

# Baking Soda Experiments

Use these experiments to teach chemical reactions with baking soda.

When baking soda (a base) and vinegar (an acid) combine they create a new substance: carbon dioxide.

Baking soda also breaks down with heat and releases carbon dioxide. The gas causes bubbles.

Experiment 1: Fizz Balloons – combining baking soda and vinegar to blow up a balloon.

Experiment 2: Fizz Rockets – combining baking soda and vinegar to pop a film canister like a rocket.

Experiment 3: Bouncing Raisins – combining baking soda and vinegar, the bubbles formed collect on the raisins and lift them up.

Experiment 4: Hokey Pokey - try making hokey pokey (honeycomb) by combining baking soda with hot melted sugar.

You can use these Science Experiment Recording Sheets for the children to record their ideas:

[KS1 Science Experiment Recording Sheet](#)

[KS2 Science Experiment Recording Sheet](#)

[Changing State Activity Recording Sheets](#)

# Fizz Balloons

You will need:



baking soda



a balloon



a plastic bottle



vinegar



## Method:

1. Pour 3 to 5cm of vinegar into a plastic bottle.
2. Use a funnel and add about 2 tablespoons of baking soda to the vinegar.
3. Quickly place the neck of the balloon over the end of the bottle.
4. Watch what happens!

## Why this happens:

Baking soda is a substance called a base. Vinegar is a substance called an acid. When bases and acids combine they create new substances. In this experiment carbon dioxide is created. Carbon dioxide is a gas; the gas leaves the bottle and blows up the balloon.

## What next?

- What happens if you add more or less vinegar?
- What happens when you add more or less baking soda?
- What if you use a bigger or smaller balloon?
- What happens if you use a bigger or smaller bottle.

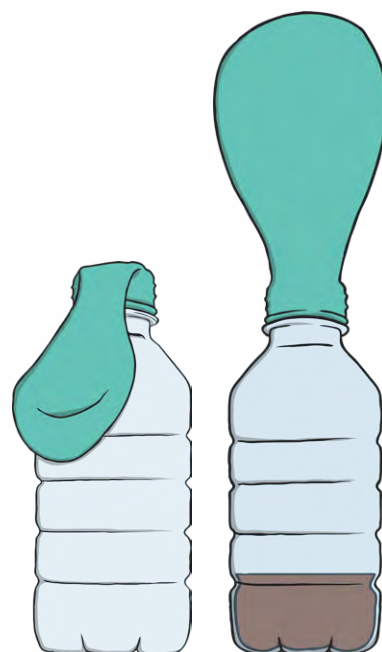


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# Fizz Rockets

You will need:



baking soda



a film canister/container with lid



vinegar



## Method:

1. Fill the canister a third of the way with vinegar.
2. Place a small amount of baking soda in the lid of the canister.
3. Make sure everyone stands back.
4. Quickly put the lid on the canister and place it on the ground upside down.

## Why this happens:

Baking soda is a substance called a base. Vinegar is a substance called an acid. When bases and acids combine they create new substances. In this experiment carbon dioxide is created. Carbon dioxide is a gas; the gas builds up and pops the bottom off the canister and up into the sky.

## What next?

What happens if you add more or less vinegar?

What happens when you add more or less baking soda?

# Bouncing Raisins

You will need:



baking soda



warm water



raisins



a clear glass or jar



white vinegar



## Method:

1. Half fill the jar with warm water.
2. Add 2 teaspoons of baking soda.
3. Add 5 raisins to the jar.
4. Fill the rest of the jar with vinegar.
5. Watch what happens!

## Why this happens:

Baking soda is a substance called a base. Vinegar is a substance called an acid. When bases and acids combine they create new substances. In this experiment carbon dioxide is created. Carbon dioxide is a gas; the gas makes bubbles which stick to the raisins and float them up to the surface. When the raisins reach the surface the bubbles pop and the raisins fall back down.

## What next?

What happens if you add more or less vinegar?

What happens when you add more or less baking soda?

What happens if you add more or less hot water?

What happens if you add more or less raisins?

# Hokey Pokey

You will need:



baking soda



a pan



a spoon



a tray



sugar



## Method:

1. Heat half a cup of sugar in a pot until it melts into a liquid.
2. Remove the sugar from the heat.
3. Add 1 teaspoon of baking soda.
4. Stir quickly and it should foam and bubble.
5. Pour it into a tray and leave to cool.

## Why this happens:

Baking soda is a substance called a base. When baking soda is heated it creates a gas called carbon dioxide. The carbon dioxide causes the sugar to bubble and foam. When the hokey pokey sets, the bubbles are trapped in the mixture.

## What next?

Eat It! Yum!