

KS1 Science Challenge

Week 1

Have a go at this experiment at home.

Draw your experiment and label what happened in your exercise book.

Kitchen Science: Raisin Bubble Boogie

This science activity will require a few items from your kitchen and an adult to help. Many thanks to **Sue Martin** for this amazing kitchen science lesson!



For the grown ups

This experiment is really easy to set up and will help children develop their understanding of floating and sinking, liquids and gases.

What you do

This one couldn't be simpler: pour out a glass of fizzy drink and drop in the raisins.

Now watch the raisins dance!

What you need

- A bottle or glass of clear fizzy drink (e.g. lemonade, tonic or soda water – freshly opened)
- A handful of raisins (4 or 5 will suffice)

What's happening?

The raisins are initially too heavy to float, so they sink into the drink. The drink itself contains carbon dioxide (CO₂) gas, which has been forced into the drink at high pressure. When a bottle is opened, some of this gas escapes immediately (you hear the whoosh as it rushes to escape) but the rest remains in the liquid for quite a while. You may notice that bubbles form on the sides of the container first.



Tiny imperfections in the glass/plastic make ideal sites (known as 'nucleation sites') for bubbles of gas to form. Dropping anything else into the drink will provide more of these sites, so more bubbles are produced. Raisins have a pitted surface, which makes them ideal for the formation of gas bubbles. When the raisins reach the bottom, bubbles of CO₂ form and attach themselves to the raisins. These act like floats for the raisins and together they rise to the surface. Here, the gas bubbles burst into the air, leaving the raisins without their floats to sink again.

The process repeats and the raisins dance up and down! This will continue only whilst the drink is still fizzy – as more bubbles burst at the surface, fewer remain in the drink, until eventually it will become 'flat'.

Encourage your children to try other small food items to see which ones float, sink or dance. Broken pieces of spaghetti, numerous other pasta shapes, lentils, uncooked popcorn and some berries will also dance. Look at the surface of each item and try to predict which will work well.