

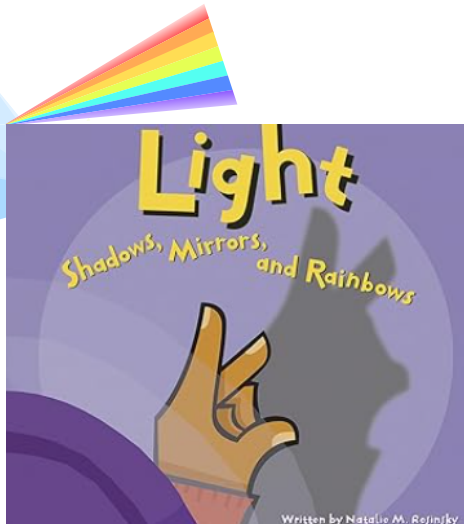
CONNECTIONS TO SCIENCE GUIDES

GEORGIA YOUTH SCIENCE & TECHNOLOGY CENTERS, INC.

LIGHT: SHADOWS, MIRRORS, AND RAINBOWS

BY: NATALIE M. ROSINSKY

CAN'T FIND THE BOOK?
READ-ALOUDS ARE AVAILABLE
ON YOUTUBE.



HAVE YOU EVER NOTICED...

- that sunlight shines through some things, but not others?

HAVE YOU EVER WONDERED...

- how light interacts with various materials?

EXPLORE

SUNCATCHERS

Materials:

- Cardboard
- Colored tissue paper
- Wax paper
- Glue (liquid)
- Paintbrush
- Scissors
- String or yarn

Directions:

- Begin by observing the cardboard, the tissue paper, and the wax paper.
- Hold each up to a light source. How does the light interact with each of them?
 - The cardboard is opaque, so the light should not pass through.
 - The tissue paper and the wax paper are translucent, so they should allow some light to pass through.
- As you are exploring, think about:
 - How does a material's ability to interact with light effect how it is used?

Connection to Art:

- Once you have observed the materials, place the piece of wax paper on a flat surface.
- Put some glue into a small bowl or cup. Add a little water and mix it well to make it runnier.
- Using the paintbrush, paint the runny glue onto the wax paper.
- Cut or tear the tissue paper into small pieces. Then, stick the small pieces of tissue paper onto the wax paper. Cover with another layer of runny glue.
- Using the scissors, cut out a cardboard frame and glue it to the wax paper. Add a piece of string or yarn to hang.



EXPLAIN LIGHT

Light can interact with material in a number of ways. The material can either take in the light energy, bounce it back, allow it to pass through, bend its path, or disperse it in different directions. When a material absorbs or reflects light, we say it is opaque. When a material allows light to pass through we say it is transparent. When a material allows only some light to pass through, we say it is translucent.



EXTEND SHADOW PUPPETS



Grab a flashlight and some different materials or objects to make shadow puppets. Do some objects work better than others? Why do you think that is?

STEM CAREER SCIENTIFIC PHOTOGRAPHER

A scientific photographer is a photographer who uses their technical knowledge and understanding of scientific principles to capture accurate images of scientific phenomena. At work, scientific photographers use camera mechanics, lighting, microscopy techniques, and advanced imaging methods to capture precise data visually. If you are interested in science and photography, being a scientific photographer might be for you!



BACKGROUND

The Georgia Youth Science and Technology Centers, Inc. provides quality programs for teachers of STEM subjects that improve the teaching and learning process at the kindergarten through eighth grade levels. We present programs that change students' perceptions and inspire an appreciation for science, technology, engineering, and mathematics subjects.

ABOUT US

GYSTC, Inc.

gystc@kennesaw.edu

470-578-7592

www.gystc.org

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