

# Science Standards

## GRADE: K

### Big Idea 1: The Practice of Science

**A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.**

**B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method."**

**C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge.**

**D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.**

BENCHMARK CODE	BENCHMARK
SC.K.N.1.1	Collaborate with a partner to collect information. <i>Cognitive Complexity/Depth of Knowledge Rating: Low</i>
SC.K.N.1.2	Make observations of the natural world and know that they are descriptors collected using the five senses. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i>
SC.K.N.1.3	Keep records as appropriate -- such as pictorial records -- of investigations conducted. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i>
SC.K.N.1.4	Observe and create a visual representation of an object which includes its major features. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i>
SC.K.N.1.5	Recognize that learning can come from careful observation. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i>

#### Access Point for Students with Significant Cognitive Disabilities

<i>Independent</i>	<i>Supported</i>	<i>Participatory</i>
SC.K.N.1.In.a Identify a partner to obtain information.	SC.K.N.1.Su.a Collect a designated item with a partner.	SC.K.N.1.Pa.a Share objects with a partner.
SC.K.N.1.In.b Identify information about objects and actions in the natural world through observation.	SC.K.N.1.Su.b Identify information about objects in the natural world through observation.	SC.K.N.1.Pa.b Recognize common objects in the natural world through observation.
SC.K.N.1.In.c Observe, explore, and create a visual representation of real objects.	SC.K.N.1.Su.c Observe, explore, and match pictures to real objects.	

## Big Idea 5: Earth in Space and Time

Humans continue to explore Earth's place in space. Gravity and energy influence the formation of galaxies, including our own Milky Way Galaxy, stars, the Solar System, and Earth. Humankind's need to explore continues to lead to the development of knowledge and understanding of our Solar System.

BENCHMARK CODE	BENCHMARK
SC.K.E.5.1	Explore the Law of Gravity by investigating how objects are pulled toward the ground unless something holds them up. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i>
SC.K.E.5.2	Recognize the repeating pattern of day and night. <i>Cognitive Complexity/Depth of Knowledge Rating: Low</i>
SC.K.E.5.3	Recognize that the Sun can only be seen in the daytime. <i>Cognitive Complexity/Depth of Knowledge Rating: Low</i>
SC.K.E.5.4	Observe that sometimes the Moon can be seen at night and sometimes during the day. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i>
SC.K.E.5.5	Observe that things can be big and things can be small as seen from Earth. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i>
SC.K.E.5.6	Observe that some objects are far away and some are nearby as seen from Earth. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i>

### Access Point for Students with Significant Cognitive Disabilities

<i>Independent</i>	<i>Supported</i>	<i>Participatory</i>
SC.K.E.5.In.a Identify that objects can fall to the ground unless something stops them.	SC.K.E.5.Su.a Recognize that objects fall to the ground.	SC.K.E.5.Pa.a Track a falling object.
SC.K.E.5.In.b Identify daily activities in a 24-hour period, such as eating breakfast and going to bed, and associate activities with morning and night.	SC.K.E.5.Su.b Identify one common activity that occurs in the day and one that occurs in the night.	SC.K.E.5.Pa.b Recognize one common activity that occurs during the day.
SC.K.E.5.In.c Identify the Sun in the daytime.	SC.K.E.5.Su.c Recognize the Sun in the daytime.	SC.K.E.5.Pa.c Associate the Sun with daytime.
SC.K.E.5.In.d Identify the Moon in the sky at night.	SC.K.E.5.Su.d Recognize the Moon in the sky at night.	SC.K.E.5.Pa.d Associate the Moon with night.
SC.K.E.5.In.e Observe big and small things in the sky.	SC.K.E.5.Su.e Recognize the size of items as either big or small.	SC.K.E.5.Pa.e Recognize items that are big.
SC.K.E.5.In.f Identify an item that is far away and an item that is nearby.	SC.K.E.5.Su.f Recognize familiar objects that are far away or nearby.	SC.K.E.5.Pa.f Recognize items as nearby.

## Big Idea 8: Properties of Matter

A. All objects and substances in the world are made of matter. Matter has two

fundamental properties: matter takes up space and matter has mass.

**B. Objects and substances can be classified by their physical and chemical properties.**

Mass is the amount of matter (or "stuff") in an object. Weight, on the other hand, is the measure of force of attraction (gravitational force) between an object and Earth.

The concepts of mass and weight are complicated and potentially confusing to elementary students. Hence, the more familiar term of "weight" is recommended for use to stand for both mass and weight in grades K-5. By grades 6-8, students are expected to understand the distinction between mass and weight, and use them appropriately.

BENCHMARK CODE	BENCHMARK	
SC.K.P.8.1	Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light) and texture.  <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i>	
Access Point for Students with Significant Cognitive Disabilities		
<b>Independent</b> SC.K.P.8.In.a Sort objects by observable properties, such as size, shape, or color.	<b>Supported</b> SC.K.P.8.Su.a Match objects by an observable property, such as size or color.	<b>Participatory</b> SC.K.P.8.Pa.a Recognize two common objects that are identical to each other.

