

## South Dakota Early Learning Guidelines and Head Start Child Development and Early Learning Framework

### SCIENCE

South Dakota Early Learning Guidelines	Head Start Child Development and Early Learning Framework
<b>STANDARD 1 — Science as Inquiry</b> As a result of their explorations and participation in simple investigations through play, children demonstrate their understanding of and ability to use scientific inquiry.	<b>Domain: Science Knowledge &amp; Skills</b>  <b>Domain Element:</b> <b>Scientific Skills &amp; Method:</b> The skills to observe and collect information and use it to ask questions, predict, explain, and draw conclusions.
Benchmarks	Examples
1. Express wonder, ask questions, and make simple predictions, such as whether an object will sink or float.	Describes and discusses predictions, explanations, and generalizations based on past experience. <i>(Scientific Skills &amp; Method)</i>  Participates in simple investigations to form hypotheses, gather observations, draw conclusions, and form generalizations. <i>(Scientific Skills &amp; Method)</i>
2. Observe and use senses to explore materials and their environment both indoors and outdoors.	Uses senses and tools, including technology, to gather information, investigate materials, and observe processes and relationships. <i>(Scientific Skills &amp; Method)*</i>
3. Use simple tools and measuring devices, such as balance scales, thermometers and rulers to explore the environment.	Uses senses and tools, including technology, to gather information, investigate materials, and observe processes and relationships. <i>(Scientific Skills &amp; Method)*</i>  Collects, describes, and records information through discussions, drawings, maps and charts. <i>(Scientific Skills &amp; Method)*</i>

\*H.S. Example is paired with more than one South Dakota Benchmark. 1

<p><b>STANDARD 2 — Physical Science</b> As a result of their explorations and participation in simple investigations through play, children develop an understanding of properties, position, and motion of objects in the environment.</p>	<p><b>Domain: Science Knowledge &amp; Skills</b></p> <p><b>Domain Elements:</b>  <b>Scientific Skills &amp; Method:</b> The skills to observe and collect information and use it to ask questions, predict, explain, and draw conclusions.</p> <p><b>Conceptual Knowledge of the Natural &amp; Physical World:</b> The acquisition of concepts and facts related to the natural and physical world and the understanding of naturally-occurring relationships.</p>
<p style="text-align: center;"><b>Benchmarks</b></p>	<p style="text-align: center;"><b>Examples</b></p>
<p>1. Observe and use words to describe physical changes, such as a solid turning to liquid.</p>	<p>Observes, describes, and discusses properties of materials and transformation of substances. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i></p>
<p>2. Identify similarities and differences of objects.</p>	<p>Observes and discusses common properties, differences, and comparisons among objects. <i>(Scientific Skills &amp; Methods)*</i></p>
<p>3. Compare and sort materials according to one or more properties.</p>	<p>Observes and discusses common properties, differences, and comparisons among objects. <i>(Scientific Skills &amp; Methods)*</i></p>
<p>4. Explore ways to move objects, such as pushing or pulling and describe these motions.</p>	
<p><b>STANDARD 3 — Life Science</b> As a result of their explorations and participation in simple investigations through play, children develop an understanding of characteristics, life cycles, and environments of living things.</p>	<p><b>Domain: Science Knowledge &amp; Skills</b></p> <p><b>Domain Element:</b>  <b>Conceptual Knowledge of the Natural &amp; Physical World:</b> The acquisition of concepts and facts related to the natural and physical world and the understanding of naturally-occurring relationships.</p>
<p style="text-align: center;"><b>Benchmarks</b></p>	<p style="text-align: center;"><b>Examples</b></p>
<p>1. Observe and classify living things as animals or plants and use words to describe them.</p>	<p>Observes, describes, and discusses living things and natural processes. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i></p>

