

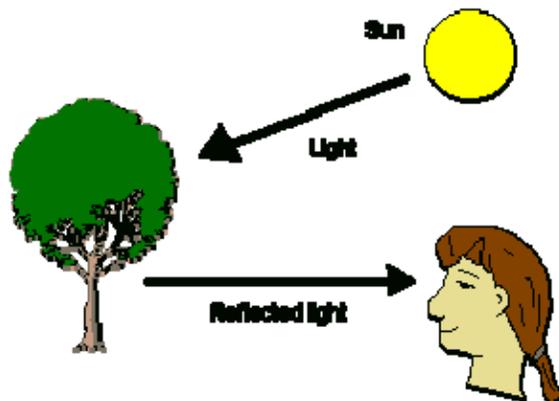
Bouncing Light

INTRODUCTION

Students are fascinated by natural phenomena that they see every day, but may not understand. Light is one of those phenomena that is a part of their lives, yet they may not think about how it travels, bends, or reflects. This lesson is an introductory look at reflection, the bending of light.

WHERE'S THE SCIENCE?

Reflection occurs when light hits a surface. Some of the light that hits a surface is bounced off, or **reflected**. The amount of reflected light depends on the type of surface the light is reaching. Mirrors are designed to reflect almost all of the light that hits them because they are smooth and flat. This works similar to a ball hitting and bouncing off of a wall.



MATERIALS

- Two cardboard tubes (paper towel tubes)
- A flashlight
- Mirror
- Two people
- Chart paper
- Markers

PROCEDURES

1. Introduce the lesson by asking students what they think they know about light. Chart students' ideas and post in a visible place in the classroom.
2. Tell the students that today they are going to investigate bouncing light, or reflection. They will work in partners and record the results of their investigation in their science notebooks. Instruct them to follow the next series of directions with their partner. Posting these directions in the front of the room will avoid confusion or missing steps.
 1. Hold a mirror up near the edge of a table.
 2. Ask a friend to hold one tube at an angle to the mirror.
 3. Shine the flashlight down it.
 4. Hold your tube next to the first one.
 5. Look through it and move it around until you see the light shining straight at you.
3. Instruct the students to return to the carpet or group area with their science notebooks when the investigation is complete. Discuss what they did and their results. Return back to the chart paper and record their ideas and further questions.

EXTENSION

Reflections are caused by light bouncing off things. An alternative experiment would be to direct a beam of sunlight along a wall by reflecting it off a mirror.

Safety Reminder

Never look directly at the sun or its reflection in a mirror because it can damage your eyes.

Vocabulary

Reflect: to bounce off a surface.

Additional Resources

Color and Light ISBN-10: 1-59242-366-3 Delta Science Readers
www.deltaeducation.com

<http://www.exploratorium.edu/snacks/iconreflection.html>

This site has reflection exhibits and experiments.

<http://fossweb.com/modules3-6/MatterandEnergy/index.html>

This site has interactive investigations on reflected light.

http://www.tooter4kids.com/Light_Color/reflection.htm

This site has information on reflection.

http://www.bbc.co.uk/schools/ks2bitesize/science/physical_processes.shtml

This interactive site lets students explore with mirrors and light.

Nevada State Science Standard

P5C1 Students know light can be described in terms of simple properties (e.g. color, brightness, reflection). I/S

N5A1 Students know scientific progress is made by conducting careful investigations, recording data, and communicating the results in an accurate method. E/S

N5B3 Students know the benefits of working with a team and sharing findings. E/L