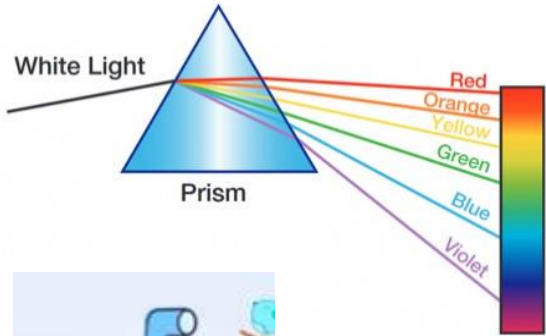


## Key Knowledge - light travels in straight lines



# Year Six Science Light



Things that give off light are primary sources. Objects that reflect light are secondary sources. Objects can be seen because they either give out light or reflect it. Objects are seen when light enters the eye.

The earth turns once every day. This makes the sun appear in different places in the sky. When the sun is low, it creates long shadows. When it is high, our shadows are shorter. Shadows are made when we block out light.

Light travels in straight lines. That is why shadows are the same shape as the object. A periscope uses mirrors to reflect the light in different directions.

Sundials help us to know roughly what the time is, by using the position of the sun.

Light travels in straight lines but objects like water can diffract light. This gives the impression that the objects bend. It happens because light travels at different speeds in different materials.

Sunlight is made up of seven colours. A rainbow is the sun's light reflecting and refracting off water particles in the air.

### Significant person:

#### Sir Isaac Newton.

It was Sir Isaac Newton who discovered that sunlight falling upon a prism could split into its component colours. This process is known as dispersion. Newton named the component colours: red, orange, yellow, green, blue, indigo and violet



## Key vocabulary

|                                  |   |
|----------------------------------|---|
| <b>light</b>                     | Light is what we need to see things. Light travels in to our eyes in straight lines.  |
| <b>light sources</b>             | Light comes from lots of different sources. The sun, a torch, electrical lights in your home and candles are all primary sources of light.                              |
| <b>shadow</b>                    | When we block out the light, we create shadows.   |
| <b>opaque</b>                    | Light cannot travel through opaque material. Objects made from wood, stone or metal for example, will create dark shadows   |
| <b>translucent</b>               | Some light can travel through translucent objects. (eg tissue paper / frosted glass)  |
| <b>transparent</b>               | Light passes through transparent material (eg clean water / glass)  |
| <b>Reflection and reflectors</b> | The moon is not a light source. We can see it because the sun's light shines on it. Things that reflect light cannot be seen in the dark unless we shine light on them. |
| <b>Dispersion or diffraction</b> | White light is separated in to its component colours (we can see this in a rainbow, or through a prism)   |
| <b>refraction</b>                | The bending of light is called refraction.  |