

Water PRISM

Bending Light - Refraction

To do and notice:

Explore the rectangular container with water using the flashlight.

Make observations.

What do you notice about the light? How would you describe the properties of light in the water?

Move the container or the flashlight to create the visible spectrum or rainbow. What causes the colors?

Remove the lid from the container and place the straw in the water. Make observations of the straw in and out of the water.

What's going on?

This activity demonstrates what happens to light and it passes through different transparent materials like air to water. When light enters the water, it slows down and bends. The light from the flashlight is white light. White light is made up of many different wavelengths of light "ROY G BIV". Each of these colors will bend at different rates. Violet will bend the most and red bends the least.

This bending of light is called refraction. A great example of refraction is the straw. Light bends and slows down as it enters the water. The straw appears to be broken or bent in the water.

LIGO Connection: LIGO's optics are polished glass with thin film coatings to reflect light and to prevent the refraction of light from the LASER.