

Light Activity

Never touch the surfaces of any optical equipment, since you will leave fingerprints that are difficult or impossible to remove. **Always** hold optical equipment by its edges. **Never** shine a laser into your eyes or anyone else's, and **never** look at the Sun, even if you are wearing sun glasses.

A. Magnifying glass. Observe small objects.

1. Look at small objects using the magnifying glass. Describe what you can see with the magnifying glass that you can't see with just your eyes.

B. Water cup and pencil. Place a pencil in the water and observe the pencil from the side of the cup.

2. Draw a picture of what you see while looking at the side of the cup. The bending is called refraction.

C. Prism. Take the prism outside and allow sunlight to shine through it onto a flat surface on the ground.

3. Describe what you see.

D. Diffraction grating. Separate light into colors using thin plastic.

4. Hold up the diffraction grating. Point it at a light and describe what you see.

E. Laser and optical calcite. Shine the laser through the optical calcite. Multiple light rays are caused by internal reflection.

5. Describe what you see.

F. Mirrors and lasers. Time to experiment!

6. Experiment with the mirrors and lasers. How do you need to position the mirrors to get the laser light to reverse direction? Draw a picture of what you did.

G. List 3 concepts that you learned from today's light experiments.

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