

# Carr Head Primary School - Knowledge Organiser

Science

Light

Year 3

Summer 1

## Key Knowledge

Why do we need light?	We need light to be able to see things.
How does light travel?	Light travels in a straight line. When light hits an object, it is reflected (bounces off).
What happens when reflected light hits our eyes?	When light hits an object, it is reflected (bounces off). When reflected light hits our eyes, we can see the object.
Materials which reflect light can be very useful	Some surfaces and materials reflect light well like hi-vis jackets and cat's eyes. Not all materials reflect light well. The surfaces that reflect light best are smooth, shiny and flat.
Our eyes	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.
How are shadows caused?	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.

## Key Vocabulary

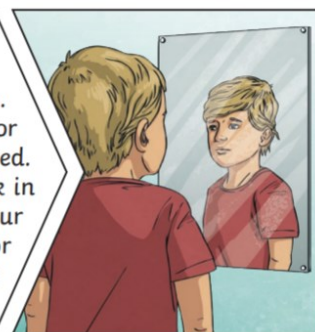
light	A form of energy that travels in a wave from a source.
light source	An object that makes its own light.
dark	Dark is the absence of light.
reflection	The process where light hits the surface of an object and bounces back into our eyes.
reflect	To bounce off.
reflective	A word to describe something which reflects light well.
ray	Waves of light are called light rays. They can also be called beams.
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
shadow	An area of darkness where light has been
opaque	Describes objects that do not let any light
translucent	Describes objects that let some light through, but scatter the light so we can't see them properly.
transparent	Describes objects that let light travel through them easily, meaning that you can see through the object.

## Know how to...

Working Scientifically

Look for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.

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.



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.

