First Grade 2020 Science Unit #3: Light

Content Area: **Science**
Course(s): **Science 1, Generic Course**
Time Period: **Marking Period 2**
Length: **Approximately 6-8 weeks**
Status: **Published**

Established Goals/Standards

CAEP.9.2.4.A.1	Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.
CAEP.9.2.4.A.2	Identify various life roles and civic and work - related activities in the school, home, and community.
CAEP.9.2.4.A.3	Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes.
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.
1-PS4-3	Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.
1-PS4-2.PS4.B	Electromagnetic Radiation
1-PS4-3.PS4.B.1	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-PS4-2.PS4.B.1	Objects can be seen if light is available to illuminate them or if they give off their own light.
1-PS4-4.PS4.C	Information Technologies and Instrumentation
1-PS4-4.PS4.C.1	People also use a variety of devices to communicate (send and receive information) over long distances.

Essential Questions

- How can light be redirected?
- How do materials block light?
- How does light help us see?
- How does light travel?
- What are some devices with light used to communicate (send and receive information) over long distances?

Enduring Understanding

- If light is available to illuminate objects, we can see them. We can also see objects that give off their own light.
- Light travels in a straight line until it hits an object. When light hits an object, different things can

happen. The light can pass through, be taken in, or bounce back.

- Mirrors can be used to redirect a light beam.
- Some materials allow light to pass through them, others allow only some light through them, and others block all the light and create a dark shadow on any surface beyond them.
- Traffic lights, flashing polish lights, and a lighthouse are some devices used to communicate with light over distances.

Content

Student will be able to

- observe how light is necessary to see an object
- observe how light passes through ojbects and develop an understanding of transparent, translucent, and opaque objects
- explore how shadows are made
- explore how light travels, including how it can be reflected or redirected.
- ecplore how people use light to communicate

Assessment

End of Unit Assessment given by printed version or online version using the following:

teacher Assessment book

HMHCO.com online assessments

Also, assessments given throughout each unit using self checks, unit reviews at end of each unit in student workbooks, during labs.

Resources

HMC Science Dimensions Teacher's Guide

HMC Non-Fiction leveled readers

Science kits materials for Units 1-6

HMC Science Dimensions Student workbooks

HMC online component for students and teachers (ED) (HMHCO.com) which includes online version of units, videos, assessments, downloadable worksheets, projects, and hands-on aciivities.

Teacher Assessment Book (also on HMHCO.com)

Evidence Notebooks

You Tube

Mystery Science

Science Spin

Non-Fiction Books from school library

Scholastic News First Grade Level

Mailbox Magazine activities

Teacher's Helper activities

weekly STEM activities

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