EXPERIMENT: TAKE A RAINBOW'S TEMPERATURE

Want to prove for yourself that red is hotter than blue?

You will need:

- a thermometer that measures air temperature (different from the thermometer you use to take your own temperature) This thermometer should measure at least down to individual degrees.
- a prism
- the sun
- a dark room with a window
- a window covering with a slit to let in one beam of light.

1. In the dark room, set up the prism so that the beam casts a wide rainbow onto a flat surface. Each color should be wide enough to completely cover the heat-sensing part of the thermometer.

   You should pick the right window and time of day for sunlight to pour directly onto that window. You may need to move the prism farther from your surface to get a wider rainbow.

2. Take each color's temperature. Give your thermometer plenty of time to change after you place it on a new color. Look closely; the differences will be small. Write each temperature below.

   red: _____

   orange: _____

   yellow: _____

   green: _____

   blue: _____

   violet: _____

3. Now place the thermometer just past red. Be sure no visible light touches the thermometer. Take the temperature.

   infrared: _____

4. Explain on the back of this page whether your findings agree with what you've learned about light. If not, what might be the reason?