>		

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## IV. Physical Science

Units of Study: Heat and Changes of Matter      Machines and Motion

### A. Property of Objects and Materials

1. Some common materials, such as water, can be changed from one state to another by heating or cooling.

a. Recognize and explore how matter can be changed in form (solid, liquid, and gas) through processes such as condensation, evaporation, melting, boiling, freezing, and sublimation (solid to gas, such as dry ice) and apply these processes to real world examples.		Water Cycle
b. Measure, record, and graph the temperature (Celsius and Fahrenheit) of matter as it is heated and cooled.		
c. Investigate the unique properties of water (expansion and contraction) as it is heated and cooled.		
d. Compare the unique properties of water with other substances as they are heated and cooled.		

2. Heat can be produced in many ways, such as burning and rubbing or mixing one substance with another. Heat can move from one object to another by conduction.

a. Explore and identify things that produce heat.	1 - Energy Detectives	
b. Explore and describe how heat moves from one object to another.		
c. Investigate and describe how heat travels by direct contact (conduction) so that a warmer object can warm a cooler object.		
d. Investigate and describe what materials can be used to prevent heat from moving from one object to another, such as insulators and apply to real world examples.		
e. Describe ways to stop a fire from burning. (P)		

### B. Position and Motion of Objects

1. The position and motion of objects can be changed by pushing or pulling. The size of the change is related to the strength of the push or pull.

a. Investigate and describe push and pull involved in simple machines.		
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b. Identify and describe simple machines such as lever, pulley, wheel and axle, and inclined plane and apply their uses to real world situations. <b>(T)</b>		
c. Demonstrate how bones, joints and muscles are responsible for human movement and work as levers.		
d. Observe and identify examples of simple machines found in the school, playground, home, and work environment. <b>(P)</b>		
e. Observe the motion of simple machines in toys and in playground activities.	<b>4 - What Powers the Move? (enrichment)</b>	<b>On the Move</b>
f. Infer how simple machines developed as a result of human needs and exploration. <b>(T)</b>	<b>4 - What Powers the Move? (enrichment)</b>	