

### 1st Grade Topic Model

*Narrative and Rationale:* The three bundles in this 1<sup>st</sup> grade model are characterized by the study of patterns of light, sound, and organism structure. Bundle 1 centers on the theme of seeing objects, with a study of both light and solar patterns, and students could begin year-long observations of seasonal changes. Bundle 2 builds on the ideas about light and introduces a study of sound and communication. Bundle 3 introduces basic concepts of heredity, structure, and function relationships in organisms. Throughout the year, students have opportunities to build and apply their science knowledge through engineering practices and DCIs. In addition, the crosscutting concepts of patterns and structure and function can be a focus of instruction throughout the year.

Note that the practices and crosscutting concepts described are intended as end-of-instructional unit expectations and not curricular designations—additional practices and crosscutting concepts should be used throughout instruction in each bundle.

<b>Bundle 1: Light and Solar Patterns</b> ~8 Weeks	<b>Bundle 2: Light, Sound, Space and Communication</b> ~12 Weeks	<b>Bundle 3: Structures and Behaviors in Organisms</b> ~12 Weeks
<p><b>1-PS4-2.</b> Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.<sup>1</sup></p> <p><b>1-PS4-3.</b> Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.</p> <p><b>1-ESS1-2.</b> Make observations at different times of year to relate the amount of daylight to the time of year.<sup>1</sup></p>	<p><b>1-PS4-1.</b> Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.</p> <p><b>1-PS4-2.</b> Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.</p> <p><b>1-PS4-4.</b> Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.*</p> <p><b>1-ESS1-1.</b> Use observations of the sun, moon, and stars to describe patterns that can be predicted.</p> <p><b>1-ESS1-2.</b> Make observations at different times of year to relate the amount of daylight to the time of year.<sup>1</sup></p> <p><b>K-2-ETS1-1.</b> Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.<sup>1</sup></p> <p><b>K-2-ETS1-3.</b> Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.<sup>1</sup></p>	<p><b>1-LS1-1.</b> Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.*</p> <p><b>1-LS1-2.</b> Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.</p> <p><b>1-LS3-1.</b> Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.</p> <p><b>1-ESS1-2.</b> Make observations at different times of year to relate the amount of daylight to the time of year.<sup>1</sup></p> <p><b>K-2-ETS1-2.</b> 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.</p>

<sup>1</sup> The bundle only includes part of this PE; the PE is not fully assessable in a unit of instruction leading to this bundle.

1<sup>st</sup> Grade Topics Model Course Flowchart

