Science Content Standards

Kindergarten	Grade One	Grade Two
Physical Sciences	Physical Sciences	Physical Sciences
1. Properties of materials can be observed, measured, and predicted. As a basis for understanding this concept:	1. Materials come in different forms (states), including solids, liquids, and gases. As a basis for understanding this concept:	1. The motion of objects can be observed and measured. As a basis for understanding this concept:
 a. <i>Students know</i> objects can be described in terms of the materials they are made of (e.g., clay, cloth, paper) and their physical properties (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, floating, sinking). b. <i>Students know</i> water can be a liquid or a solid and can be made to change back and forth from one form to the other. 	 a. <i>Students know</i> solids, liquids, and gases have different properties. b. <i>Students know</i> the properties of substances can change when the substances are mixed, cooled, or heated. Life Sciences 2. Due to a basis of the state of the substance of the substanc	 a. Students know the position of an object can be described by locating it in relation to another object or to the background. b. Students know an object's motion can be described by recording the change in position of the object over time. c. Students know the way to change how something is moving is by giving it a push or a pull. The size of the change is related to the strength, or the amount of force, of the push or pull.
c. <i>Students know</i> water left in an open container evaporates (goes into the air) but water in a closed container does not.	2. Plants and animals meet their needs in different ways. As a basis for understanding this concept:	d. Students know tools and machines are used to apply pushes and pulls (forces) to make things move.
Life Sciences2. Different types of plants and animals inhabit the earth. As a basis for understanding this concept:	 a. <i>Students know</i> different plants and animals inhabit different kinds of environ-ments and have external features that help them thrive in different kinds of places. b. <i>Students know</i> both plants and animals need water, animals need food and plants need light 	e. Students know objects fall to the ground unless something holds them up.f. Students know magnets can be used to make some objects move without being touched.g. Students know sound is made by vibrating objects and can be
a. <i>Students know</i> how to observe and describe similarities and differences in the appearance and behavior of plants and animals (e.g., seed-bearing plants, birds, fish, insects).	c. <i>Students know</i> animals eat plants or other animals for food and may also use plants or even other animals for shelter and nesting. d. <i>Students know</i> how to infer what animals eat from the shapes of	described by its pitch and volume. Life Sciences
 b. <i>Students know</i> stories sometimes give plants and animals attributes they do not really have. c. <i>Students know</i> how to identify major structures of common plants and animals (e.g., stems, leaves, roots, arms, wings, legs). 	e. <i>Students know</i> roots are associated with the intake of water and soil nutrients and green leaves are associated with making food from sunlight.	2. Plants and animals have predictable life cycles. As a basis for understanding this concept:
Earth Sciences	Earth Sciences	a. Students know that organisms reproduce orispring of their own kind and that the offspring resemble their parents and one another.
3. Earth is composed of land, air, and water. As a basis for understanding this concept:	3. Weather can be observed, measured, and described. As a basis for understanding this concept:	for different animals, such as butterflies, frogs, and mice. c. Students know many characteristics of an organism are inherited from the parents. Some characteristics are caused or influenced by
 a. Students know characteristics of mountains, rivers, oceans, valleys, deserts, and local landforms. b. Students know changes in weather occur from day to day and across seasons, affecting Earth and its inhabitants. c. Students know how to identify resources from Earth that are used in everyday life and understand that many resources can be conserved. 	a. <i>Students know</i> how to use simple tools (e. g., thermometer, wind vane) to measure weather conditions and record changes from day to day and across the seasons.b. <i>Students know</i> that the weather changes from day to day but that trends in tem-perature or of rain (or snow) tend to be predictable during a season.c. <i>Students know</i> the sun warms the land, air, and water.	the environment.d. Students know there is variation among individuals of one kind within a population.e. Students know light, gravity, touch, or environmental stress can affect the germination, growth, and development of plants.f. Students know flowers and fruits are associated with reproduction in plants.
Investigation and Experimentation	Investigation and Experimentation	Earth Sciences
4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform	4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform	3. Earth is made of materials that have distinct properties and provide resources for human activities. As a basis for understanding this concept:a. Students know how to compare the physical properties of
 a. Observe common objects by using the five senses. b. Describe the properties of common objects. c. Describe the relative position of objects by using one reference (e.g., above or below). 	a. Draw pictures that portray some features of the thing being described.b. Record observations and data with pictures, numbers, or written statements.	different kinds of rocks and know that rock is composed of different combinations of minerals.b. Students know smaller rocks come from the breakage and weathering of larger rocks.c. Students know that soil is made partly from weathered rock and

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d. Compare and sort common objects by one physical attribute (e.g., color, shape, texture, size, weight).e. Communicate observations orally and through drawings.	 c. Record observations on a bar graph. d. Describe the relative position of objects by using two references (e. g., above and next to, below and left of). e. Make new observations when discrepancies exist between two descriptions of the same object or phenomenon. 	 partly from organic materials and that soils differ in their color, texture, capacity to retain water, and ability to support the growth of many kinds of plants. d. Students know that fossils provide evidence about the plants and animals that lived long ago and that scientists learn about the past history of Earth by studying fossils. e. Students know rock, water, plants, and soil provide many resources, including food, fuel, and building materials, that humans use.
		Grade Two
		Investigation and Experimentation
		4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:
		 a. Make predictions based on observed patterns and not random guessing. b. Measure length, weight, temperature, and liquid volume with appropriate tools and express those measurements in standard metric system units. c. Compare and sort common objects according to two or more physical attributes (e. g., color, shape, texture, size, weight). d. Write or draw descriptions of a sequence of steps, events, and observations. e. Construct bar graphs to record data, using appropriately labeled axes. f. Use magnifiers or microscopes to observe and draw descriptions of small objects or small features of objects. g. Follow oral instructions for a scientific investigation.

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