\*H.S. Example is paired with more than one South Dakota Benchmark. 2

2. Demonstrate knowledge that living things have basic needs, such as food, water, and air.	Observes, describes, and discusses living things and natural processes. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i>
3. Demonstrate knowledge that plants, animals, and humans live in environments that support their needs, such as fish living in water.	Observes, describes, and discusses living things and natural processes. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i>
4. Recognize that living things, including themselves, change and grow throughout their life cycles.	Observes, describes, and discusses living things and natural processes. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i>
<b>STANDARD 4 — Earth and Space Science</b> As a result of their explorations and participation in simple investigations through play, children develop an understanding of properties of earth materials, objects in the sky, and changes in the earth and sky.	<b>Domain: Science Knowledge &amp; Skills</b>  <b>Domain Element:</b> <b>Conceptual Knowledge of the Natural &amp; Physical World:</b> The acquisition of concepts and facts related to the natural and physical world and the understanding of naturally-occurring relationships.
<b>Benchmarks</b>	<b>Examples</b>
1. Explore the properties of earth materials, such as sand and water, through play.	Observes, describes, and discusses properties of materials and transformation of substances. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i>
2. Name objects in the sky, including sun, moon, clouds, and stars.	
3. Describe differences between night and day.	Observes, describes, and discusses living things and natural processes. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i>
4. Recognize and describe current conditions and changes in the weather.	Observes, describes, and discusses living things and natural processes. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i>
5. Observe and describe basic changes in the seasons.	Observes, describes, and discusses living things and natural processes. <i>(Conceptual Knowledge of the Natural &amp; Physical World)*</i>

\*H.S. Example is paired with more than one South Dakota Benchmark. 3

<p><b>STANDARD 5 — Science and Technology</b>                  As a result of their explorations and participation in simple investigations through play, children develop an understanding about science and technology and the ability to distinguish between natural objects and objects made by humans.</p>	<p><b>Domain: Science Knowledge &amp; Skills</b>  <b>Domain Elements:</b>  <b>Scientific Skills &amp; Method:</b> The skills to observe and collect information and use it to ask questions, predict, explain, and draw conclusions.   <b>Conceptual Knowledge of the Natural &amp; Physical World:</b> The acquisition of concepts and facts related to the natural and physical world and the understanding of naturally-occurring relationships.</p>
<p><b>Benchmarks</b></p>	<p><b>Examples</b></p>
<p>1. Use tools or objects in the environment to solve problems or complete tasks.</p>	<p>Uses senses and tools, including technology, to gather information, investigate materials, and observe processes and relationships.  <i>(Scientific Skills &amp; Method)*</i></p>
<p>2. Use the computer and other technology, if available, to explore how their actions can cause an effect.</p>	<p>Uses senses and tools, including technology, to gather information, investigate materials, and observe processes and relationships.  <i>(Scientific Skills &amp; Method)*</i></p>
<p>3. Identify some objects as being found in nature and others as being made by people.</p>	
<p><b>STANDARD 6 — Science, Environment and Society</b>                  As a result of their explorations and participation in simple investigations through play, children demonstrate an awareness of and respect for the environment and how it can be changed. Children demonstrate an understanding that people use science to explore the world and answer questions.</p>	<p><b>Domain: Science Knowledge &amp; Skills</b>  <b>Domain Elements:</b></p>
<p><b>Benchmarks</b></p>	<p><b>Examples</b></p>
<p>1. Demonstrate care and respect for the environment.</p>	

\*H.S. Example is paired with more than one South Dakota Benchmark. 4

<p>2. Demonstrate knowledge that their actions and actions of others can change the environment.</p>	
<p>3. Recognize ways to recycle and reuse materials.</p>	
<p>4. Demonstrate understanding that everyone can use science to explore and solve problems.</p>	

## South Dakota Early Learning Guidelines and K-2 State Standards for Science

### SCIENCE

South Dakota Early Learning Guidelines	K-2 State Standards for Science
<b>STANDARD 1 — Science as Inquiry</b> As a result of their explorations and participation in simple investigations through play, children demonstrate their understanding of and ability to use scientific inquiry.	<b>Standards Area: Nature of Science</b>
<b>Benchmarks</b>	<b>Grade-Specific Standards</b>
1. Express wonder, ask questions, and make simple predictions, such as whether an object will sink or float.	Students are able to use scientific thinking skills of observing and communicating. <i>(Nature of Science)*, **</i>
2. Observe and use senses to explore materials and their environment both indoors and outdoors.	Students are able to use scientific thinking skills of observing and communicating. <i>(Nature of Science)*, **</i>
3. Use simple tools and measuring devices, such as balance scales, thermometers and rulers to explore the environment.	
	Students are able to safely conduct simple experiments. <i>(Nature of Science)**</i>
<b>STANDARD 2 — Physical Science</b> As a result of their explorations and participation in simple investigations through play, children develop an understanding of properties, position, and motion of objects in the environment.	<b>Standards Area: Physical Science</b>
<b>Benchmarks</b>	<b>Grade-Specific Standards</b>
1. Observe and use words to describe physical changes, such as a solid turning to liquid.	K.P.1.2. Students are able to identify water in its solid and liquid forms. <i>(Physical Science)</i>

\*Standard is paired with more than one South Dakota Benchmark.

