Curiosity Guide #203
Refraction of Light

Accompanies Curious Crew, Season 2, Episode 3 (#203)

Fat Finger

Investigation #2

Description

Perform this funny finger experiment to learn more about how light, water, and glass interact.

Materials

- A 2 centimeter plastic test tube or narrow olive jar
- Water
- Basin or sink
- Your finger

Procedure

1) Fill the test tube or jar half full with water.
2) Hold the test tube or jar over a sink or basin.
3) Carefully insert your index finger into the jar.
4) Compare your index finger to your other fingers. What do you notice?
5) Pour out the water. Place your index finger in again. Is there a difference? What do you notice?
6) Another thing to try: Place your finger in a rectangular container. Does it have the same effect?

My Results

Explanation

When your finger is in the tube with water, the curved sides act like a magnifying glass or a convex lens. The extra water adds to the density of the lens and slows down the light rays even more. In the case of a convex lens, the light refracts or is bent toward the midline of the object. If you view the image at the proper distance, it will look magnified.

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