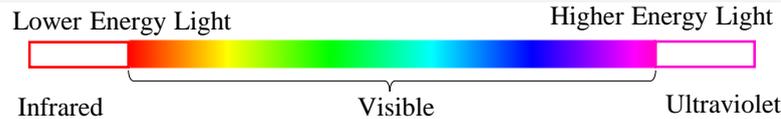


Holiday Lights

Light is made up of photons that contain a lot of energy. The energy of the photon determines if we can see the **light** or not. For **light** we can see the energy of the photon determines the color of **light**.



Light people can see is called **visible light**. The highest energy color of **light** people can see is **violet** (or purple) and the lowest energy color of **light** people can see is **red**. There is also **light** that is higher energy than **violet**, called **ultraviolet**, and lower energy than red, called **infrared**.

People can't see **ultraviolet** or **infrared light** but did you know other creatures can?

A lot of birds, bees and fish can see **ultraviolet light**. Also mammals like cats, dogs, reindeer, and hedgehogs – animals that live up north or hunt at night when there isn't a lot of **light** – can see **ultraviolet light**.

Infrared light is made from heat energy. There are a number of creatures can sense **infrared light** (snakes, fish and bugs) but researches still aren't sure exactly if they "see" the **infrared light** with their eyes or if they sense it with other parts of their body.

Exploring Ultraviolet Light



Even though people can't see **ultraviolet** light, there are a lot of chemicals that can absorb the **ultraviolet** energy and will glow a different color.

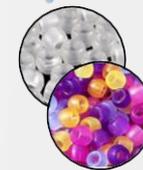


IDEA! Take an **ultraviolet** flashlight and shine it on different things in your house. What happens? (*Hint: Start with tonic water, petroleum jelly and bright white paper.*)



IDEA! Use some materials identified above to create secret messages that can only be read under **ultraviolet light**.

Do you know a natural source of **ultraviolet light**?
The Sun! The reason we wear sunscreen in the summer is to protect ourselves from **ultraviolet light**.



IDEA! Ultraviolet sensitive beads are a great way to add a science twist to art (or an art twist to science). Use your creations to test the **ultraviolet** blocking power of different materials (e.g., paper, light cloth, metal, etc.) or of different types of sunscreen.



IDEA! Solar powered toys are another great way to explore the energy from different **light** sources. Pick 3 different sources of **light** and race your solar powered cars.

