Science topic: Light

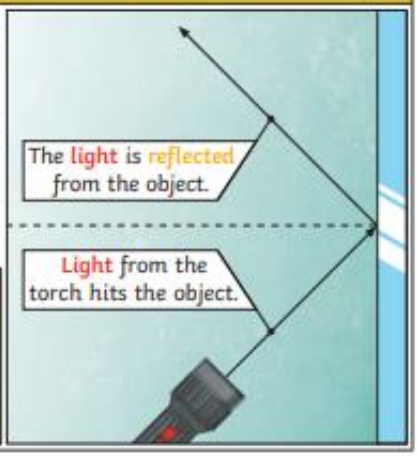
Light — Year 3

Key Vocabulary

light	A form of energy that travels in a wave from a source.
light source	An object that makes its own light.
dark	Dark is the absence of light.
reflection	The process where light hits the surface of an object and bounces back into our eyes.
reflect	To bounce off.
reflective	A word to describe something which reflects light well.
ray	Waves of light are called light rays. They can also be called beams.

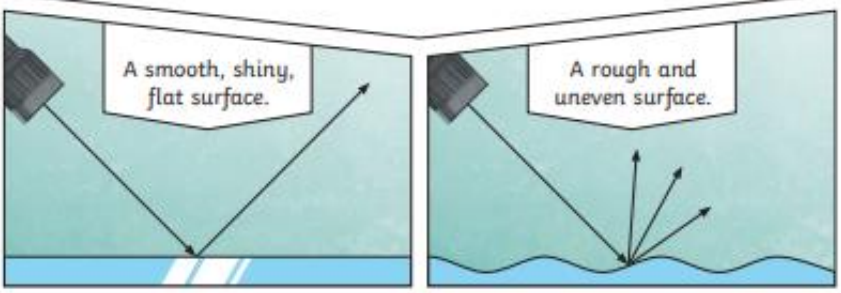
Key Knowledge

We need light to be able to see things. Light travels in a straight line. When light hits an object, it is reflected (bounces off). If the reflected light hits our eyes, we can see the object. Some surfaces and materials reflect light well. Other materials do not reflect light well. Reflective surfaces and materials can be very useful...



Mirrors reflect light very well, so they create a clear image. An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.

The surfaces that reflect light best are smooth, shiny and flat.

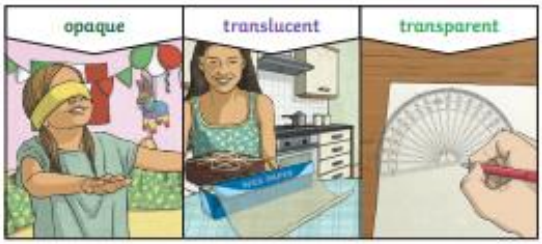


To look at all the planning resources linked to the Light unit, click here.

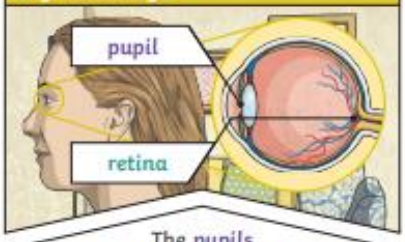
Light — Year 3

Key Vocabulary

pupil	The black part of the eye which lets light in.
retina	A layer at the very back of the eye. The retina takes the light the eye receives. It then changes it into nerve signals to send to the brain.
shadow	An area of darkness where light has been blocked.
opaque	Describes objects that do not let any light pass through them.
translucent	Describes objects that let some light through, but scatter the light so we can't see through them properly.
transparent	Describes objects that let light travel through them easily, meaning that you can see through the object.

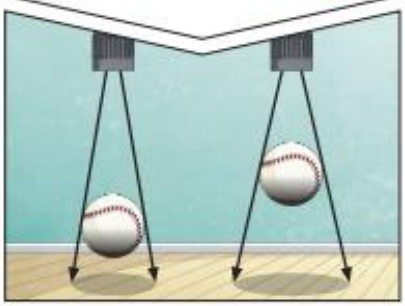


Key Knowledge



The pupils control the amount of light entering the eyes. If too much light enters, then it can damage the retina. To help protect the eyes, you can wear a hat with a wide brim and sunglasses with a UV rating.

A shadow is caused when light is blocked by an opaque object. A shadow is larger when an object is closer to the light source. This is because it blocks more of the light.



When the light source is directly above the object, the shadow will be directly underneath.

When a light source is to one side of an object, the shadow will appear on the opposite side. The shadow will also be longer.

Further key ideas in our topic of light are:

Light sources	Places from which light is emitted e.g. sun, candles, torches, fire etc
The Ray model of light	Light travels in straight lines
Seeing an object	When light reaches an object, it can be absorbed, or it can pass through the object or it can be reflected. Light can be scattered in all directions. Light colours reflect more light than darker colours
Transparent, translucent, opaque	Light passes through some materials and not others. Light passes through transparent materials, the light source is not clear when light passes through translucent materials. No light passes through opaque materials
Formation of shadows	Light is reflected of an object. The area that the light is unable to reach is called a shadow
Apparent movement of the Sun	Where the Sun is seen in the sky depends upon the rotation of the Earth on its axis. How long we see the Sun each day depends on the seasons which are created by the tilt of the Earth on its axis.
Refraction	This happens when an object slows down the light beam and it deflects its path.