

Have fun with your kids and seize the teachable moment with these fabulous science experiments you can do at home



Build a Fizz-Inflator

What you need:

- one small empty plastic soda or water bottle
- ½ cup of vinegar
- small balloon
- baking soda
- funnel or piece of paper

What to do:

Carefully pour the vinegar into the bottle

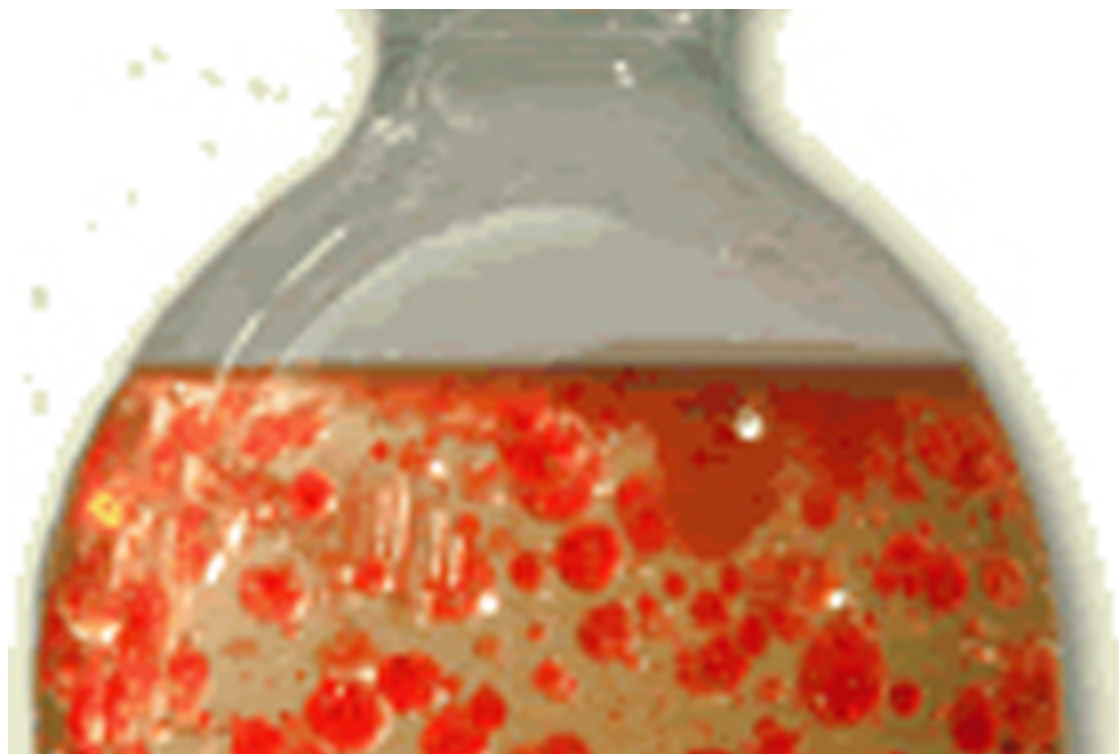
Loosen up the balloon by stretching it a few times and then use the funnel to fill it a bit more than half way with baking soda – if you don't have a funnel you can make one using the paper and some tape

Now carefully put the neck of the balloon all the way over the neck of the bottle without letting any baking soda into the bottle.

Lift the balloon up so that the baking soda falls from the balloon into the bottle and mixes with the vinegar and watch the fizz-inflator at work

Why it works:

The baking soda and the vinegar create an acid-base reaction and the two chemicals work together to create a gas called carbon dioxide. Gasses need a lot of room to spread out and the carbon dioxide starts to fill the bottle and then moves into the balloon to inflate it.



Make your own lava lamp

What you need:

clean 1 litre clear soda bottle

$\frac{3}{4}$ cup of water
vegetable Oil
fizzing tablets (such as Alka Seltzer)
food colouring

What to do:

Pour the water into the bottle

Use a measuring cup or funnel to slowly pour the vegetable oil into the bottle until it's almost full – you may have to wait a few minutes for the oil and water separate

Add 10 drops of food colouring to the bottle – the drops will pass through the oil and then mix with the water below

Break a seltzer tablet in half and drop the half tablet into the bottle. Watch it sink to the bottom and let the blobby greatness begin!

Why it works:

The oil stays on top of the water because oil is lighter (or less dense) than the water. The oil and water do not mix because of something called "intermolecular polarity" which means that water molecules are attracted to other water molecules and oil molecules are attracted to other oil molecules, but the two can't mix together.

When you added the seltzer tablet, it sank to the bottom and started dissolving, creating a gas. As the gas bubbles rose, they took some of the coloured water with them. When the blob of water reached the top, the gas escaped and down went the water. You can store your Blobs in a Bottle with the cap on – anytime you want to bring it back to life, just add another tablet piece.



It is not a good idea to use a mixture of water, sand or plaster, but a mound of
www.madscience.org