

Year Three Knowledge Organiser: Light. How do we create light and darkness?

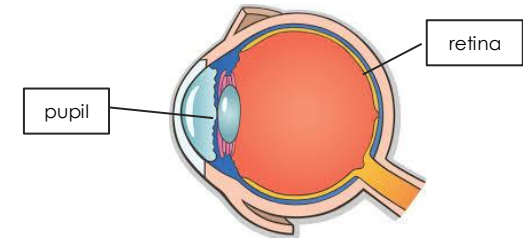
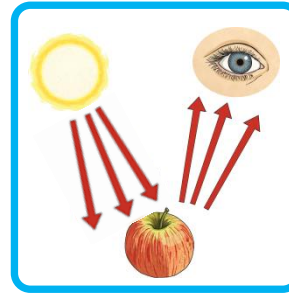
National Curriculum Specification

Pupils should be taught:

- 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.

Key Vocabulary

Light	A form of energy that travels in a wave from a source. Light enables us to see things.
Light source	An object that makes its own light.
Dark	The absence of light.
reflection	When light hits the surface of an object and bounces back into our eyes.
Reflective	Something which reflects light well.
Ray	Waves of light are called light rays. They can also be called beams.
Pupil	The back part of the eye which lets the 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 by an opaque object.
Opaque	Not letting any light through.
Translucent	Letting some light through. We can't see clearly through translucent objects.
Transparent	Letting light through easily. We can see clearly through transparent objects.



Key Facts

- Light travels in a straight line. When light hits an object, it is reflected. The light reflects into our eyes, so we can see the object.
- Surfaces which reflect light best are smooth, shiny and flat. Lighter colours reflect more light than darker colours.
- Mirrors reflect light very well, so the image we see is very clear. Mirrors also reverse the image!
- When the light source is directly above an object, its shadow will be directly underneath.
- When the light source is to one side of an object, its shadow will appear on the opposite side (and will be longer).
- The closer an object is to a light source, the larger the shadow will be.
- Objects that reflect light from light sources are sometimes called secondary light sources.

Talking points for home!

Why do we see some objects more clearly than others?

If I shine a torch on different types of surfaces, what happens?

Why can some people see better than others?

A child says that a shadow takes the shape of the light source. Is this true or false?

