# Science Week 2023

## Connections: Water

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# Connections with water

## British Science Week 2023

This year's theme is all-around connections. At STEMunity we have been celebrating all things connected to water so we came up with this handy little guide for some cool little experiments that can be carried out at home or in pre school/school.

## This resource

This resource has been designed for Early Years and Key Stage 1 students but it could be used with older students, they might even be able to come up with explanations about why these things happen.

## Guide

Experiment 1: Dissolving inks, this can be carried out using coffee filter paper, use water-soluble pens.

Experiment 2: Pop rockets, any fizzy tablet will do, then you need a container with a snap lid, small playdough pots work but use more water/tablets.

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# Connections with water

## Guide

Experiment 3: See the Rainbow with skittles or coloured sweets, this works just as well in a little saucer.

Experiment 4: Hurricane in a bottle, you can buy a unique double-ended lid, or you can fill the first bottle with water and gaffer tape the second bottle onto the first.

## Risk Assessment

STEMunity suggests you have a trial run of all these experiments before carrying them out with children. You might want to ensure the children stand a few meters back for the pop rockets as they can pop really high!

We hope you have a great time with these experiments and tag us in any pictures you post. @STEMunityUK

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# Water can dissolve substances

## This is Chromatography

Water can we used to separate things like inks because it's a solvent. This is special paper that allows water to travel up through it. Inks are made up from different coloured pigments.

The children can dot the paper, you might want to draw a pencil line to show them where to dot. The pencil won't dissolve but the water soluble pens will.

**Top tip: Brown and Black water soluble pens give a rainbow of colours!**

Make sure theres only about 1-2cm worth of water in the pot/glass, make sure the pen dots are above the water line, you can fold the top of a lollipop stick.

The pigments will travel up and be deposited at different levels over about 20mins,

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# Water can go off with a pop!

Equipment

Film canister and lid.

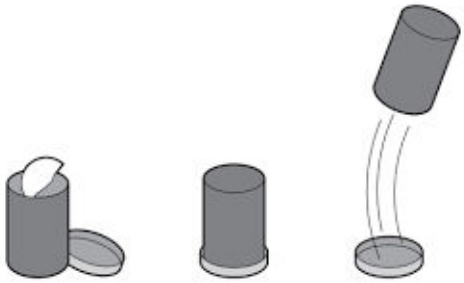
Fizzy tablet

We can make water go fizz and then 'POP'

1. Fill the container to a third of the way up with water.

2. Find a safe space about 2m away from the group.

3. Add the tablet to the put, seal the lid and turn it upside down.



4. Water the pressure build up in the pot as gases are produced, then when a certain pressure is reached, the pop rocket will launch up into the air, possibly over 2m!

You could try adding different sized pieces of the tablet to see if it affects the height.

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# Water can make Brilliant Rainbows

## Equipment

Packet of skittles

Petri dish

Line up some skittles in a petri dish, they are the perfect size. In a Real science lab, they are used to pour a agar jelly which is what they use to grow microbes on. These dishes are brand new and sterile.

You can pour water in and watch the colours dissolve. Make sure the children don't distrurb it as it will all mix into one colour.

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# Water can make cool movements

Equipment

2 empty drinks bottles

The special double lid

Hurricane in a bottle, fill a big drinks bottle with water, then attach the special lid, then attach a separate empty bottle to the other end.

Tip the bottle, and then give the water a swirl and then watch the hurricane in a bottle form. It might take a few goes.

The children will love watching this again, and again!

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