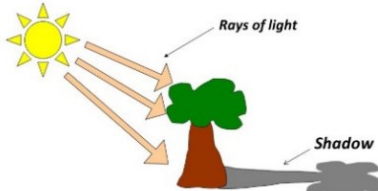
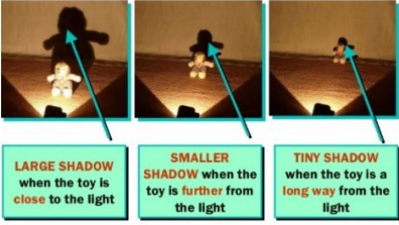
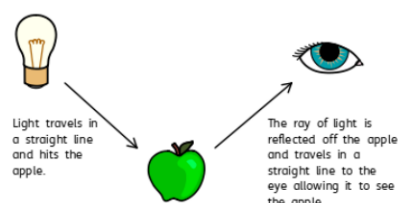


What should I already know?

- Some things produce light, usually by burning (the sun) or electricity (street lights) (Y3)
- Shiny materials do not make light, but do reflect it (Y2)
- Shadows are caused when certain materials block light (Y1)
- Light travels in straight lines. When light is blocked by an opaque objects, a dark shadow is formed (Y3)
- The further away the light source, the smaller the shadow. The closer the light source, the bigger the shadow (Y3)

What will I know by the end of the unit?

How does light travel?	<ul style="list-style-type: none"> • Lights 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 light travels.
What is the relationships between light sources and shadows?	<ul style="list-style-type: none"> • 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 obj  <ul style="list-style-type: none"> • The size of a shadow changes as the light 
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, lighting and provides power for machines
emits	to emit a sound or light means to produce it
light	a brightness that lets you see things
light rays	light travelling in any direction, in a straight line
light source	something that makes light, whether natural or artificial
mat	not shiny and does not reflect light
mirror	a flat piece of glass which reflects light so that when you looked at it you can see yourself reflected in it.
opaque	if an object or substance is opaque, you cannot see through it
reflects	send back waves of light 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
shiny	things that are bright and reflect light
source	where something comes in
straight lines	a line with no curves
sunlight	light from the sun
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 objects or substance is transparent, you can see through it

Investigate!

- What happens when light is reflected from different surfaces? What happens when light is reflected from a mirror? What happens when the angle of the mirror (or light source changes?) Draw diagrams to show how light travels and what happens when light is reflected from a mirror.
- Draw diagrams to show how we see.
- Design an experiment to measure shadow length by changing a variable. Show your results in a line graph to show the relationship between distance of light source and shadow length. Explain your findings using scientific vocabulary.
- Create shadow puppets to show how light travels and to demonstrate that a shadow has the same shape as the object that casts them.
- Make a periscope and explain how it works using diagrams and scientific vocabulary. Use the idea that light appears to travel in straight lines to explain how it works.
- Research how mirrors are used in different contexts (e.g. rear view mirrors, on a dangerous bend) and explain why and how they work.
- Explain why objects look bent in water.
- Explore different contexts in which light travels including rainbow