

Colors of Sunlight Mini Experiments

Discover the science of sunlight and colors!

Instructions: Discover the science of colors and sunlight with eight mini experiments. Explore at your own pace!

Optional: Print and cut out cards. Fold each card in half and glue together to make a double-sided card.

Where materials are needed, they are noted on the card.

Mini Experiment 1

Light or Dark?

Go in a dark room, then go in a room with a window (during the daytime). Do you see more colors in the dark or in the light?

Explore

The light of the Sun shines on the Earth during the daytime. We see colors when it is light.



Image: Sam T on Flickr.

Mini Experiment 2

Speed of Light!

Go for a walk for 8 minutes. Set a timer and see how far you get in the time it takes the Sun's light to get to Earth.

Materials: *Timer or watch.*

Explore

Sunlight travels faster than anything we know! It takes just over 8 minutes for sunlight to travel from the Sun to the Earth!



Mini Experiment 3

Make Waves!

Can you blow waves over a bowl of water with a straw? We see light waves from the Sun as beautiful colors!

Materials: Water, bowl, straw.

Explore

Sunlight is made of waves. These waves travel from the Sun to the Earth. The sun's waves are called "electromagnetic radiation". What else do you know that makes waves? The ocean!



Image: Pixabay.

Mini Experiment 4

Wave Shapes!

Walk in the shape of little waves, then walk in the shape of big waves. You just made two different wavelengths!

Explore

The sun sends us different sizes of waves, called *wavelengths*. We see different wavelengths as colors. Longer wavelengths appear red, and shorter wavelengths appear violet.

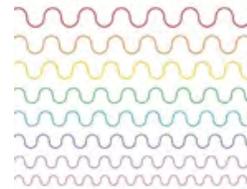


Image: Wikimedia Commons.

Mini Experiment 5

Make a Rainbow!

Blow bubbles in front of a sunny window. Can you find rainbow colors on the surface of the bubbles? There is a rainbow of colors in sunlight!

Materials: Soap bubbles.

Explore

The atmosphere and objects on Earth scatter and separate the different wavelengths of sunlight, revealing the colors of the rainbow.



Image: Pixabay.

Mini Experiment 6

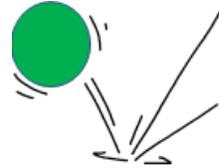
Bouncy Colors!

Compare the bounce of a playdough ball and a bouncy ball (use two colors if available). Which ball bounces more? Imagine light bouncing off in a similar way.

Materials: Playdough, bouncy ball.

Explore

Objects on Earth absorb and bounce back different wavelengths of sunlight. The colors we see are the waves that are *reflected* (bounced back). A leaf looks green to us because it absorbs red light and reflects green light.



Mini Experiment 7

Find Colors!

Look around you. Name several colors that you can see right now. What are your favorite colors?

Explore

Special cones inside our eyes allow us to see many different colors. People everywhere around the world see colors. Colors might have different names and meanings.



Image:
Pixnio.com

Mini Experiment 8

Ultraviolet Colors!

Color a piece of paper with as many bright colors as you can. Imagine the colors you could see if you had ultraviolet vision!

Materials: Paper, crayons or markers.

Explore

Many animals, including some insects, birds, and fish, can see ultraviolet or infrared colors invisible to human eyes. Objects might look very different with ultraviolet or infrared colors!



Image: Dave Kennard, Wikimedia Commons.