



Light and how it travels

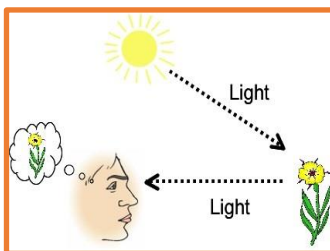
We will learn...

How does light travel?

Light travels in a straight line. When you place a torch on a table in a dark room, the beam travels in a straight line. Reflection is when light bounces off a surface - this changes the direction in which the light travels.

What is the relationship between light sources and shadows?

Because light travels in straight lines, when there is an opaque object blocking the light, a shadow is formed. These shadows have the same shape as the objects that cast them. The size of a shadow changes as the light source moves.



How do we see?

Light travels in straight lines and hits the flower. The ray of light is reflected off the flower and travels in a straight line to the eye allowing it to see the flower.

Key vocabulary:

angle	The direction from which you look at something.
refract	Some materials such as water and glass bend light and the object appears altered.
transparent	You can see through it.
translucent	Some light can pass through it.
reflect	Sent back from the surface.
opaque	You cannot see through it.
shadows	A dark shape on a surface that is made when something stands between a light and the surface.

Inspirational Scientists

Ernesta Jonkute- developed Vantablack®, a super-black coating that holds the world record as the darkest human-made substance

Alhazen- pioneer of modern optics

Investigate:

- How is light reflected?
- Why do objects look bent in water? (refraction)
- Explore how light travels through different filters.
- Create shadow puppets to show that shadows have the same shape as the object that casts them.

Working scientifically -

In this topic we develop the following practical skills:

- ✓ Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- ✓ Identifying scientific evidence that has been used to support or refute ideas or arguments.