



Project Exploration creates transformative learning opportunities for youth underrepresented in the sciences --particularly students of color and girls -- by equipping them with the skills, practices, and mindset needed for a lifelong pursuit of learning. STEM@Home makes activities around science, technology, engineering, and math accessible and fun to do at home. This STEMbook activity, resources, and more are available at www.projectexploration.org/stemathome.

In this activity, you will:

learn the science behind rainbows!



Supplies Required:

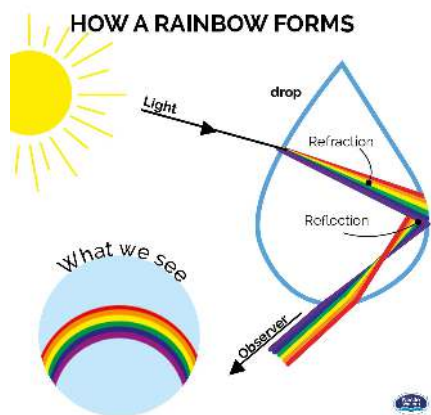
Glass of water
Mirror
Sunlight

Video

Learn about how rainbows form: <https://tinyurl.com/mjr9fob>

Overview

Why do rainbows appear after rain? When light passes from air to water, it changes direction. This change of direction is called refraction. When white light, like sunlight, enters a raindrop, it refracts and also breaks into different colors. The colors reflect on the back of the raindrop and refract as they pass from water back to air. That's the rainbow you see! Look at the diagram below to see more about how rainbows work.



Instructions

1. Place a glass of water in sunlight.
2. Place a mirror in the glass of water, leaning on the glass. The mirror should face the sunlight at an angle.
3. Play around with the angle of the mirror and the glass until you see a rainbow!

Additional Resources

Think About It! When else do we see rainbows? If light can change direction, do you think it can create optical illusions? Have you ever seen something because of how the light is moving and behaving?

1. Follow these steps and see other ways to see rainbows: <https://tinyurl.com/ychn4o6>
2. Learn about rainbows with Dr. Bionics: <https://www.youtube.com/watch?v=nCPPLhPTAik>

Share It Out

Share on social media: do a photoshoot with the rainbow! Share a photo on social media! Teach friends how you managed to make a rainbow appear so they can do the same!

Show off your beautiful rainbows using the hashtags:

#Rainbow
#ProjectExploration
#StemAtHome

Share via PE's website: Students who complete STEM@home activities and share what they learned with the PE team via our website will earn points which can be traded in for cash prizes at the Explore Store. Your project number is 305. Learn more at www.projectexploration.org/explore-store

Join PE's character contest!

Design a STEM character who will lead kids through activities and be featured on our website and in our STEMbooks. Cash prizes will be awarded to the top 3 finalists. Learn more at: www.projectexploration.org/character-contest.



Call or text us for help: 312-772-6634



www.projectexploration.org