



Year 6 Science: How are we able to see?

Key Vocabulary	
Light Source	An object that emits its own light
Emit	To emit light means to produce it
Opaque	Something that is opaque cannot be seen through and does not allow light to pass through it.
Transparent	You can see through it
Translucent	Some light can pass through it
Reflects	When a light ray hits a surface and bounces off
Shadow	A dark shape that appears on a surface when something stands between the light source and the surface

- Light travels in a straight line.
- When you place a torch on a table in a dark room, the beam travels in a straight line.
- Reflection is when light bounces off a surface - this changes the direction in which the light travels.

Light travels in a straight line and hits the apple.

The ray of light is reflected off the apple and travels in a straight line to the eye allowing it to see the apple.

How do we see?

Light travels in a straight line and hits the object. The ray of light is reflected off the object and travels in a straight line into the eye, allowing us to see the apple.

- Fun facts:**
- Light travels VERY FAST - around 300,000 kilometres per second. It can go around the world eight times in one second. Light travels much faster than sound. e.g. Thunder and lightning start at the same time, but we will see the lightning first.
 - Space does not have any light. We can see things in space due to light bouncing off of the objects in space.

Because light travels in straight lines, when there is an opaque object blocking the light, a shadow is formed. These shadows have the same shape as the objects that cast them.

The size of a shadow changes as the light source moves.

LARGE SHADOW
when the toy is close to the light

SMALLER SHADOW
when the toy is further from the light

TINY SHADOW
when the toy is a long way from the light