

SCIENCE OVERVIEW
GRADE: FIRST
Lemont-Bromberek CSD 113A

<p><i>What is the story a first grader is able to tell by the end of the year?</i></p> <p>Scientists observe the natural world. They look for evidence of patterns as they observe and investigate. Scientists use patterns to make predictions. First grade scientists look for patterns in living things, as they explore light and sound, and as they discover patterns in shadows throughout the day. They identify moon phases, seasons, and day and night cycles as repeating patterns.</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>
<p>LIFE SCIENCE <i>Structure, Function and Information Processing</i></p>	<p>Explanations and Designing Solutions: Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.</p> <p>Use materials to design a device that solves a specific problem or a solution to a specific problem.</p> <p>Obtaining, Evaluating, and Communicating Information Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.</p>	<p>Structure and Function All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.</p> <p>Plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.</p> <p>Growth and Development of Organisms Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.</p> <p>Information Processing Animals have body parts that capture and convey different kinds of information needed for growth and survival.</p> <p>Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs.</p> <p>Inheritance of Traits Young animals are very much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents.</p> <p>Variation of Traits Individuals of the same kind of plant or animal are recognizable as similar but can</p>	<p>Patterns Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.</p> <p>Structure and Function The shape and stability of structures of natural and designed objects are related to their function(s).</p>

		also vary in many ways.	
PHYSICAL SCIENCE <i>Waves: Light and Sound</i>	Planning and Carrying Out Investigations Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question. Constructing Explanations and Designing Solutions Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. Use tools and materials provided to design a device that solves a specific problem.	Wave Properties Sound can make matter vibrate, and vibrating matter can make sound. Electromagnetic Radiation Objects can be seen only when light is available to illuminate them. Some objects give off their own light. Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Information Technologies and Instrumentation Mirrors can be used to redirect a light beam. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.) People also use a variety of devices to communicate (send and receive information) over long distances.	Cause and Effect Simple tests can be designed to gather evidence to support or refute student ideas about causes. ----- Connections to Engineering, Technology, and Applications of Science: Influence of Engineering, Technology, and Science, on Society and the Natural World People depend on various technologies in their lives; human life would be very different without technology.
EARTH/SPACE SCIENCE <i>Space Systems: Patterns & Cycles</i>	Planning and Carrying Out Investigations Make observations (firsthand or from media) to collect data that can be used to make comparisons. Analyzing and Interpreting Data Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.	The Universe and its Stars Patterns of the apparent motion of the sun, moon, and stars in the sky can be observed, described, and predicted. Earth and the Solar System Seasonal patterns of sunrise and sunset can be observed, described, and predicted.	Patterns Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. ----- Connections to Nature of Science Scientific Knowledge Assumes an Order and Consistency in Natural Systems Science assumes natural events happen today as they happened in the past. Many events are repeated.