

## Sun Safety Science Activity with UV Beads



In this experiment, students will use colour-changing, ultraviolet-sensitive beads to observe how sunscreen can block the harmful effects of the sun's rays.

One type of light from the sun, called ultraviolet (UV) light, is visible to bees but not to humans. UV radiation helps us make vitamin D in our skin, but too much of it can cause sunburns and skin cancer.

We don't use photosynthesis to make our food, but the sun is still very important for us. Among other things, we need the sun to help our skin make vitamin D. Without vitamin D our bones cannot grow properly, and they get soft and bendy (rickets).

How can you tell if you have had enough UV radiation? Your skin will change colour when it is exposed to enough UV radiation. Unfortunately, it can take a few hours for a tan to show.

UV beads have special chemicals that change colour very quickly when UV light hits them. Sunscreen blocks some UV light so the beads change colour more slowly if they are covered with sunscreen.

### **OBJECTIVES:**

- Observe the effect of ultraviolet radiation.
- Explain the effect of sunscreen on UV light.

### **MATERIALS:**

- a sunny day! (indoor lighting won't work)
- UV-sensitive beads (available for purchase at [Educational Innovations](#))
- sunscreen
- pipe cleaners or string

### **WHAT TO DO:**

1. Divide the beads into two groups.
2. Cover one group of beads with sunscreen.
3. Take the beads outside into the sun.
4. Watch what happens to the beads with sunscreen and the beads without.
5. Make a UV-detecting bracelet or zipper-pull by stringing UV beads on a pipe cleaner.

### **EXTENSIONS:**

- Experiment further by placing beads on a windowsill and test how fabric, window coverings, plain glass or cellophane may block UV light