

Knowledge Planner

Year 6 - Light

What I should already know

- **Light sources emit light** by burning, **electricity** or a **chemical reaction**
- We need **light** so that we are able to see in the **dark** - **dark** is the absence of light
- The sun and stars are **light sources**, but the moon is not. The sun's **light reflects** off the **surface** of the moon making it seem like the moon **emits light**.
- **Shiny** things are also not **light sources**, they **reflect light**
- **Light** travels in **straight lines**
- **Shadows** are formed when **light** is blocked by an **opaque** object
- We must never look directly at the sun as the **light** is very **bright** and can be harmful to our eyes

Key Vocabulary

angle	The direction from which you look at something
bright	A colour that is strong and noticeable, not dark
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. Provides power for machines
emits	To emit a sound or light means to produce it

light	A brightness which lets you see things
light ray	Beam of light emitted from a light source
light source	Where the light comes from
matte	A dull or flat surface
mirror	Flat piece of glass which reflects light
opaque	An object or substance that you cannot see through
refract	Change in direction of a light ray . This happens when light travels through different mediums
reflect	When light is sent back from a surface and doesn't pass through it
shadow	A dark shape on a surface when something stands between the light and the surface
shiny	A glossy or smooth surface
straight line	Light appears to travel in straight lines from a light source to an object
surface	The flat top part or the outside of an object
sunlight	Natural light source . You must never look directly at the sun without protecting your eyes.
torches	A small electric light powered by batteries
translucent	Translucent materials let some light pass through
transparent	Transparent materials let all light through

Key facts.

Light travel in **straight lines** from a **light source**.

- **Light** cannot pass through an **opaque object** - some is **absorbed** and the rest is **reflected**
- **Light** can pass through a **transparent object**.
- Some **light** passes through **translucent objects**, but the rest is **reflected**.
- **Mirrors** can be used to bend **light**.

Light travels in **straight lines** to objects and our eyes. Objects are seen because they **emit light** or **reflect light** into our eye.

Because **light** travels in **straight lines**, it means that a **shadow** will have the same shape as the object that cast them.

Possible Investigations

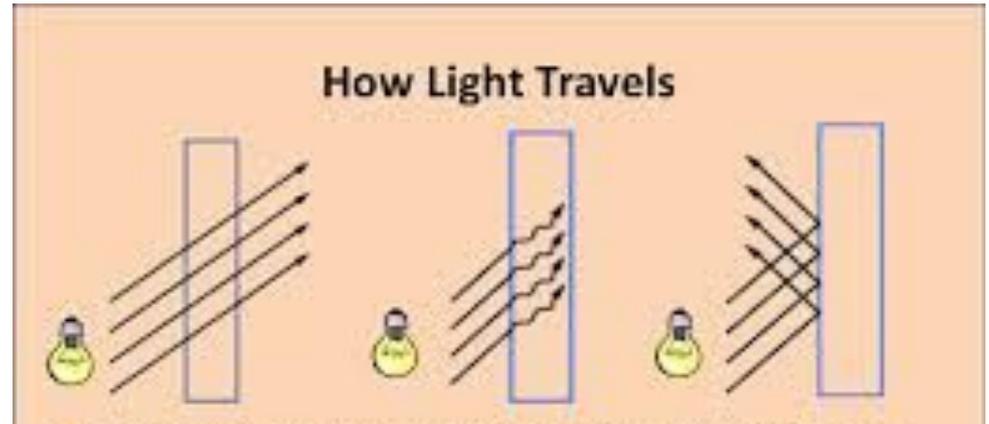
What happens when **light** is **reflected** off different **surfaces**?

Can you change the shape or size of **shadows**?

Can you make different coloured **shadows**?

Why do **lights** seem **brighter** in the **dark**?

Can you make a periscope to see around corners?



How we see things.

Light either travels in a straight line to our eye from a light source, or it is reflected into our eye from an object.

Light is emitted from the light source, which is then reflected from the opaque object and then enters our eye.

IMPORTANT: Light does not enter our eye and then reflect to the object.

