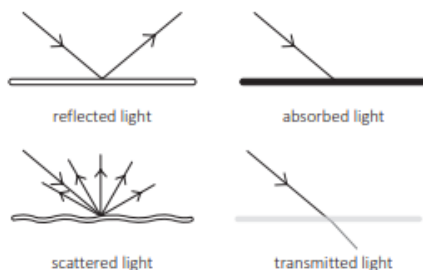




Science Light Theory

Light Sources -A light source is something that produces light. This can be a natural source, such as the Sun or a glow-worm, or an artificial source, such as a light bulb or candle.

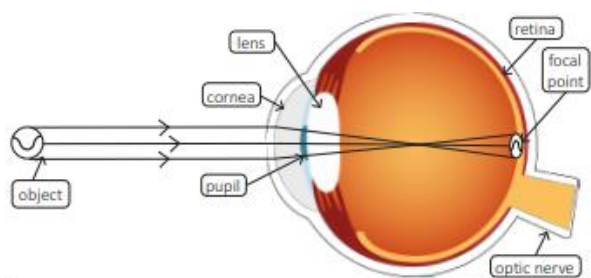


How does light travel? Light is a form of energy that travels as waves in straight lines. In diagrams, light waves are drawn as straight lines with arrowheads that show the direction of travel.



Light and Sight

Light rays reach the eye and travel through the cornea before entering the eye through the pupil. The lens focuses the light onto the back of the eye, called the retina. The retina turns this light information into electrical signals, which travel through the optic nerve to the brain, where the signals are 'seen' as an image. Without light, we cannot see.



Visible light is made up of a continuous spectrum of different colours of light, from violet to red. All the colours of light mix together to create white light.



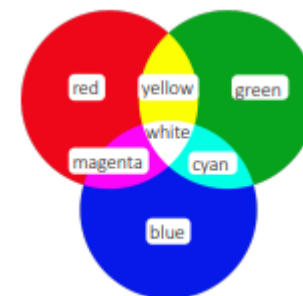
Shadows

Shadows form when an object blocks the passage of light, leaving an area of darkness. The size and length of an object's shadow can vary depending on the position of the light source.



Perceiving Colour- Light enters our eyes through the pupil and is focused onto light-sensitive cells called rods and cones that cover the retina at the back of the eye.

Red, green and blue are the primary colours of light. When the red and green cones in our eyes are stimulated, we perceive a yellow colour. When the blue and green cones are stimulated, we perceive a cyan colour. When the red and blue cones are stimulated, we perceive a magenta colour. If the red, green and blue cones are all stimulated, we see white.



Refraction creates different phenomena on Earth. For example, light refracted by raindrops creates a rainbow. Light refracted by a glass of water can make a straw look bent or disjointed.



Glossary

absorb	The ability to soak something up, such as a liquid or light.
reflect	To bounce off a surface.
scatter	To move apart in different directions.
spectrum	A band of colours produced when white light is separated.
visible light	The part of the electromagnetic spectrum that the human eye can see, also known as white light.

