Knowledge Organiser: Year 6 Light

Careers connected to Light: Photonics, Lighting technician, Optometrist, Photographic Processor

Lesson Sequence

1. Explore how light travels

2. Explore reflection

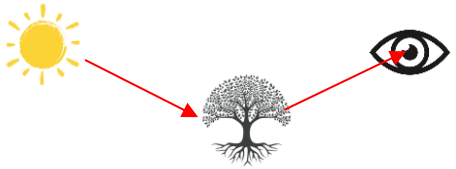
3. Explore reflection and explain how it can be used to help see things

4. Investigate how shadows can change

5. Investigate how we can show why shadows have the same shape as the object that cast them

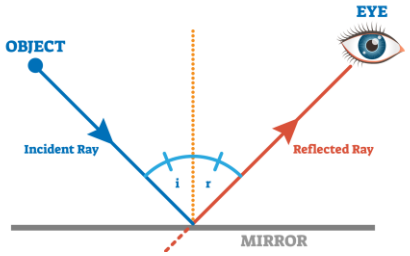
6. Explore light phenomena

How We See



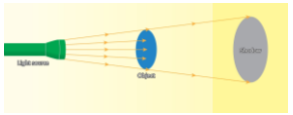
Light travels in **straight lines**.
The light **rays** from a light source **reflect** off the object we are looking at. The light travels in a **straight line** and enters the eye through our **pupil**.

Reflection



Light reflects off shiny, bright or light surfaces. That is why you can see your reflection when you look in a mirror.

Shadows



Opaque objects block the light rays so they can only travel around the edges of the object in straight lines. That is why a shadow is the same shape as the object.

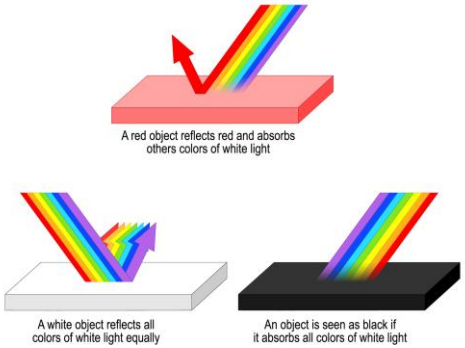
The **closer** an object is to the light source, the **bigger** the shadow.

The **further away** the object is from the shadow, the **smaller** the shadow.

Colours

White light is made up of the colours of the rainbow. When light is refracted through a transparent object, a rainbow is formed.

Absorption and reflection of light



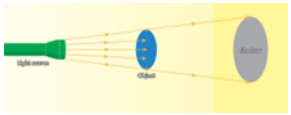
Knowledge Organiser: Year 6 Light

Before and After Test

Add arrows to the diagram below to show how we see things.

Use these words to help you write an explanation of how we see:

Light rays straight lines pupil reflect



Describe how a puppet's shadow changes if it is moved closer to a light source.

Label the statements below 'reflection' or 'refraction'.

Light bounces off shiny surfaces like mirrors or metal, letting you see a clear image of yourself.

When light passes through water or glass, it bends and makes things look bent or distorted.

True (T) or False (F) ?

Light rays reflect off shiny surfaces.	☐
Light travels in wavy lines.	☐
An iPhone is a light source.	☐
The moon is a light source.	☐
White light is made up of 5 different colours.	☐
Green objects look green because the green is reflected into our eyes, but the other colours are absorbed by the object.	☐

Why doesn't glass create a shadow when a light source is shining on it?

Unit Rocket Words: Year 6 Light

Rocket Words

	light	a form of energy
	light source	an object that provides its own light
	reflected	when light shines on a surface and bounces back
	variable	any one of the elements of an experiment which could be changed
	angle	the space between 2 intersecting lines
	mirror	a surface that reflects a clear image
	opaque	it describes materials which do not allow light to travel through
	transparent	it describes materials which allow all light to travel through
	sunshade	a device giving protection from the sun
	rotate	to turn an object around a centre point
	optical	relating to the science of optics
	spectrum	a band of several colours