

Rainbows!

There are lots of myths about how rainbows are made, including that they shoot out of pots of gold, guarded by Leprechauns, or that they make a bridge between Earth and Asgard, the home of the Norse Gods.

These are very exciting stories, but really the way rainbows are made can be explained using science and is even more impressive!



*Bifrost (the rainbow bridge) leading to Asgard
Image credit: Richard Wagner, Otto Schenk*

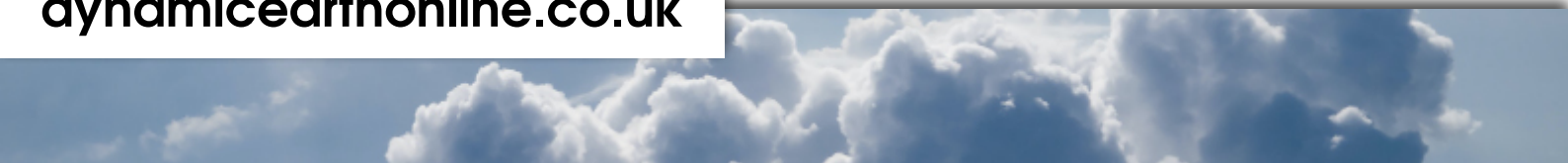


Rainbows form when sunlight passes through a raindrop.

The water refracts (bends) the light, which reflects (bounces back) off the inside of the raindrop.

When the light leaves the raindrop, it splits up from one wavelength, which we call white light, into lots of wavelengths, making lots of different colours: red, orange, yellow, green, blue, indigo and violet!

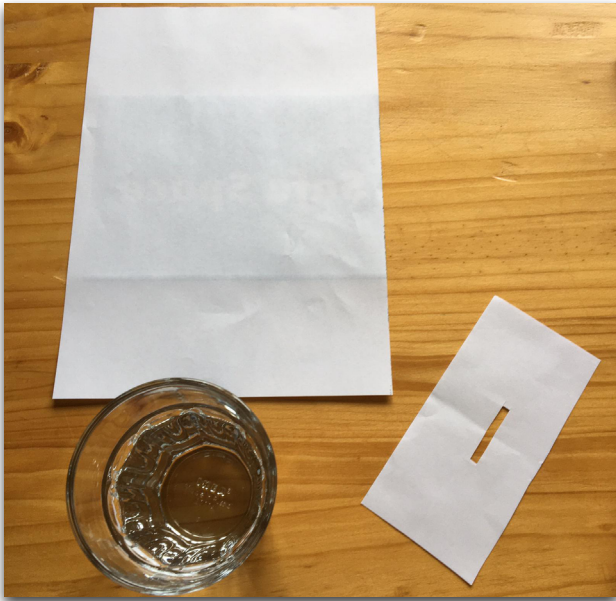
You can test this for yourself using some simple materials from around your house!



Make your own rainbow!

You will need:

- 1 sheet of A4 paper
- A glass full of water
- A strip of paper with a thin rectangle cut out of it
- A torch



What to do:

1. Stick the strip of paper to the side of your glass
2. Lay the A4 piece of paper on the floor on the other side of your glass.
3. Turn off the lights and make the room as dark as possible, this works best in the dark!
4. Shine the torch through the rectangle cut out and watch the light come out onto the A4 page on the floor.
5. Move your torch closer and further away from the glass, and change the angle that you point the torch at, until you see a rainbow on the floor!



Image credit: Karson on Unsplash