



RAINBOW SCIENCE

*Have you ever wondered what causes a rainbow to appear in the sky? It often happens when it rains and the sun is still shining. The sun's beams of light hit the raindrops and become **refracted**, meaning that the light bends. The light bounces back toward you, breaking up into all the colours of a rainbow. The following activities will allow you to create rainbows.*

This week's activities: Make a Rainbow – Make a Prism

Make a Rainbow

Suggested materials:

- A garden hose or a sprinkler (attached to an outdoor faucet)
- A sunny day
- Ask a grownup to go outside with you to help with the hose or sprinkler

Directions:

Turn the outside water faucet on and stand with your back to the sun. Place your thumb over part of the nozzle. This will create a water spray. Slowly turn towards the sun, hold out your arm and look for a rainbow to appear.

Observations:

Where does the rainbow appear? Above or to the side? What colours do you see? Is the rainbow small or large? Why?

Make a Prism

Most lights are white, but they are made up of the seven colours you find in a rainbow. A prism separates the colours. This activity shows you how to make one.

Suggested Materials:

- Paper (white usually works best)
- A clear drinking glass filled with water, just a little over the halfway point
- A sunny day or a flashlight
- A table, windowsill or the floor



Directions:

1. Take the glass filled with water and place it on a windowsill or a table near a window where the sun is shining. Place the white paper near the glass and look for a small prism of colours to appear on the paper when the sun hits the glass.

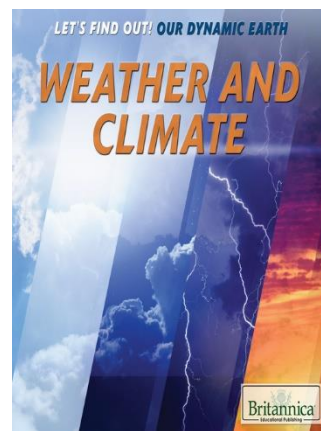
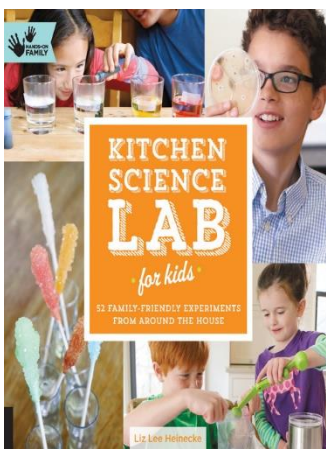
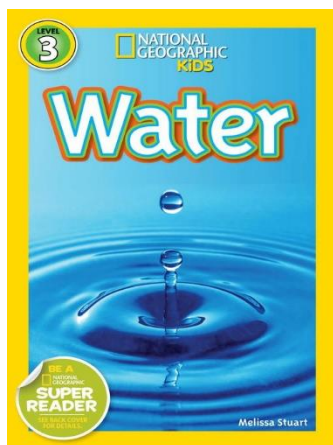
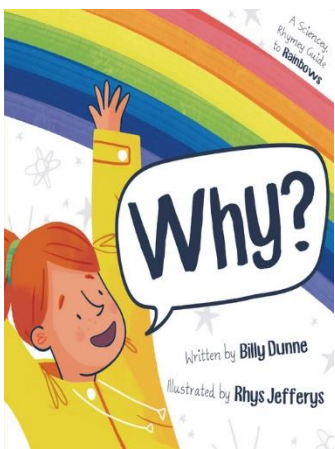
2. If it is a cloudy day, you can also take the glass and place it at the edge of a table. Put the white paper on the floor. Using the flashlight, shine the light near the water level in the glass until a prism of colours appears on the paper.

Observations:

Your prism might appear in different shapes when you use a flashlight or the sun. Does it look like a rainbow you see in the sky? Think about why that happens. If the glass is full of water, would you still have the same result?

Links to eResources:

Check out our [eBooks](#) on these topics:



[Science Experiments](#) | [Weather](#)

Watch “Reaching a Rainbow” on Kanopy Kids, episode 25 of *Earth to Luna!* where a trio of friends have questions about the rainbow that appears after a sudden shower. [Science Experiments](#) | [Weather](#)

Watch *Reaching a Rainbow* on Kanopy Kids, Episode 25 of *Earth to Luna!* in which a trio of friends have questions about the rainbow that appears after a sudden shower.

Hoopla Kids has some terrific eBook titles about rainbows such as *Rainbows and Other Marvels of Light and Water* by Yvonne Steinberg.

You can get a library card at hpl.ca/online-registration.

If you would like to share one or all your creations, please take a picture and post it to social media using the hashtag, #HPLmakesomething.



#HPLmakesomething

hpl.ca/kids

