



**Second Grade Science**

Description: In second grade, learners grow in their ability to understand larger systems and the parts that make them up. Investigations of how parts relate to the whole provide a key basis for understanding systems in later grades. Students will record observations and data, use a variety of informational texts to gather information, and engage in scientific thinking as they begin to understand larger systems and the parts of those systems.

*Physical Sciences*

<u>Reporting Topic</u>	<u>Grade Level Standards</u>	<u>Competency Statement</u>
<u>States of Matter</u>	<ul style="list-style-type: none"> <li>Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot (for example, make and defend the claim that some changes caused by heating or cooling can be reversed and some cannot—such as by melting and freezing water or butter to show reversible changes and cooking an egg, freezing a plant leaf, or burning paper to show irreversible changes). (2-PS1-4)</li> </ul>	Students will: Use examples to explain that some heating/cooling changes can be reversed (and some can't)
<u>Properties of Matter</u>	<ul style="list-style-type: none"> <li>Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties (for example, observe and describe the color, texture, hardness, and flexibility of different kinds of materials, and sort the materials into groups based on patterns in their shared properties). (2-PS1-1)</li> <li>Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose (for example, test the strength, flexibility, hardness, texture, and absorbency of various materials, and use this qualitative information to decide which materials would work best for a given purpose). (2-PS1-2)</li> </ul>	Students will: Explain why a particular material worked well for its intended purpose based on its properties.



<p><b><u>Structure of Matter</u></b></p>	<ul style="list-style-type: none"> <li>• Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object (for example, observe as the same set of blocks or building bricks is taken apart and put back together—by the student or the teacher—to form various structures, and use these observations to defend the claim that an object made of a small set of pieces can be disassembled and made into a new object). (2-PS1-3)</li> </ul>	<p>Students will: Explain how an object is made up of a small set of pieces that can be made into something new based on your observations.</p>
<p><i>Life Sciences</i></p>		
<p><b><u>Reporting Topic</u></b></p>	<p><b><u>Grade Level Standards</u></b></p>	<p><b><u>Competency Statement</u></b></p>
<p><b><u>Matter and Energy in Organisms</u></b></p>	<ul style="list-style-type: none"> <li>• Plan and conduct an investigation to determine if plants need sunlight and water to grow (for example, plan and carry out an investigation—testing one variable at a time—to figure out if plants need sunlight and water to grow). (2-LS2-1)</li> </ul>	<p>Students will: Communicate (tell/picture/writing) how to find out if plants need sunlight/water</p>
<p><b><u>Ecosystem Diversity</u></b></p>	<ul style="list-style-type: none"> <li>• Make observations of plants and animals to compare the diversity of life in different habitats (for example, observe various plants and animals—firsthand or from media—and use these observations to make comparisons between the different kinds of living things in different habitats on land and in water). (2-LS4-1)</li> </ul>	<p>Students will: Show/tell/explain that different habitats have a variety of living things adapted to its environment</p>
<p><b><u>Interdependent Relationships in Ecosystems</u></b></p>	<ul style="list-style-type: none"> <li>• Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants (for example, create a sketch, drawing, or physical model that demonstrates how animals move seeds around or pollinate plants). (2-LS2-2)</li> </ul>	<p>Students will: Make a model that shows how an animal spreads seeds or how an animal pollinates plants</p>
<p><i>Earth and Space Science</i></p>		
<p><b><u>Reporting Topic</u></b></p>	<p><b><u>Grade Level Standards</u></b></p>	<p><b><u>Competency Statement</u></b></p>



<p><b><u>Plate Tectonics</u></b></p>	<ul style="list-style-type: none"> <li>Develop a model to represent the shapes and kinds of land and bodies of water in an area (for example, create a diagram, drawing, physical replica, diorama, dramatization, or storyboard that represents the shapes and kinds of land and bodies of water in an area). (2-ESS2-2)</li> </ul>	<p>Students will: Develop a model to represent kinds of land and bodies of water in a community/area</p>
<p><b><u>Weathering and Erosion</u></b></p>	<ul style="list-style-type: none"> <li>Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land (for example, compare different designs of dikes and windbreaks to hold back water and wind or different designs that use shrubs, grass, and trees to prevent erosion). (2-ESS2-1)</li> </ul>	<p>Students will: Compare solutions designed to prevent wind or water from changing the shape of the land</p>
<p><b><u>Water and Earth's Surface</u></b></p>	<ul style="list-style-type: none"> <li>Obtain information to identify where water is found on Earth and that it can be solid or liquid (for example, obtain information using various texts; text features, such as headings, tables of contents, glossaries, electronic menus, and icons; and other media to identify that water on Earth is found in oceans, rivers, lakes, and ponds and that it can exist as solid ice or in liquid form). (2-ESS2-3)</li> </ul>	<p>Students will: Identify where water is found on Earth as a solid or liquid based on information found.</p>
<p><b><u>Changing Earth</u></b></p>	<ul style="list-style-type: none"> <li>Use information from several sources to provide evidence that Earth events can occur quickly or slowly (for example, use observations from media to make and defend the claim that Earth's events can occur quickly or slowly; for instance, volcanic explosions and earthquakes occur quickly compared to the erosion of rocks, which occurs slowly). (2-ESS1-1)</li> </ul>	<p>Students will: Provide evidence that Earth events occur quickly or slowly using several sources.</p>
<p><i>Engineering</i></p>		
<p><b><u>Reporting Topics</u></b></p>	<p><b><u>Grade Level Standards</u></b></p>	<p><b><u>Competency Statement</u></b></p>
<p><b><u>Defining Problems</u></b></p>	<ul style="list-style-type: none"> <li>Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that</li> </ul>	<p>Students will: Ask questions, make observations,</p>



	<p>can be solved through the development of a new or improved object or tool (for example, approach a situation that people want to change or create a problem to be solved through engineering, and ask questions, make observations, and gather information to clarify the problem, understanding that a problem must be clearly understood before a solution can be designed). (2-ETS1-1)</p>	<p>and gather information about a situation in order to define a problem</p>
<p><b><u>Designing Solutions</u></b></p>	<ul style="list-style-type: none"><li>• Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem (for example, convey a design solution through a sketch, drawing, or physical model in order to communicate problem-solving ideas to other people). (2-ETS1-2)</li></ul>	<p>Students will: Illustrate how the shape of an object helps it work to solve a problem</p>
<p><b><u>Evaluating and Testing Solutions</u></b></p>	<ul style="list-style-type: none"><li>• Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs (for example, test two different solutions to the same problem and compare their performances). (2-ETS1-3)</li></ul>	<p>Students will: Compare strengths and weaknesses of two objects as you solve a problem.</p>