

Year 6 Science

NC Unit: Light

How do we see?

Physics

What should I already know?

- Certain things produce **light**, usually by burning (e.g. the Sun) or **electricity** (e.g. street lights)
- Shiny materials do not make **light** but do reflect it.
- **Shadows** are caused when certain materials block **light**.
- **Light** travels in straight lines. When **light** is blocked by an **opaque** object, a **dark shadow** is formed.
- The further away the **light source** is, the smaller the **shadow** is. The closer the **source** of the light, the bigger the shadow.

Big Ideas that this works towards:

- *The universe follows unbreakable rules that are all about forces, matter and energy.*
- *Energy, which cannot be created or destroyed, comes in many different forms and tends to move away from objects that have lots of it.*

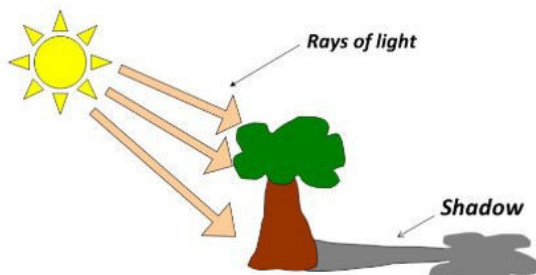
What will I know by the end of the unit?

How does **light** travel?

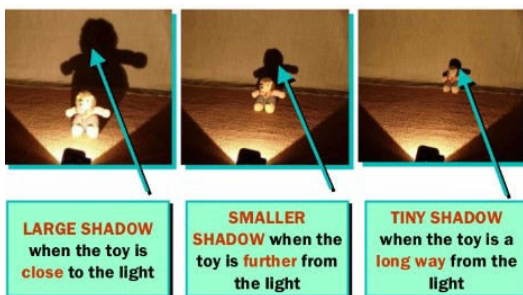
- **Light** travels in a straight line.
- When you place a torch on a table in a **dark** room, the beam travels in a straight line.
- **Reflection** is when **light** bounces off a surface - this changes the direction in which the **light** travels.

What is the relationship between **light sources** and **shadows**?

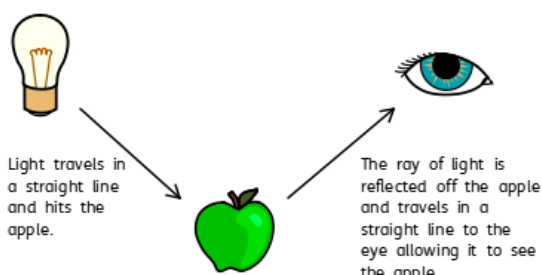
- Because **light** travels in straight lines, when there is an **opaque** object blocking the **light**, a **shadow** is formed.
- These **shadows** have the same shape as the objects that cast them.



- The size of a **shadow** changes as the **light source** moves.



How do we see?



Vocabulary

angle	the direction from which you look at something
dark	the absence of light
dim	light that is not bright
electricity	a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for machines
emits	to emit a sound or light means to produce it
light	a brightness that lets you see things.
mirror	a flat piece of glass which reflects light , so that when you look at it you can see yourself reflected in it
opaque	if an object or substance is opaque , you cannot see through it
reflects	sent back from the surface and not pass through it
shadows	a dark shape on a surface that is made when something stands between a light and the surface
source	where something comes from
surface	the flat top part of something or the outside of it
torches	a small electric light which is powered by batteries and which you can carry
translucent	if a material is translucent , some light can pass through it
transparent	If an object or substance is transparent , you can see through it

