

Laser Reflections

5th Grade

Sarah Fortner/ Penny Sanecki

Benchmarks & Objective:

- (ES-5) Describe and summarize observations of the transmission, bending and reflection of light.

Materials:

Laser Pointer (less than \$10 from Target, Wal-Mart etc.)
Plane Mirrors (Many)
Protractor
Ruler
Mister

Target Concepts:

- Light travels in a straight line
- Light can be reflected
- Light travels much faster than sound and does not require a medium
- Light is a form of energy

Initial Introduction:

Students will be asked to describe what creates light (an energy source is needed). They will generate a list of hypotheses on the blackboard. Students will be asked to think about the speed of light and to compare that to sound (think about lightening and thunder). We will review these concepts and discuss why they see their reflection in a mirror.

Procedure:

Students will be given the supply list and told that they are going to explore light reflection (Groups of 4 work well). They will be told that their objective is to reflect the laser from the mirrors as many times as possible. They will need to record distances and angles between mirrors. They will notice that the laser beam travels in a straight line between mirrors. *only responsible students should be able to use the laser and safety directions will be given. Do not shine the laser into eyes.

Target Observations:

- Light is reflected
- Mirrors reflect the laser
- The angle of the mirror relates to the angle of reflection

Summary & Discussion:

After students diagram their reflection paths the instructor will in between two mirrors. The laser must reflect off of materials. (We can discuss how this relates to the reflection of the sun from the moon).