

## UV Thing

The Sun produces different types of light. Many of the types of light are invisible to us. One of those is ultraviolet light, or "UV". We need UV light because our skin uses it to manufacture vitamin D, which is vital to maintaining healthy bones. But we only need about 10 minutes of sunlight each day to allow our skin to make the amount of vitamin D we need. Too much exposure to UV causes sunburn and leads to wrinkles, skin cancer, and cataracts. The good news: we can protect ourselves by covering ourselves by covering up with clothing and using Sun block.

In this activity, you and your child are going to experiment to find out what happens when the UV-sensitive beads are exposed to different sources of energy: visible light from flashlight, heat from a hair dryer, ultraviolet light from a UV lamp, and sunlight.

### What You Need:

- Four UV beads
- A few non-UV beads
- Pipe cleaners
- Flashlight
- UV light
- Hair dryer

### What to Do:

- Invite your child can make a pipe cleaner animal or person or piece of jewelry; thread 4 UV beads and non-UV beads onto the object, alternating the types of beads
- Make predictions about the reaction of the UV beads to the flashlight, hair dryer and UV light
- Using the flashlight, shine it on the object – Do your UV beads change colors?
- Using the hair dryer, blow the object – Does the heat cause the UV beads to change colors?
- Using the UV light, shine it on the object – Do your UV beads change colors?
- Cover your object with your hand and take it outside to a shady spot
- Predict whether your object will change colors in the shade. What about in the full sunlight?
- Now uncover your object in the shade – Was your prediction right?
- Put your object in the Sun – What happens? Are there any changes?

## Parent Prompts:

If heat and light from the flashlight don't change the color of the UV beads, then what does? (ultraviolet, or UV, light)

Does the Sun give off invisible ultraviolet (UV) light? How can you tell? (the beads turn colors!)

How does ultraviolet light affect us?

Note: The UV-sensitive beads used in this experiment serve as UV radiation detectors. They contain a pigment that changes color when exposed to UV light from the Sun or from "blacklights". The intensity of the color corresponds to the intensity of the UV light. When shielded from UV sources, or when exposed to light that does not contain UV— such as indoor light bulbs — the beads remain white. The beads are designed for multiple use and, according to the manufacturers, will change color up to 50,000 times.