

SCIENCE OVERVIEW
GRADE: SECOND
Lemont-Bromberek CSD 113A

<p><i>What is the story a second grader is able to tell by the end of the year?</i></p> <p>Scientists observe the natural world. They investigate events and their causes and look for patterns that help them explain the changes we observe in our ever-changing world. Second grade scientists investigate the many different kinds of land features and bodies of water. They conduct inquiries to determine ways in which wind and water change land. They find evidence that plants and animals throughout the world depend on one another to survive and also explore the properties of matter and reversible and irreversible changes in matter.</p>			
UNITS of STUDY	SCIENTIFIC & ENGINEERING PRACTICES <i>The actual doing of science and engineering piques student interest</i>	DISCIPLINARY CORE IDEAS <i>Key ideas that build conceptually throughout the K-8 experience</i>	CROSSCUTTING CONCEPTS <i>Important themes that pervade science, engineering and mathematics</i>
LIFE SCIENCE <i>Interdependent Relationships in Ecosystems</i>	<p>Developing and Using Models Develop a simple model based on evidence to represent a proposed object or tool.</p> <p>Planning and Carrying Out Investigations Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.</p> <p>Make observations (firsthand or from media) to collect data that can be used to make comparisons.</p>	<p>Interdependent Relationships in Ecosystems Plants depend on water and light to grow.</p> <p>Plants depend on animals for pollination or to move their seeds around.</p> <p>Biodiversity and Humans There are many different kinds of living things in any area, and they exist in different places on land and in water.</p> <p>Developing Possible Solutions Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.</p>	<p>Cause and Effect Events have causes that generate observable patterns.</p> <p>Structure and Function The shape and stability of structures of natural and designed objects are related to their function.</p>
PHYSICAL SCIENCE <i>Structure and Properties of Matter</i>	<p>Planning and Carrying Out Investigations Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.</p> <p>Analyzing and Interpreting Data Analyze data from tests of an object or tool to determine if it works as intended.</p> <p>Constructing Explanations and Designing Solutions Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.</p> <p>Engaging in Argument from Evidence Engaging in argument from evidence in K-2</p>	<p>Structure & Properties of Matter Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature.</p> <p>Matter can be described and classified by its observable properties.</p> <p>Different properties are suited to different purposes.</p> <p>A great variety of objects can be built up from a small set of pieces.</p> <p>Chemical Reactions Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not.</p>	<p>Patterns Patterns in the natural and human designed world can be observed.</p> <p>Cause and Effect Events have causes that generate observable patterns.</p> <p>Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p> <p>Energy and Matter Objects may break into smaller pieces and be put together into larger pieces, or change shapes.</p>
EARTH/SPACE SCIENCE <i>Earth Systems: Properties That Shape The Earth</i>	<p>Developing & Using Models Use models to represent landforms and bodies of water.</p> <p>Use models to test solutions to slow or prevent wind or water from changing the shape of the land.</p>	<p>Earth's Place in the Universe Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe.</p> <p>Wind and water can change the shape of the land.</p>	<p>Patterns Patterns in the natural world can be observed.</p> <p>Stability and Change Things may change slowly or rapidly.</p>

	<p>Use models and maps to look for patterns.</p> <p>Construct Explanations & Design Solutions Explain observations using observations and evidence.</p> <p>Compare multiple solutions to a problem.</p> <p>Obtaining, Evaluating & Communicating Information Gather information from texts, media, and observations to answer questions in science.</p>	<p>Maps show where things are located. One can map the shapes and kinds of land and water in any area.</p> <p>Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form.</p> <p>Engineering, Technology & Application of Science Because there is always more than one possible solution to a problem, it is useful to compare and test designs</p>	
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