

LEARNING HOW LIGHT WORKS



The Colors of Light

NAME _____

TEACHER'S NAME _____

SCHOOL _____



The Colors of Light

Data and Observations

CAUTION! Do not look into a laser or at any reflections of the laser from shiny surfaces!
Do not look into the sun or at any reflections of the sun from shiny surfaces!

ACTIVITY 1:

What colors did you see on the wall when you shined the flashlight beam through the CD piece (or grating)?

Where did these colors come from?

ACTIVITY 2:

Draw a wave below and show the wavelength of your wave on the drawing.

Did the wave you made with the spring (or rope) get shorter or longer when you shook the end faster?

Write the colors of visible light starting with the longest wavelength and going to the shortest:

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____



ACTIVITY 3:

What are the parts of a spectroscope?

1 _____

2 _____

3 _____

ACTIVITY 4:

For each type of light source record the name of the source (or describe it) and then draw the spectrum you saw in the box.

1. Type of light source _____

Violet

Red

2. Type of light source _____

Violet

Red

3. Type of light source _____

Violet

Red

ACTIVITY 5:

What kind of light source do you think made the mystery spectrum? Why?



CONCLUSIONS:

1. Can you tell what colors are in the spectrum of a light source just by looking at it?
2. What instrument do you need to see the spectrum of a light source?
3. Every glowing object has its own spectrum, like "light fingerprints". What might be some uses of spectroscopy, the study of light spectra?

