

First Grade Science

	Light and Sound Waves
Performance Expectations	<p>Students who demonstrate understanding can:</p> <ul style="list-style-type: none"> • Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. • Make observations to construct an evidence-based account that objects can be seen only when illuminated. • Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. • Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.
Scientific Core Ideas	<p>Students who demonstrate understanding can describe that:</p> <ul style="list-style-type: none"> • Sound can make matter vibrate, and vibrating matter can make sound. • Objects can be seen if light is available to illuminate them or if they 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. • Mirrors can be used to redirect a light beam. <p>People use a variety of devices to communicate over long distances.</p>
Language Arts Expectations	<p>Students who demonstrate understanding can:</p> <ul style="list-style-type: none"> • Write an explanatory text • Write a sequence of instructions
Mathematics Expectations	<p>Students who demonstrate understanding can:</p> <ul style="list-style-type: none"> • Use appropriate tools strategically. • Order objects by length; compare the length of two objects. • Draw a picture to represent data. • Solve simple put-together, take-apart, and compare problems using information presented in a picture.
Engineering Expectations	<p>Students who demonstrate understanding can:</p> <ul style="list-style-type: none"> • 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. • 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. • Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each perform.
Information and Technology Literacy	<p>Students who demonstrate understanding can:</p> <ul style="list-style-type: none"> • Ask and answer such questions such as <i>who, what, where, when, why, and how</i> to demonstrate understanding. • Use a variety of digital tools to produce, publish, and collaborate with peers.

*Words in this synopsis were taken directly from the Next Generation of Science Standards (NGSS).