

2017 Science Unit 5: Communicating with Light and Sound ; Grade 1

Content Area: **Science**
Course(s): **Science 1**
Time Period: **Marking Period 4**
Length: **May - June**
Status: **Published**

Established Goals/Standards

Please choose the appropriate Goals/Standards from the Standards tab above.

SCI.1-PS4-4

Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.

Essential Questions

- How would we communicate over a distance without the use of any of the devices that people currently use?

Enduring Understanding

Light or sound be used to communicate over a distance.

Content

Information Technologies and Instrumentation

- Sound can make matter vibrate, and vibrating matter can make sound. (1-PS4-1)

Electromagnetic Radiation

- Objects can be seen if light is available to illuminate them or if they give off their own light. (1-PS4-2)
- 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. (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.) (1-PS4-3)

Assessment

Students who understand the concepts can:

- Ask questions, make observations, and gather information about a situation people want to change in order to define a simple problem that can be solved through the development of a new or improved object or tool.
- Develop a simple model based on evidence to represent a proposed 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.
- Use tools and materials provided to design a device that solves a specific problem.
- Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. Examples of devices could include:
 - ☐ A light source to send signals
 - ☐ Paper cup and string telephones ☐
 - A pattern of drum beats

Resources

Teacher generated ActivBoard Flipcharts

United Streaming

You Tube

Mystery Science

NGSS @ nsta.org National Science Teachers Association website

Science Spin

NJ Model Curriculum

<https://www.symbaloo.com/mix/ngss7> NGSS symbaloo

Experiments/Observations/Journals

Non-Fiction Science leveled readers

Non-Fiction Books from school library

Scholastic News First Grade Level

Mailbox Magazine activities (core curriculum aligned)

Teacher's Helper activities (core curriculum aligned)

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