### Big Idea 9: Changes in Matter

**A. Matter can undergo a variety of changes.**

**B. Matter can be changed physically or chemically.**

BENCHMARK CODE	BENCHMARK	
SC.K.P.9.1	Recognize that the shape of materials such as paper and clay can be changed by cutting, tearing, crumpling, smashing, or rolling.  <i>Cognitive Complexity/Depth of Knowledge Rating: Low</i>	
Access Point for Students with Significant Cognitive Disabilities		
<b>Independent</b> SC.K.P.9.In.a Recognize that the shape of objects, such as paper, changes when cut, torn, or crumpled.	<b>Supported</b> SC.K.P.9.Su.a Recognize that the shape of objects, such as paper, changes when cut or torn.	<b>Participatory</b> SC.K.P.9.Pa.a Recognize a change in an object.

### Big Idea 10: Forms of Energy

**A. Energy is involved in all physical processes and is a unifying concept in many areas of science.**

**B. Energy exists in many forms and has the ability to do work or cause a change.**

BENCHMARK CODE	BENCHMARK
SC.K.P.10.1	Observe that things that make sound vibrate.

<i>Cognitive Complexity/Depth of Knowledge Rating: Low</i>		
<b>Access Point for Students with Significant Cognitive Disabilities</b>		
<b>Independent</b>	<b>Supported</b>	<b>Participatory</b>
SC.K.P.10.In.a Identify objects that create specific sounds.	SC.K.P.10.Su.a Match sounds to specific objects.	SC.K.P.10.Pa.a Recognize and respond to common sounds.

## Big Idea 12: Motion of Objects

**A. Motion is a key characteristic of all matter that can be observed, described, and measured.**

**B. The motion of objects can be changed by forces.**

BENCHMARK CODE	BENCHMARK	
SC.K.P.12.1	Investigate that things move in different ways, such as fast, slow, etc.	
<i>Cognitive Complexity/Depth of Knowledge Rating: High</i>		
<b>Access Point for Students with Significant Cognitive Disabilities</b>		
<b>Independent</b>	<b>Supported</b>	<b>Participatory</b>
SC.K.P.12.In.a Identify ways that things move, such as fast or slow.	SC.K.P.12.Su.a Recognize that things move.	SC.K.P.12.Pa.a Track objects in motion.

## Big Idea 13: Forces and Changes in Motion

**A. It takes energy to change the motion of objects.**

**B. Energy change is understood in terms of forces--pushes or pulls.**

**C. Some forces act through physical contact, while others act at a distance.**

BENCHMARK CODE	BENCHMARK	
SC.K.P.13.1	Observe that a push or a pull can change the way an object is moving.	
<i>Cognitive Complexity/Depth of Knowledge Rating: Low</i>		
<b>Access Point for Students with Significant Cognitive Disabilities</b>		
<b>Independent</b>	<b>Supported</b>	<b>Participatory</b>
SC.K.P.13.In.a Demonstrate pushing or pulling of an object to make it move.	SC.K.P.13.Su.a Recognize that pushing or pulling an object makes it move.	SC.K.P.13.Pa.a Track the movement of objects that are pushed or pulled.

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

**A. All plants and animals, including humans, are alike in some ways and different in others.**

**B. All plants and animals, including humans, have internal parts and external structures**

that function to keep them alive and help them grow and reproduce.

**C. Humans can better understand the natural world through careful observation.**

BENCHMARK CODE	BENCHMARK
SC.K.L.14.1	Recognize the five senses and related body parts. <i>Cognitive Complexity/Depth of Knowledge Rating: Low</i>
SC.K.L.14.2	Recognize that some books and other media portray animals and plants with characteristics and behaviors they do not have in real life. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i>
SC.K.L.14.3	Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i>

**Access Point for Students with Significant Cognitive Disabilities**

<i>Independent</i>	<i>Supported</i>	<i>Participatory</i>
<p>SC.K.L.14.In.a Recognize the senses of sight, hearing, and smell and related body parts.</p> <p>SC.K.L.14.In.b Identify a behavior of an animal or plant in a book or other media that is not real.</p> <p>SC.K.L.14.In.c Identify differences in characteristics of plants and animals.</p>	<p>SC.K.L.14.Su.a Recognize the senses of sight and hearing and related body parts.</p> <p>SC.K.L.14.Su.b Distinguish a real animal and an animal that is not a living thing, such as a toy animal.</p> <p>SC.K.L.14.Su.c Match identical animals and plants.</p>	<p>SC.K.L.14.Pa.a Recognize and respond to one type of sensory stimuli.</p> <p>SC.K.L.14.Pa.b Distinguish between a plant and animal.</p>