



Light

CONTENT TOPIC: Light

CONCEPT: light has many properties.

INSTRUCTIONAL OBJECTIVES: The learner will:

- discover that light travels in a straight line.
- discover that light can be bent.
- discover that light can bounce back.
- discover that light can pass through some materials and can be stopped by other materials.

OUTLINE OF CONTENT:

- I. Light travels in a straight line
- II. Light can bounce back
- III. Light can be bent
- IV. Light can pass through some materials and can be stopped by others

TIME REQUIRED: 15 minutes

MATERIALS:

Laser pointer, glass sheet with stand, mirrors, beaker of water and a pencil, white card stock, and black construction paper

SET:

(Display laser pointer.) Does anyone know what a laser is? (response) Light Amplification by Stimulated Emission of Radiation) Does light travel in a straight line? (response) What will happen if the laser light hits an object? Today we are going to learn several properties of light.

INSTRUCTION:

Light is a form of wave. Today I am going to show some activities that teach us more about light.

Place a pencil in a glass half full of water. Observe the differences in appearances above and below the water. (Discuss the substances - water and air.) What happens to light rays as they pass from one substance to another? (They may be bent when they pass from one substance to another causing *refraction*.)

Shine the laser around the room. What do you see? (Light traveling in a straight line.) Now, shine the laser through the glass. What happens? (response) Point out the light that passes through the glass. Angle the laser so that the students can see



the reflection and the original beam. (Light travels in a straight line, as long as it is not passed through a substance which might cause it to bend or reflect.)

What do you see when you look in a mirror? (Your image) When light strikes a smooth surface, it bounces off. This bouncing back is called reflection. Shine a laser into some mirrors.

(Have ready clear glass, waxed paper, black construction paper.) Shine the laser to see if the rays pass through the materials. (Light can pass through some materials and can be stopped by others. Terms *TRANSPARENT*, *TRANSLUCENT* and *OPAQUE* might be taught here.) Show that the light is reflected by white and reflective materials (shine laser on white card) and absorbed by dark materials (shine laser on black paper)

CLOSURE:

Today we've talked about many properties of light. Name some of things light does? (response) I am going to ask you some yes or no questions. Can light pass through all objects? (No) Can light travel in a straight line? (Yes) (Continue with as many questions as you wish.)