

# My Homemade Rainbow

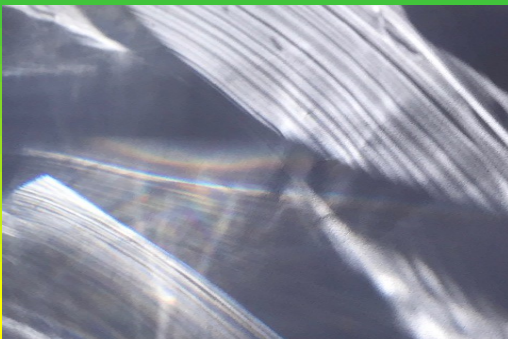
Today I did two versions of the same experiments, one inside the other outside. I will go through what you need to do take part in these experiments how to do them. You will need the following items -

- A plain piece of white paper
- A glass (with no patterns) 3/4 full with water
- A powerful light source ( a strong flashlight or the Sun)

When I tried the experiment outside it was a lot harder to find the rainbow but when I had found it was very clear.

To find the rainbow I held the water in front of the paper so the sun could shine into the water the on the paper.

When I was inside I put the paper on the table and lifted the glass of water above the paper then shined the torch through the water. It was much easier to find the rainbow bot it wasn't as strong. Here are some of my test results —



Outside



Inside

The way these rainbows were formed is by reflection. The light travels into the water then reflects back as a rainbow into your eye. Each rainbow reflects at an angle of  $42^\circ$ . This is the same in the sky, the light into the moisture in the air then reflects back out at  $42^\circ$ . If it wasn't for the ground rainbows would be a full circle. I hope you now how to make you own rainbow and how it works.