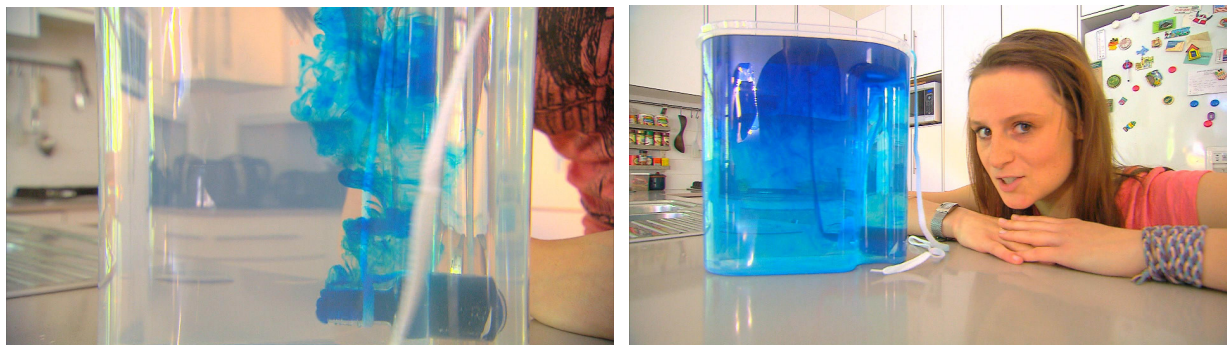


Activity: Underwater Volcano

On SCOPE's [DIY Science](#) episode, you saw Julia make an underwater volcano. Here's how she did it:



What you need:

String (or a shoe lace)
Food dye (a dark colour works best)
Big clear plastic container (the taller the better)
Small bottle (e.g. empty food dye bottle)
Water

What to do:

1. Cut a piece of string about 30cm long.
2. Tie one end around the neck of the small bottle.
3. Fill the big clear plastic container with icy cold water.
4. Very carefully fill the small bottle with hot water from the tap.
5. Add about 5 drops of food colouring to the small bottle.
6. Using the string, lower the small bottle into the large container.
7. Once it has reached the bottom, sit back and enjoy the volcano show!
8. Once you have perfected the underwater volcano, you can see what happens when you change the temperature of the water or change the size or shape of the containers, and of course you can do it with any colour you want!

Tips

The greater the difference in water temperatures, the better this activity will work!

What's happening?

Underwater volcanoes are similar to land volcanoes as they are cracks in the Earth's crust from where lava can erupt. Currently there are over 5000 active underwater volcanoes!

The reason why your underwater volcano erupts to the top of container is the difference in temperature of the water in the small bottle and the water in the container.

When you heat up water, the molecules have more energy and they take up more space, which means hot water is less dense than cold water.

So just like hot air rises above cold air, the hot water in the bottle rises above the cold water in the container and floats to the top of the surface.