



Exploring Energy and Waves with UV Light

NS 696 V: Weather and Climate for Educators

Colorado State Standard - 8th grade framework: Physical Science

* Understand and apply the idea that energy has various forms and its transformation occurs in processes that are predictable and explainable.

1. Concepts and Skills students know: the relationships between energy and waves as encountered in everyday experiences.

Materials:

UV sensitive beads

Pipe cleaners

** items found at www.teachersource.com

Various brands and SPF of sunscreens. (The spray types will be easiest to use to coat the beads, also results will come more quickly with lower SPF although it is harder and harder to find them)

After background information on the electromagnetic spectrum has been introduced, students will examine the UV portion of the spectrum using the beads.

1. Have students select several different beads and place on a pipe cleaner. Remind students that the beads will react immediately to the sunlight so they need to be kept from direct sunlight.
2. Have students place the beads in direct sunlight and make observations. Certain colors will appear more quickly than others. Observations and predictions can also be made concerning the length of time it will take to have the beads return to their initial color.
3. Students will then prepare an experiment by covering the beads with sunscreen. Students can select the type of sunscreens to use and make predictions. A formal lab write up can be prepared. It is nice to get the kids out of the classroom and stimulate some Vitamin D production.

Lesson generated by Bonnie Keller