Key vocabulary

Light	Light is a form of energy that makes vision possible.
Dark	Darkness is the absence of light.
Reflection	Reflection is the bouncing back of light when it hits a surface.
Shadow	A shadow is a dark area created when an object blocks light between a light source and a surface
Reflective	'Reflective' describes a surface that reflects most of the light that hits it.
Light source	A light source is an object that emits light, such as the Sun or a lightbulb.
Colour Spectrum	The colour spectrum is the range of colour visible to the human eye, which can be seen when light is refracted through a prism
Reflect	To reflect is to bounce back light or another form of energy when it hits a surface
Refract	To refract is to change the direction of light as it passes through different materials
Visible Spectrum	The **visible spectrum** is the portion of the light spectrum that is visible to the human eye.

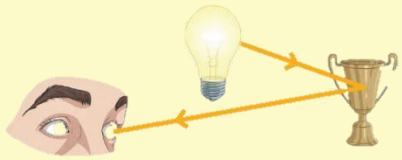
The Colour Spectrum

Visible light is made up of all the colours in the **visible spectrum.** When light passes through a prism, it separates into these individual colours: red, orange, yellow, green, blue, indigo and violet.



Light and Vision

Light is needed for the eye to see things. It travels in straight lines from a light source and is reflected by objects in the environment. This reflected light then enters the eye, enabling people to see.



Light sources

A light source can be either naturally occurring or human-made. Natural light sources include the Sun, lightning and bioluminescence. Artificial light sources include lightbulbs, electronic devices and fireworks.

Refraction

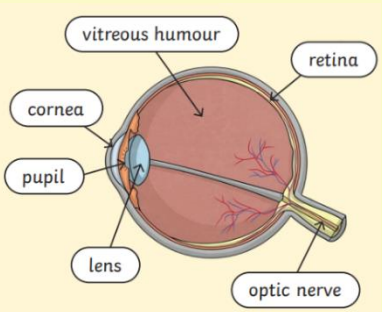
Refraction occurs when the direction of light changes as it passes through different materials. We can see this when we observe a teaspoon in a cup of water; as light transitions from air to water, it bends slightly, causing the spoon to appear distorted or bent.



Inside the eye

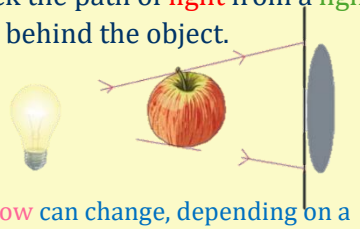


Once light enters the eye through the pupil, it is focused by the lens onto the retina at the back of the eye. The retina converts the light into electrical signals, which are carried by the optic nerve to the brain, where they are interpreted as visual images.



Shadows

A shadow always takes on the shape of the object that casts it. Opaque objects block the path of light from a light source, creating a dark area behind the object.



The angle and the size of a shadow can change, depending on a number of factors

The Visible Spectrum

Humans can't see every colour of light. Ultraviolet and infrared light are invisible to the human eye. The colours of light that we can see are known as the **visible spectrum.**

