

Age: 5+, Sunny day required for activity

U is for...

Ultraviolet Rays

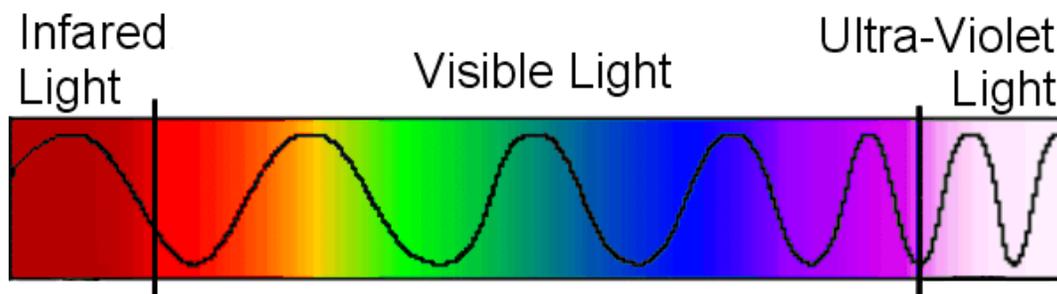


Ultraviolet (UV) Rays are waves of light that come from the sun. UV rays are a shorter wavelength and are not visible to the human eye. There are some creatures that can see UV rays, including birds, reptiles, and insects (bees).

There are 3 types of UV rays: UV-A, UV-B, and UV-C.

- *UV-A* rays are the rays you get exposed to everyday, such as going on a walk outside. UV-A rays cause your skin to tan.
- *UV-B* rays can cause harmful burns from the sun. These UV rays are typically absorbed by the earth, kind of like a protective layer surrounding the planet.
- *UV-C* rays are the most harmful type of UV rays coming from the sun. These rays are almost always absorbed by the atmosphere and do not reach us.

Sunglasses and sunscreen are ways to prevent damage that can be caused by UV-rays.



UV RAYS Science Experiment:

Materials needed:

- UV Color Changing Beads ([Purchasing UV Color Changing Beads \\$8.99](#))
- Sunscreen at 3 different protections (ex. 30spf, 50 spf, 100 spf)

- Sharpie
- 4 zip lock bags

Instructions:

1. Fill each bag with the same number of beads
2. Label each bag:
 - 30 SPF, 50 SPF, 100 SPF, control (no SPF)
3. Put sunscreen on each bag (apply to the outside of the bag and spread it evenly across the bag and let it dry)
4. Place the 4 zip lock bags in the sun for 10 mins and watch to see what happens to your beads in the sun

Questions to discuss:

1. How does sunscreen block the UV rays?
2. What do you notice about each bag? Control vs. the bag with the highest SPF?
3. What does that mean about the number of SPF?

Job Exploration:

- **Biomedical Engineer:** A biomedical engineer uses principles of engineering and medical and biological sciences to design and create equipment, devices, and computer systems for the healthcare field.
- **Mechanical engineer:** A mechanical engineer designed and builds complex products, machines, and systems. They work with how things are made and how a machine operates.
- **Chemical Engineer:** A chemical engineer applies principles of chemistry, biology, physics, and math to solve problems that involve the production or use of chemicals, fuel, and drugs.

For more info on this lesson plan and activity visit:

<https://study.com/academy/lesson/ultraviolet-rays-lesson-for-kids-definition-facts.html>

<https://www.stevespanglerscience.com/lab/experiments/uv-reactive-b>