

Color and the Light Spectrum

Name: _____ Date: _____

LEARNING OBJECTIVE

The student will observe the visible light spectrum and investigate how colored filters affect light.

MATERIALS NEEDED

- a CD or DVD (shiny side)
- a flashlight or sunlight from a window
- colored cellophane or colored transparent plastic (red, blue, green if available)
- white paper
- pencil

HANDS-ON ACTIVITY

1. In a sunny spot or using a flashlight, hold the shiny side of a CD at an angle so light reflects off it onto a white piece of paper or wall, and adjust the angle until you see a rainbow spectrum appear.
2. On paper, draw and color the order of colors you observed in the spectrum, from one end to the other.
3. Hold a piece of red cellophane over the flashlight beam (or over your eye looking at a white object) and record what color the light or object appears to be.
4. Repeat with blue and green cellophane (or other available colors), recording the resulting appearance each time.
5. If you have 2 different colored cellophane sheets, layer them together over the light source and describe what happens to the color.

QUESTIONS

1. List the colors you observed in your spectrum, in order.
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2. What does seeing a full spectrum from the CD tell you about 'white' light (like sunlight)?
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3. What happened to the light or object's color when viewed through the red cellophane?

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- 4. If you layered two different colored cellophane sheets, what did you observe, and why do you think that happened?**
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