

# Light and how it travels

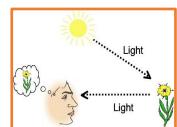
#### We will learn...

## 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)
- Create a colour spectrum
- 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
- Predicting what will happen in the investigations and writing the findings
- ✓ Writing conclusions
- ✓ Identifying scientific evidence that has been used to support or refute ideas or arguments.