

Rainbows have become a very important symbol in our communities. They represent our recognition of those who are working hard to help us all, through this very difficult time. So, with rainbows in mind, I have come up with a few simple investigations to try at home which will teach us a little more about rainbows!

- *Did you manage to create some rain of your own in last week's investigations? Did you know without water in the atmosphere we would be unable to see a rainbow?*
- *This week we will be finding out how to make rainbows by splitting light into different colours.*
- *Have a look at wow.science.co.uk and search **Light Absorption, Reflection and Refraction** for some useful information about light.*



Investigation 1: Monday

(This activity works best on a sunny day!)

Make a rainbow in a glass!

Try this simple experiment.

You will need:

- A glass jar or drinking glass.

****(It is best to use a tall glass so the light passes through more water and makes a clearer rainbow.)****

- Water
- White paper

Instructions:

1. Fill a glass with water.
2. Hold the glass up to the sunlight and over a piece of white paper.
3. Twist the glass until you see a faint band of colours on the paper.

What do you see?

You should see your very own rainbow! Light is made up of different colours. When light shines through water, it is split up into the colours of a rainbow: red, orange, yellow, green, blue, indigo and violet. This is what happens when the sun shines through raindrops, making a rainbow in the sky!

Investigation 2: Tuesday

Paint a rainbow!

You will need:

- A tall glass
- Water
- White paper
- Coloured Paints

Instructions:

1. Fill the glass with water and place in bright sunshine next to a piece of white paper.
2. Turn the glass until a rainbow shines clearly on the paper.
3. Brush coloured paints over where the light shines to make a picture of a real rainbow!

- ***Try making a rainbow in the dark!***

Shine a torch through a glass of water in a darkened room and twist the glass a little until a rainbow appears on the wall!

Investigation 3: Wednesday

Make a sky in a jar!

You will need:

- A glass jar
- Water
- 1 Teaspoon of milk
- Torch

Instructions:

1. Add half a teaspoon of milk to a jar full of water.
2. Shine a torch into it.

What do you see?

The milky water splits the light into different colours. Some of the colours go straight through the mix, but the **blue** bounces of the tiny particles of milk, creating a **blue glow!** This effect, known as **scattering**, is also what makes the sky appear blue.

Investigation 4: Thursday

A rainbow bath

You will need:

- A glass dish (a pirex dish would be good)
- Water
- A small mirror
- A torch
- White paper

Instructions:

1. Fill the dish with water and prop the mirror at one end.
2. Shine a torch at the part of the mirror under the water.
3. Hold a piece of white paper behind the torch.

What do you see?

Can you think why this happens?

I hope you were able to see a rainbow! As the light shines through the water, it is split up into the rainbow colours. The mirror reflects the rainbow back so you can see it on the paper.

Investigation 5: Friday

An outdoor rainbow!

(A sunny day is necessary for this one! Fingers crossed!!)

You will need:

- A clean, empty spray bottle
- Water

Instructions:

1. Fill a spray bottle with water and spray a fine mist into the sunshine. Make sure you do not look directly at the sun.
2. Look at the mist.

Do you see a rainbow?

You can see the same effect in the spray from garden sprinklers on a bright, sunny day.

****Remember to create your own rainbow in support of all those who are working hard to help us.***