\*\*Supporting Skill from K-2 Standards—mastery not expected at K.

2. Identify similarities and differences of objects.	K.P.1.1. Students are able to use senses to describe solid objects in terms of physical attributes. <i>(Physical Science)</i>
3. Compare and sort materials according to one or more properties.	
4. Explore ways to move objects, such as pushing or pulling and describe these motions.	Students are able identify things that move. <i>(Physical Science)**</i>
	Students are able to explore magnets. <i>(Physical Science)**</i>
	Students are able to explore vibration and sound. <i>(Physical Science)**</i>
<b>STANDARD 3 — Life Science</b> As a result of their explorations and participation in simple investigations through play, children develop an understanding of characteristics, life cycles, and environments of living things.	<b>Standards Area: Life Science</b>
<b>Benchmarks</b>	<b>Grade-Specific Standards</b>
1. Observe and classify living things as animals or plants and use words to describe them.	K.L.1.1. Students are able to sort living from non-living things. <i>(Life Science)</i>
2. Demonstrate knowledge that living things have basic needs, such as food, water, and air.	
3. Demonstrate knowledge that plants, animals, and humans live in environments that support their needs, such as fish living in water.	Students are able to explore the local habitat. <i>(Life Science) **</i>
4. Recognize that living things, including themselves, change and grow throughout their life cycles.	Recognize similarities and differences between animal offspring and their parents. <i>(Life Science)**</i>

\*Standard is paired with more than one South Dakota Benchmark.

\*\*Supporting Skill from K-2 Standards—mastery not expected at K.

<p><b>STANDARD 4 — Earth and Space Science</b> As a result of their explorations and participation in simple investigations through play, children develop an understanding of properties of earth materials, objects in the sky, and changes in the earth and sky.</p>	<p><b>Standards Area: Earth/Space Science</b></p>
<p><b>Benchmarks</b></p>	<p><b>Grade-Specific Standard</b></p>
<p>1. Explore the properties of earth materials, such as sand and water, through play.</p>	
<p>2. Name objects in the sky, including sun, moon, clouds, and stars.</p>	
<p>3. Describe differences between night and day.</p>	<p>K.E.1.1. Students are able to describe simple Earth patterns in daily life. <i>(Earth/Space Science)*</i></p>
<p>4. Recognize and describe current conditions and changes in the weather.</p>	<p>K.E.1.1. Students are able to describe simple Earth patterns in daily life. <i>(Earth/Space Science)*</i></p>
<p>5. Observe and describe basic changes in the seasons.</p>	<p>K.E.1.1. Students are able to describe simple Earth patterns in daily life. <i>(Earth/Space Science)*</i></p>
<p><b>STANDARD 5 — Science and Technology</b> As a result of their explorations and participation in simple investigations through play, children develop an understanding about science and technology and the ability to distinguish between natural objects and objects made by humans.</p>	<p><b>Standard: Science, Technology, Environment and Society</b></p>
<p><b>Benchmarks</b></p>	<p><b>Grade-Specific Standard</b></p>
<p>1. Use tools or objects in the environment to solve problems or complete tasks.</p>	
<p>2. Use the computer and other technology, if available, to explore how their actions can cause an effect.</p>	<p>Students are able to recognize technology in school, home, and community. <i>(Science, Technology, Environment, and Society)**</i></p>

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\*\*Supporting Skill from K-2 Standards—mastery not expected at K.

<p>3. Identify some objects as being found in nature and others as being made by people.</p>	
<p><b>STANDARD 6 — Science, Environment and Society</b>                  As a result of their explorations and participation in simple investigations through play, children demonstrate an awareness of and respect for the environment and how it can be changed. Children demonstrate an understanding that people use science to explore the world and answer questions.</p>	<p><b>Standards Area: Science, Technology, Environment and Society</b></p>
<p><b>Benchmarks</b></p>	<p><b>Grade-Specific Standard</b></p>
<p>1. Demonstrate care and respect for the environment.</p>	<p>Care for the environment around the school. (<i>Science, Technology, Environment and Society</i>)**</p>
<p>2. Demonstrate knowledge that their actions and actions of others can change the environment.</p>	
<p>3. Recognize ways to recycle and reuse materials.</p>	<p>Recognize ways to reuse various materials. (<i>Science, Technology, Environment and Society</i>)**</p>
<p>4. Demonstrate understanding that everyone can use science to explore and solve problems.</p>	

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