

Name: _____

Science I Inquiry Lab - UV Beads

Ultraviolet (UV) light is one of the invisible frequencies of light that is given off by the sun. It is part electromagnetic (EM) spectrum and has shorter wavelengths than violet light and a higher frequency. Over-exposure to UV light can be harmful to many things including humans. Its effects can be seen in faded paper, a sunburn and a cracked rubber hose that has been left out in the sun. UV-sensitive beads contain a pigment that changes color when exposed to UV light from the sun. The beads are not, however, affected by visible light and will remain white indoors or when shielded from UV light.

You will be designing and performing an experiment to determine what conditions produce or effect UV light. Your experiment must be quantitative (you may have to develop a color scale). The following list gives some possible examples, but you may also come up with your own:

- What kinds of light contain UV light? incandescent, fluorescent, colored lights, sunlight, moonlight, black lights . . .
- Under what conditions can you get sunburned? in a car, in the shade, on a cloudy day . . .
- How effective are different sunscreens?
- Can UV light pass through window glass, different types of glass, tinted glass, car windows . . .?
- How much UV protection do different types of sunglasses provide?
- How does the amount of UV light from the sun compare to the UV light in tanning booths, sun lamps . . . ?
- Other ideas?

You may work in a group (no more than 4 people) to perform the experiment, but all students will be required to turn in your own lab based on the Scientific Inquiry Rubric.