

## YEAR 6: Light

### Science: Physics

#### What I should already know:

I need light in order to see things.

Dark is an absence of light.

Light is reflected from surfaces.

Light from the sun is dangerous.

I should protect my eyes from the sun and how to do this.

Shadows are formed when light is blocked by something.

#### By the end of this unit:

Understand light and shadow and know how light travels.

Know how we see things through light entering the eyes.

Know how light can be reflected and change direction.

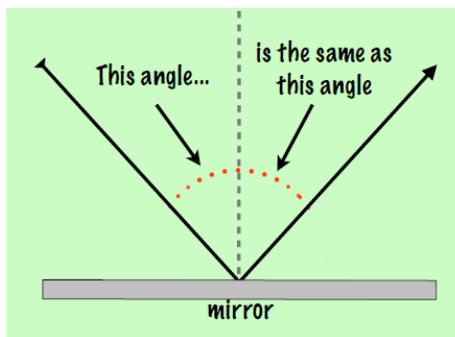
Reflections can come from a variety of surfaces.

Know how shadows can behave in different light.

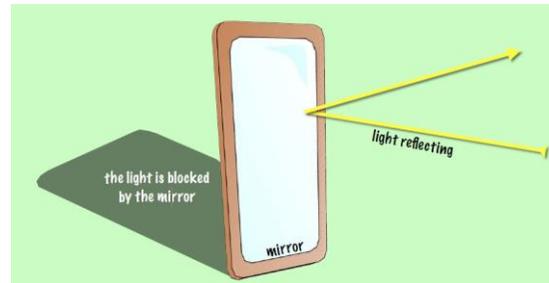
Know the differences between shadows and reflections

#### Investigate:

What happens to the shadow when the light source is at different distances from an opaque object?



Mirrors behave in predictable ways. The angle that the light lands on the mirror will affect which angle the light changes its direction. This is known as the angle of reflection.



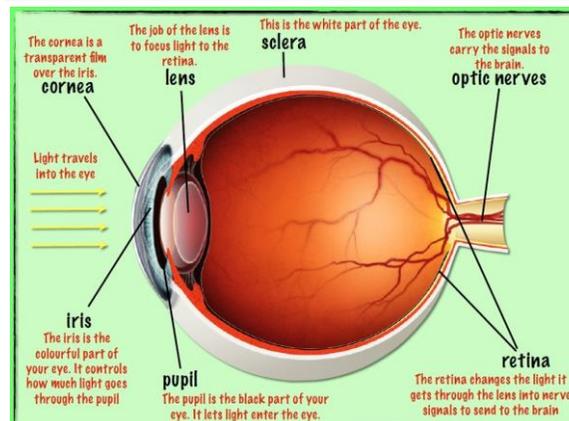
#### Key Facts

Light travels from a source and it always travels in a straight line. Light cannot bend or turn around corners.

If an object blocks the light's path, it will form a shadow and will not bend around the object.

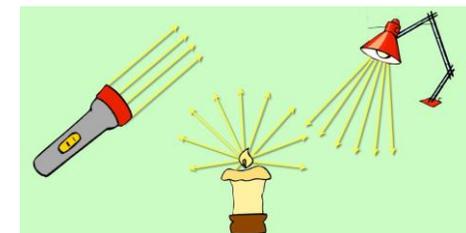
Without light we are unable to see things because light travels in to our eyes which then send signals to the brain.

Mirrors can be used to reflect light. When the mirror hits the light, it bounces off and changes direction.



#### Vocabulary

Angle of reflection	The angle made by a reflected ray of light with a perpendicular to the reflecting surface.
Cornea	The transparent film over the iris of the eye.
Iris	The colourful part of the eye. It controls how much light goes through the pupil.
Lens	The part of the eye that focus' light to the retina.
Light source	Something that gives out light, eg: sun, fire, lamp.
Mirrors	A surface that reflects light.
Opaque	If something is opaque, it is not see through.
Optic nerve	The nerves that carry the signals to the brain.
Pupil	The black part of the eye. It lets light enter the eye.
Reflect	When a ray of light hits a surface and bounces off it.
Retina	The retina in the back of the eye changes the light it gets through the lens into nerve signals to send to the brain.
Shadow	A dark area/shape caused when a light source is blocked by an opaque object.
Translucent	If something is translucent, it allows some light through.
Transparent	If something is transparent, it is see through



Light travels in straight lines