



## Sky - Why is the sky blue?

### Fact

- Sunlight is made up of many different colours of light – all the colours of the rainbow. When the sunlight shines through the atmosphere most of the light passes straight through down to the ground. But the blue light is affected by all the tiny bits of air that makes up the atmosphere. This makes the blue light scatter in all directions. This happens all over the sky and that's why the sky looks blue.
- We can use a Prism to break sunlight up into all its different colours.
- You can also see all the different colours that make up sunlight in a rainbow.

### Do you know

- Sunlight is made up of 7 colours; red, orange, yellow, green, blue, indigo and violet.
- When all those colours are mixed up you get the colour white.
- The reason you get reddish-orange sunrises and sunsets is because the light from the sun has to travel through a lot more atmosphere to reach our eyes when the sun is sitting down the horizon and not directly above us. That means the colours in the light get scattered differently. Instead of the blue in the light getting scattered the orange and yellow light gets scattered so that's why a sunset or sunrise can look red or orange.
- Light is a form of electromagnetic radiation and it's the only radiation that we can see.
- It also travels very quickly – around 300,000 kilometres a second!!!!
- Light can travel through space, air, water and solids like glass, Perspex, and lunch paper.

## Experiments you can do

### What you need:

A clear, straight-sided plastic drinking glass

Water

Milk

Measuring spoon

Torch

A dark room

### What you do:

Fill the plastic drinking glass about 2/3 full of water. Add ½ to 1 teaspoon of milk and stir. Take the glass and torch into a darkened room. Hold the torch above the surface of the water and look at the water in the glass from the side. It should have a slight bluish tint.

The colours in the light from the torch are being scattered by the tiny, tiny bits of milk in the water. Just like the colour blue in sunlight is scattered by the tiny, tiny bits of air in the atmosphere.

### **Other Investigations**

Ask at your teacher if they can help you use a school Prism. See if you can break up the sunlight into all its colours, red, orange, yellow, green, blue, indigo and violet.

### **Jokes**

What bow can you never tie? A rainbow