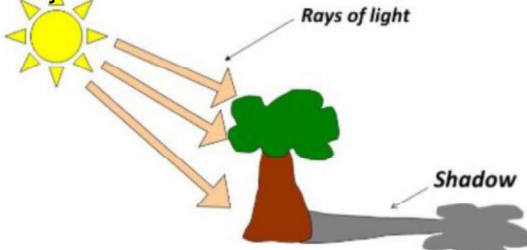
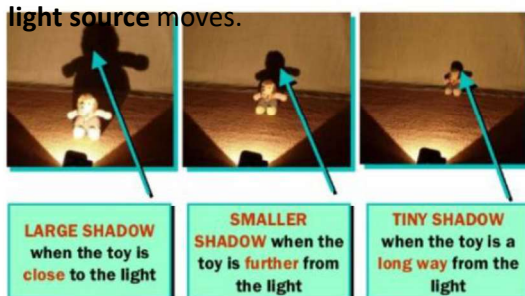
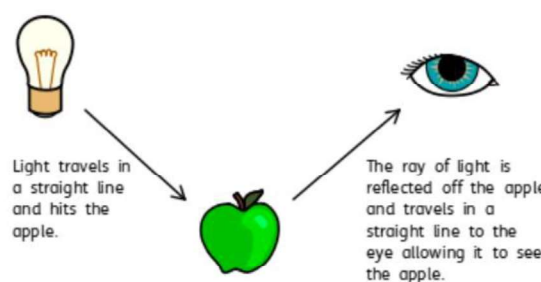


Science Knowledge Organiser

Topic: Light		Year: 6	Strand: Physics
What should I already know?			Investigate!
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 shad-ow is. The closer the source of the light, the bigger the shadow.			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 rainbows, colours on soap bubbles and coloured filters.
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.  LARGE SHADOW when the toy is close to the light SMALLER SHADOW when the toy is further from the light TINY SHADOW when the toy is a long way from the light		
How do we see?	 Light travels in a straight line and hits the apple. The ray of light is reflected off the apple and travels in a straight line to the eye allowing it to see the apple.		
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		