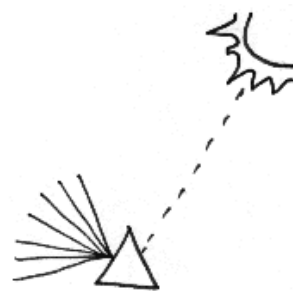


# Suzy's World

## What is colour?

### Fact

- White light is made up of a spectrum of 7 colours: red, orange, yellow, green, blue, indigo and violet.
- When we bend light through glass or water we get the spectrum of coloured light.
- The colours we see depends on the colours that are reflected by an object – a tomato has all 7 colours shining onto it but it only reflects red light into our eyes and it absorbs the other 6 colours.
- To see a rainbow we have to be in the right position with our back to the sun and be facing the raindrops in the sky.
- When the raindrops in the air are hit by sunlight they reflect back the coloured spectrum as a rainbow.



### Do you know

- The ancient Greeks studied how light reflected off glass or water and how rays of light were bent when they hit glass or water.
- It took scientists 300 years to work out good reasons to explain how we get coloured light and how light travels in lines and makes shadows.
- We have about 7 million special cells in the lining of our eyeballs that are cone shaped. These detect the three primary colours (of which all other colours are made). One type of cone detects red light, another type detects green and another detects blue.
- Some people are colour blind, which means they have trouble telling the difference between colours like green and red.

### Experiments you can do

Make your eye cones work

What you need:

3 pieces of white paper

Red crayon or felt tip

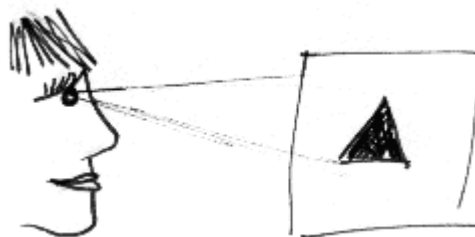
Blue crayon or felt tip

What you do:

Draw a red shape on one piece of white paper and a blue shape on another. Stare hard at the red shape for a few minutes then stare at the blank paper. What colour is your drawing now?

When you are staring at the red shape only the red cones in your eyes are working. They get tired after a while and stop working so when you stare at the blank paper only your blue and green cones are working so you see a greeny-blue picture

Repeat the experiment with the blue shape. What happens and why?



### Other Investigations

- Draw a rainbow, then the next time you see a rainbow look carefully at the colours, how many can you see? What order are they in? Were you right? If you have the right conditions you will see all 7 but mostly you will see three or four.
- Make bubbles with dishwashing liquid mixed with water and a bubble-making ring. Observe the surface. How many colours you can see? What happens to those colours?

### Jokes

Why was the sea cucumber green? He was feeling a little seasick.