

Science: Light

What do you notice about the way light travels?

Light appears to travel in straight lines. Galileo first attempted to measure the speed of light; he determined that light travels faster than sound.

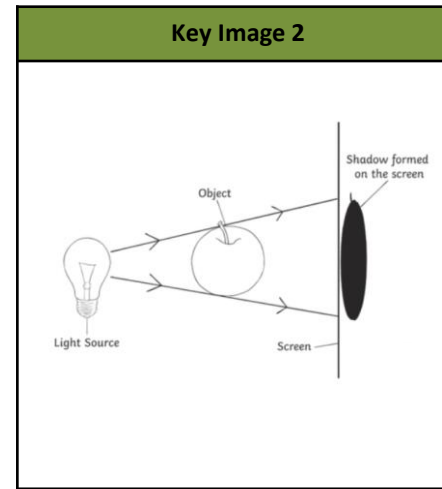
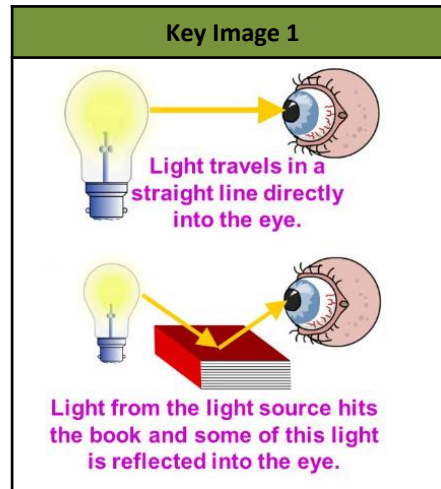
How do we see objects? See Key Image 1

People used to believe that light came from our eyes. But Aristotle discovered that actually objects are seen because they give out or reflect light into the eye. Light travels from light sources to our eyes or from light sources to objects and then to our eyes.

Why do shadows have the same shape as the objects that cast them? See Key Image 2.

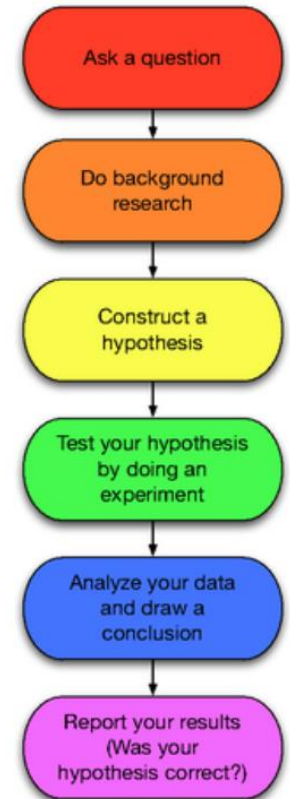
Shadows are formed on a surface when an object blocks light rays. Given that light travels in straight lines, the shadows will always take the same shape as their objects. However, the size of shadows may change depending on the positioning of the light source.

Key Vocabulary	
light source (noun)	an object that gives out light
opaque (adjective)	an object that lets no light through
pupil (noun)	the black part of the eye which lets light in
reflection (noun)	when light bounces off a surface, changing the direction of the light
refraction (noun)	when light bends as it passes from air to water for example
retina (noun)	a layer at the back of the eye that takes in the light and changes it into nerve signals to send to the brain
shadow (noun)	a dark area created on a surface by an object blocking light rays
Thomas Edison (noun)	inventor of the electric lightbulb in 1879
translucent (adjective)	an object that lets some light through
transparent (adjective)	an object that lets all light through



Key Figures		
Aristotle	Galileo	Thomas Edison

The Scientific Method



“Science is simply the word we use to describe the method of organising our curiosity.” – Tim Minchin

1609: The moon is observed for the first time by Galileo using a telescope

1687: Newton discovers the law of gravity and motion

1751: Benjamin Franklin establishes that lightning is electrical (kite).

1859: Charles Darwin publishes Theory of Evolution

1905: Albert Einstein's theory of relativity $E=MC^2$

1927: Lemaître produces the Big Bang theory

1969: The moon is walked on for the first time by Neil Armstrong

1997: Dolly the sheep is cloned by the Roslin Institute