

Science Knowledge Organiser

Topic: *Light*

Year: 3/4
(LKS2)

Strand: *Physics*

What should I already know?

Vocabulary: Reflect, shine, light, dark, bright, dim, shadow.

- Certain things produce **light**, by burning (e.g. the sun) or **electricity** (e.g. street lights).
- Shiny materials do not emit light but **reflect** it.
- Shadows** are caused when certain materials block light.

Vocabulary

Light	A brightness that lets you see things.
Light Source	Something that produces light energy.
Dark	The absence of light.
Dim	Light that is not bright.
Bright	Giving out or reflecting a lot of light.
Transparent	If an object is transparent, light can pass through it.
Translucent	If an object is translucent, some light can pass through it.
Opaque	If an object is opaque, no light can pass through it.
Reflect	Sent back from the surface and does not pass through it.
Mirror	A flat piece of glass which reflects light, so when you look into it you can see a reflection of yourself.
Shadow	A dark shape that is made on a surface when something stands between light and the surface.
Sunglasses	Glasses with dark lenses which you wear to protect your eyes from bright sunlight.

What will I know by the end of the unit?

- Light is needed in order to see things, as **dark is the absence of light**.

- Light is **reflected** from surfaces.

- Light from the sun can be dangerous and there are ways to protect our eyes.



- Shadows** are formed when the light from a light source is blocked by a solid object.

Opaque materials: block light so we can't see through it or shine a light through it, and it makes a dark shadow.

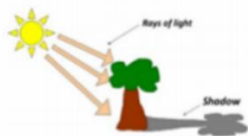
Transparent materials: light passes through it we can see through it, and it makes a light shadow.

Translucent materials: some light can pass through it, which makes a fairly dark shadow.

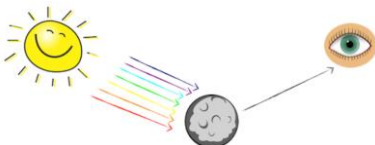
- There are patterns in the way the size of the **shadow** changes when a **light source** is moved.

Key Questions/investigations

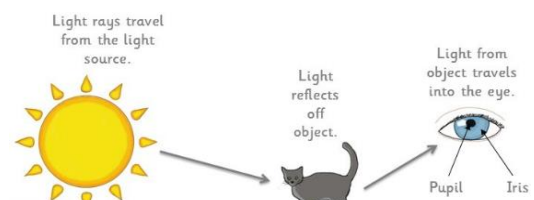
- How are shadows formed?



- Is the moon a light source?



How do we see objects?



Pattern Seeking and fair testing: Look for and measure shadows to find out how they are formed and how they might change.