



# GLASS OF WATER RAINBOW

Make your own rainbow using a glass of water!

## YOU WILL NEED

- A glass of water
- Plain white paper
- Sunshine



## WHAT YOU DO

### Step 1

Find somewhere that sunshine can reach the glass of water.

### Step 2

Hold the glass of water in the sunshine and hold the paper underneath the glass. Watch as the sunlight passes through the water to make a spectrum of colours on the paper




### THE SCIENCE BEHIND IT

When we think of light we think of white light, such as the light that comes from the sun. But what we see as white light is actually a collection of all the different colours of light at once. Our eyes can see all the colours of the rainbow; red, orange, yellow, green, blue and violet. These are all types of electromagnetic radiation, and there are more that we cannot see but we've all heard of them. For example, before red we have infrared light, which we cannot see with our naked eyes but we can use night vision cameras that pick up infrared light to see in the dark. After violet we have ultraviolet light, which has lots of energy and can give you sunburn if you don't use sunscreen!

The sun gives out all of these types of light, and because it gives out all of the colours at the same time it looks white, but when it passes through the water the water bends the light and each colour of light bends at different angles. Violet light bends the most and red light bends the least, and so the colours separate out into a spectrum of light.

Raindrops that are falling from the sky do this, and like your glass of water is bending sunlight into a spectrum on the piece of paper, raindrops bend sunlight into a rainbow in the sky!

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