

Science experiments at Home

<https://www.businessinsider.com/8-awesomely-simple-science-experiments-you-can-do-at-home-2016-7?r=US&IR=T#tornado-in-a-bottle-1>

Science experiments don't have to happen in classrooms or science labs. Here are a few experiments you could perform at home with a little bit of help.

If you click on the link above, it will take you to the website where the experiments are from with video clips showing you how they work. Why not give them a try, record them and send the video clips to your teacher to put on the school website.

8 simple science experiments you can do at home



Science can be a little intimidating. Whether it's the latest research in quantum mechanics or organic chemistry, sometimes science can make your head spin.

There are plenty of experiments you can do at home. You might even have a few of the materials just lying around the house.

Here are a few easy ways for you to see science in action.

Tornado in a bottle

You can create your own tornado in a bottle. All you need is two bottles, a tube to connect the bottles, and some water.

When you whirl the liquid in the top bottle, it creates a vortex as it drains into the bottom bottle. That's because as the water flows down, air must flow up, creating a spiralling tornado.

You can even add glitter, food dye, or lamp oil to the bottle to make the tornado even cooler.

Rainbow in a glass

This experiment takes advantage of density to create a rainbow in a glass. When you add sugar to a liquid, it causes the solution to become more dense. The more sugar you add, the more dense the solution is.

If you have four different solutions that are all different colours and densities, the colours will layer on top of each other — the denser, more sugary solutions will sit on the bottom and the lightest will sit on the top.

Goosey slime

When you mix glue, water, and a little bit of food colouring, then add some borax, a goeey slime forms. That's because the glue has something called polyvinyl acetate in it, which is a liquid polymer. The borax links the polyvinyl acetate molecules to each other, creating one large, flexible polymer: slime.

Homemade lava lamp

Alka-seltzer is great if you're suffering from heartburn or an upset stomach. But you probably didn't know that it's also great if you're looking to create your own homemade lava lamp.

Because oil and water have different densities and polarities, when you mix them together, the water sinks to the bottom. When you add food colouring, which is water based, it will sink to the bottom as well.

If you crumble in an alka-seltzer tablet, it reacts with the water, causing coloured droplets of water to rise to the top where they then pop, release air, and sink back to the bottom.

This creates a similar show to what you'd see in a lava lamp.

Instant ice

In order for water to become ice, it needs a nucleus in order for solid crystals to form. Usually, water is loaded with particles and impurities that enables ice to form. But purified water isn't. Because of this, purified water can reach an even colder temperature before becoming solid.

If you throw an unopened bottle of purified water into the freezer for a little less than three hours, the bottle will be chilled well below the temperature at which regular water freezes.

When you pour this super-cooled water onto a piece of ice, it provides the water with nuclei, causing it to freeze instantly.

Baking soda volcano

In this experiment, a chemical reaction between baking soda and vinegar creates "lava" bursting out of a model volcano.

As the reaction produces carbon dioxide gas, pressure builds up inside a plastic bottle hidden inside the volcano until the gas bubbles and erupts.