

4**Explaining what you see**

- a. Describe the similarities and differences you observed in the spectra from the red, blue, and green LEDs. You may want to use colored pencils to sketch the colors in the spectrum.

- b. Describe what you saw looking at the white LED. Compare the spectrum from the white LED with the spectra from red, green, and blue. You may want to use colored pencils to sketch the colors in the spectrum.

- c. Describe the spectrum you saw looking through the diffraction grating glasses at the spot made by the red laser on the screen. How is the spectrum of the red laser different from the spectrum of the red LED?

- d. Based on your observations, explain how the colored filters transform the white light of the LEDs inside the lamps into red, green, and blue.

Name:

16.3

Photons and Atoms



Question: How does light fit into the atomic theory of matter?

1

How is light produced?

There are no questions to answer in Part 1.

2

Examine the effects of light on glow-in-the-dark material

There are no questions to answer in Part 2.

3

Recording and analyzing your results

In answering these questions, think in terms of light and energy. Explain what happens to the energy in each of these situations:

- a. What happened when the light was not allowed to strike the glow-in-the-dark material? Explain.

- b. What happened when your hand was allowed to rest on the glow-in-the-dark material? Explain.

4

Examining the effect of different colors of light

There are no questions to answer in Part 4.

5

The quantum theory of light

There are no questions to answer in Part 5.