



Science at Home

What's in the bag?

Rainbow Glasses

Break light into a spectrum!

Put on your pair of rainbow glasses, and look at some lights—you'll see rainbows! Now try looking at different kinds of lights: streetlights, the light from a computer or a TV, the light from a candle, the light from the moon.

The lenses in the glasses are *diffraction gratings* that break the light that you see up into colors. This is what we call a *spectrum* of the light. White light is made up of all the different colors; the glasses break this light into the colors that were there all the time so that you can see them! Different lights have different spectrums, so you'll see some differences as you explore.

Chromadepth Glasses

Bring depth to colored objects and pictures

Put on the glasses and look at colorful objects. Red and orange objects appear to "jump out"; blue objects seem to "sink in." Check out the photo on the front of this card. What do you notice?

The glasses give you the illusion of depth by presenting a slightly different view of the object you are looking at to each eye. The lenses bend the colors of light in different directions; different colors bend by different amounts, red more than blue. You see red light as coming from larger angles, and thus shorter distance. So red objects look like they are closer to you than green, and green objects are closer to you than blue!

Sunburn Beads

What makes the beads change color?

Take your beads into in the sunlight. What happens to the color of the beads?

Sunlight contains *ultraviolet* light. Ultraviolet causes a reaction in your skin that makes it turn red, and it causes reactions in the beads that makes them turn colors too. If the beads get very dark, that means that there is a lot of ultraviolet, and maybe you should be wearing some sunscreen!

Does ultraviolet go through glass in a window in your house? How about the glass in the windows in your car? Can it go through water? You can use your beads to test! Are there other things besides ultraviolet that can make the beads change color? What other things could you try?

Little Shop of Physics & Oglala Lakota College



Who are the people behind the program?

The Little Shop of Physics is a hands-on science program at Colorado State University. We visit Pine Ridge each year as part of a partnership with the Oglala Lakota College Math, Science & Technology Department. Misty Brave, an instructor in the Department, has arranged school visits, workshops, and started the development of an outreach program at OLC modeled on the Little Shop.

Supporters

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