SCIENCE EXPERIMENT · AGES 5–10

Baking Soda Volcano

Mix it, watch it fizz, find out why!

Think like a scientist!

What you need



Baking soda



Vinegar



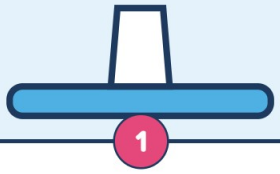
Tray and small cup



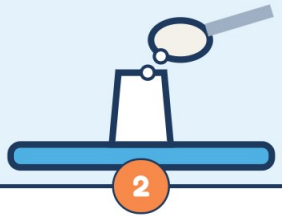
A tablespoon

Extra (not needed): washing-up liquid and food colouring for more foam and colour.

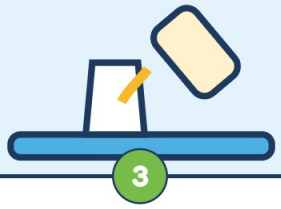
Step by step



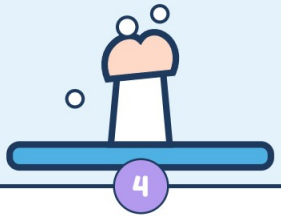
1. Put a small cup on a tray.



2. Add 1 tablespoon of baking soda.



3. Pour in 2 tablespoons of vinegar.



4. Watch the fizz. Try again with more vinegar.

Why it works

Baking soda is a **base**. Vinegar is an **acid**. When they mix, they make new things. One new thing is a **gas** called **carbon dioxide**. The gas makes bubbles, and the bubbles push the foam up and out.

This is a chemical reaction. You cannot get the baking soda back.

Learning outcomes

1. **I can observe**
   Say what I see, hear and smell.
2. **I can explain**
   A reaction makes a gas: carbon dioxide.
3. **I can test fairly**
   Change one thing. Keep the rest the same.

Fair test tip

Use **1 tablespoon of baking soda every time**. Test 2, 4 and 6 tablespoons of vinegar. Use a clean, dry cup for each test. Count how many seconds it fizzes.

Change: vinegar | Keep: soda, cup

Watch out

- [ ] Do this with a grown-up.
- [ ] Keep your face back. Vinegar stings eyes.
- [ ] Never put a lid on the cup or bottle.
- [ ] Do not drink it. Wash your hands after.

SCIENCE EXPERIMENT · RECORD SHEET

Volcano Record Sheet

Predict first. Then test and write what happened.

Name: Age: Date:

My fair test: 1 tablespoon of baking soda every time

Vinegar	My prediction	What happened	Seconds of fizz
2 tablespoons	◯ Small ◯ Medium ◯ Big	◯ Small ◯ Medium ◯ Big	
4 tablespoons	◯ Small ◯ Medium ◯ Big	◯ Small ◯ Medium ◯ Big	
6 tablespoons	◯ Small ◯ Medium ◯ Big	◯ Small ◯ Medium ◯ Big	
My idea:	◯ Small ◯ Medium ◯ Big	◯ Small ◯ Medium ◯ Big	

Use your senses

I saw

I heard

I smelled

Draw your volcano

Draw the cup and the foam. Label the gas bubbles.

Bonus: catch the gas

Put 4 tablespoons of vinegar in a bottle. Put 1 tablespoon of baking soda in a balloon. Stretch the balloon over the bottle top. Lift it so the soda falls in.

Question	My prediction	What happened
Will the balloon get bigger?	◯ Yes ◯ No	◯ Yes ◯ No

What I found out

More vinegar made

The gas is called

You are a scientist!