

# Bishop Bronescombe C of E Primary School



Topic: Light (Y6)

Year 5/6

Strand: Physics

## What your child should already know:

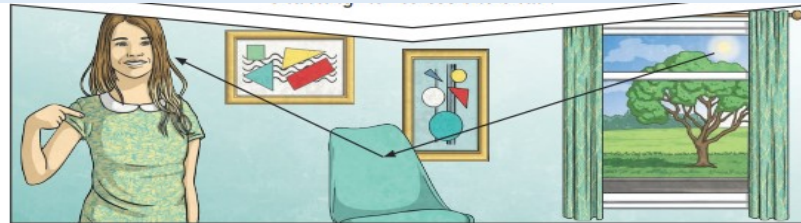
- recognise that they need light in order to see things and that dark is the absence of light
- notice that light is reflected from surfaces
- recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- recognise that shadows are formed when the light from a light source is blocked by an opaque object
- find patterns in the way that the size of shadows change.

## By the end of the unit, your child should be able to:

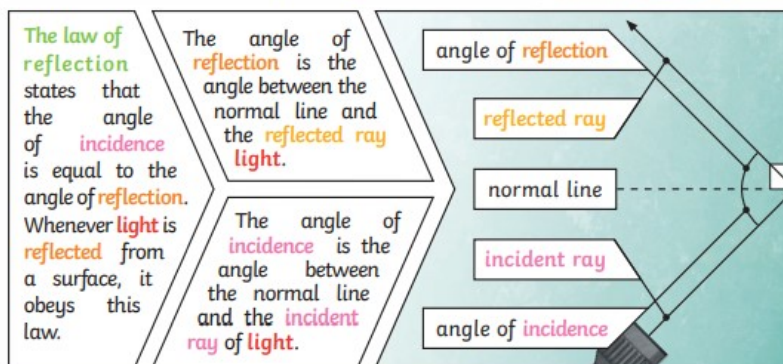
- recognise that light appears to travel in straight lines
- use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
- explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

## Key Knowledge

We need **light** to be able to see things. **Light** waves travel out from **sources of light** in straight lines. These lines are often called rays or beams of light. **Light** from the sun travels in a straight line and hits the chair. The light ray is then reflected off the chair and travels in a straight line to the girl's eye, enabling her to see the chair.



**Light** travels as a wave. But unlike waves of water or sound waves, it does not need a medium to travel through. This means **light** can travel through a vacuum - a completely airless space.



## Key Vocabulary

Word	Meaning
<b>light</b>	A form of energy that travels in a wave from a source
<b>light source</b>	An object that makes its own <b>light</b> .
<b>reflection</b>	<b>Reflection</b> is when <b>light</b> bounces off a surface, changing the direction of a ray of <b>light</b> .
<b>incident ray</b>	A ray of <b>light</b> that hits a surface.
<b>reflected ray</b>	A ray of <b>light</b> that has bounced back after hitting a surface.
<b>the law of reflection</b>	The law states that the angle of the <b>incident ray</b> is equal to the angle of the <b>reflected ray</b> .
<b>refraction</b>	This is when <b>light</b> bends as it passes from one medium to another. E.g. <b>light</b> bends when it moves from air into water.
<b>visible spectrum</b>	Light that is visible to the human eye. It is made up of a colour <b>spectrum</b> .
<b>transparent</b>	Describes objects that let <b>light</b> travel through them easily, meaning you can see through the object.
<b>translucent</b>	Describes objects that let some <b>light</b> through, but scatters the <b>light</b> so we can't see through them properly.
<b>opaque</b>	Describes objects that do not let any <b>light</b> pass through them.
<b>shadow</b>	An area of darkness where <b>light</b> has been blocked

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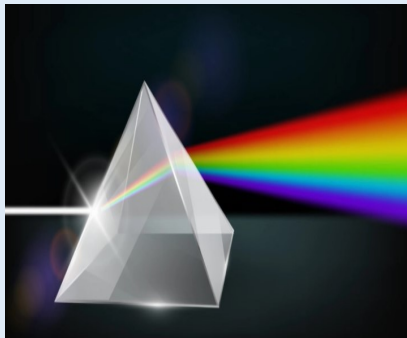
Topic: Living things and their habitats (Y6)

Year 5/6

Strand: Biology

## Key Knowledge

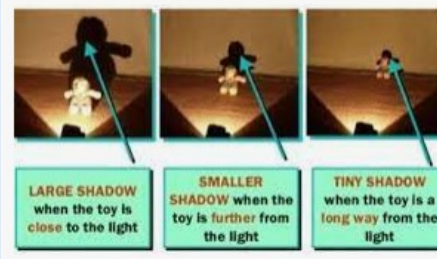
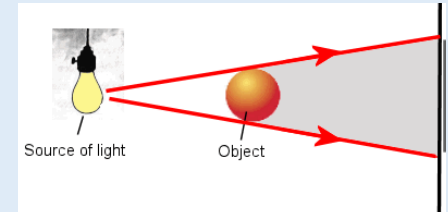
The spoon in this water looks as if it is bent. This is because **light** bends when it moves from air to water. When **light** bends in this way, it is called **refraction**.



Isaac Newton shone a **light** through a transparent prism, separating out **light** into the colours of the rainbow (red, orange, yellow, green, blue, indigo and violet) - the colours of the **spectrum**. All the colours together merge and make visible light.

## Key Knowledge

A **shadow** is always the same shape as the object that casts it. This is because when an **opaque** object is in the path of light travelling from a **light source**, it will block the light rays that hit it, while the rest of the light can continue travelling.



**Shadows** can also be elongated or shortened depending on the angle of the **light source**. A **shadow** is also larger when the object is closer to the light source. This is because it blocks more of the **light**.

