



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:

Create a colorful volcano using convection currents.



Supplies Required:

- String
- Scissors
- Empty salt shaker
- Large jar
- Food coloring

Video

What are convection currents? <https://tinyurl.com/hfm6m4s>

Overview

This is a perfect example of a convection current! Convection currents form in liquids and gases, like water and air. The currents occur because the water liquids and gases always rise to the top, and the cooler liquids and gases sink to the bottom. A hot air balloon is a good example of something that uses a convection current. The flame below the balloon heats the air inside the balloon. Since the air is warm, it starts to rise up, and carries the balloon up, up, and away!



Instructions

1. Cut a two foot length of string with a pair of scissors. Tie a knot around the neck of a salt shaker with one end of the string. Double-knot it to ensure the knot is secure. Repeat this process with the other end of the string, resulting in a handle to lower your shaker.
2. Empty and clean a large jar. Fill the clean jar about three quarters full with cold water.
3. Fill the salt shaker with hot water (with adult supervision) – as hot as you can get from your tap – to just below the neck. Add three to four drops of red food coloring.
4. Hold your salt shaker over the mouth of the jar by the string handle. Slowly lower the salt shaker into the jar until the shaker is completely submerged and resting upright on the bottom of the jar. Observe how the colored water erupts from the shaker into the cold water.

Additional Resources

1. How does a hot air balloon work? <https://tinyurl.com/d5wt3zxw>

Share It Out

Share on social media: Record a video or take a picture of your activity and post the results online using the hashtags:

#ConvectionCurrent
#ProjectExploration
#StemAtHome

Tag a friend and challenge them to do it, too!

For more activities like this one, go to www.projectexploration.org/stemhome. If you're interested in learning more about Project Exploration and our free events, programs, and activities, please find us on social media and be sure to follow!



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



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