



CATHEDRAL MOUSE

by
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Cathedral Mouse loves the colors that he sees as sunlight passes through the stained-glass windows. You will love the colors that you see when you put on your *Rainbow Glasses*. These glasses act as a prism and separate visible light into the colors of the spectrum. Common examples of visible light are reflected sunlight, incandescent light, or fluorescent light.

MATERIALS: Rainbow glasses, light source, paper, colored pencils

ACTIVITY:

1. Put on *Rainbow Glasses* and look towards a light.
2. On a piece of paper, draw (or color) what is seen.
3. Answer the following questions:
 - a. Are the colors blended in a continuous band or is each one an individual line?
 - b. Are the colors the same as the colors of a rainbow (ROYGBIV)? Are they in the same order?
 - c. Where do the colors come from?
 - d. How does a rainbow form?

TEACHER NOTES: Visible light is part of the electromagnetic spectrum. The electromagnetic spectrum consists of all types of energy, e.g., radiowaves, infrared, visible light, ultraviolet, X-rays, gamma rays, and cosmic rays. Since energy travels in waves, each type of energy has its own range of wavelengths. Visible light is actually only a small part of the electromagnetic spectrum. Sir Isaac Newton, during the late seventeenth century, was the first scientist known to study color in depth. He noticed that white light would spread out into a spectrum of colors or be refracted when it was passed through a prism. The spectrum could then be joined back again by passing it through a second prism. The spectrum of

visible light through a prism like the Rainbow Glasses is as follows:

Red **Orange** **Yellow** **Green** **Blue** **Indigo** **Violet**

The colors of the spectrum are continuous and blend together. An easy way to remember the spectrum is by the acronym *Roy G. Biv* which comes from the first letter of each color, e.g. R = red, O = orange, etc.

The same spectrum is caused when sunlight is refracted by water in the atmosphere. When it rains but the sun is still out, a spectrum or rainbow can form. The rainbow will have the same colors and in the same order as the spectrum seen through any prism or the Rainbow Glasses.

STANDARDS:

BSL: 1.3, 1.5, 1.8, 1.11, 2.1, 6.1, 11.3, 11.4, 12.1

NCTM: 9a, 13a

SCS: B1, B2, E2, H2, H5

Source of rainbow glasses: Educational Innovations, Inc.: 1-888-912-7474.

Online: www.teachersource.com

Chorao, Kay. Cathedral Mouse. Dutton's Children's Books, 1988. ISBN# 0-52544823-3.

