



Year 3 Science Knowledge Organiser: Light and Dark



Key vocabulary

light	light is a type of energy that makes it possible for us to see the world around us.
light source	an object that emits light.
light beam	a projection of light energy radiating from a light source.
dark/darkness	the absence of light in a place.
reflection	when light hits the surface of an object and then that light travels to our eyes so we can see.
opaque	a material you are not able to see through (not transparent).
transparent	a material allowing light to pass through so that objects behind can be seen clearly.
shadow	an area of darkness produced by an object coming between rays of light and a surface.
translucent	a material allowing light, but not detailed shapes, to pass through (semi-transparent).
torch	a portable battery-powered electric lamp.
mirror	a surface, typically glass coated with metal, which reflects a clear image.
source	where something comes from.
protect	to keep from being harmed either by covering or shielding.
illuminate	a verb meaning to light up. E.g. A flash of light illuminated the house.

Focus scientists

Ibn al-Haytham was born in 965BC. He was the first person to prove that we see because light reflects off objects and into our eyes. He was also one of the first thinkers to use a scientific method.

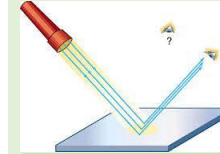


Percy Shaw (1890 - 1976) was an engineer from Halifax in West Yorkshire who designed the Cat's Eye: a device that reflected car head lights and has improved road safety, saving many lives.



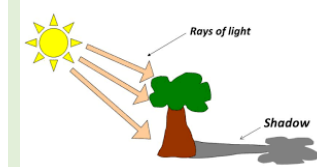
Key Knowledge

Reflection - Light beams are projected from the light source. These light beams travel in a straight line until they meet an object. The light beams are then reflected off the surface it meets, until the light beam enters the eye.



How we see - The light activates cells inside our eyes which are processed by our brain into an image. This all happens incredibly fast! All of the objects we can see are only visible when light is reflected off the object.

How Shadows are formed - A shadow is an area of darkness produced by an object coming between beams of light and a surface. The distance between the object and the light source, near or far / high or low, will affect the size of the shadow.



Sun Safety - Sunlight can damage your eyes. Protect them by wearing sunglasses or a hat. Never look directly at the sun.