



Key Vocabulary

emit	To emit light means to produce it
reflection	When a light ray bounces off a surface and changes direction
refraction	The bending of light as it travels from one substance to another, with a different density
spectrum	A band of colours, such as in a rainbow, produced by separation of the components of light
ray	A beam of light given off by a light source
prism	An object used to separate light into its different colours

Links to other Learning

- Year 3 - Light
Recognise that shadows are formed by light from a light source is blocked by an opaque object
- KS3 - Waves
The transmission of *light through materials*
- Mathematics - Geometry

Key Facts

- Light travels in straight lines and it does not stop until it is absorbed by something. Light cannot bend around objects.
- Shadows always are the same shape as the objects that cast them as those objects absorb the light rays, leaving darkness behind them.
- Light is refracted by changing speed as it travels through something with a different density (thickness). This means the light changes direction. You can see this by looking at light through water!

Key Questions

- How does light travel?
- How are objects seen?
- How is light reflected?
- Why do shadows have the same shape as the objects that cast them?
- How can shadows be elongated or shortened?
- Why are rainbows multi-coloured?

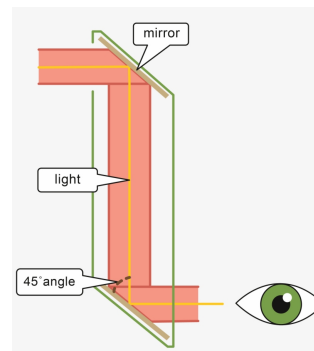
Famous Scientist

Alhazen
965-1039

Alhazen was a pioneer of modern optics. His most valuable scientific contribution was that of his study into vision which is still used today. His theory suggests that light bounces off different objects to enter the eye which allows us to see.



A periscope works by reflecting light at different angles until it reaches our eyes



A shadow is always the same shape as the object that creates it