

SCIENCE KNOWLEDGE ORGANISER

Light



Key Questions

- What is light?
- How are shadows formed?
- Why do we need to wear sunglasses?

ESSENTIAL VOCABULARY

Light	A form of energy that travels in a wave from a source.
Light source	An object that makes its own light.
Dark	Dark is the absence of light.
Reflection	The process where light hits the surface of an object and bounces back into our eyes.
reflect	To bounce off.
reflective	A word to describe something which reflects light well.
ray	Waves of light are called light rays. They can also be called beams.

Reflections

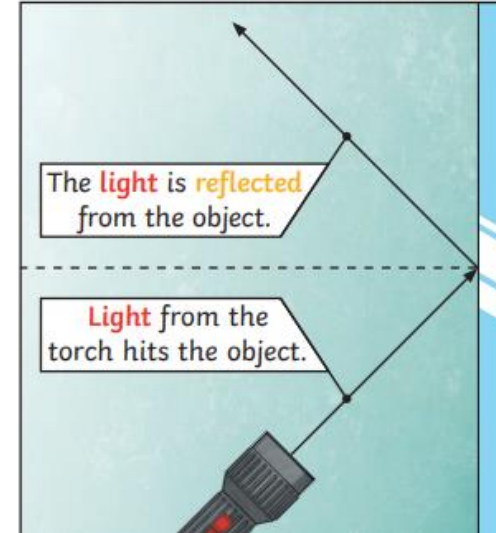
We need light to be able to see things. Light travels in a **straight line**. When light hits an object, it is **reflected (bounces off)**. If the reflected light hits our eyes, we can see the object. Some surfaces and materials reflect light well. Other materials do not reflect light well. Reflective surfaces and materials can be very useful such as...



hi-vis jacket



cat's eyes



Mirrors

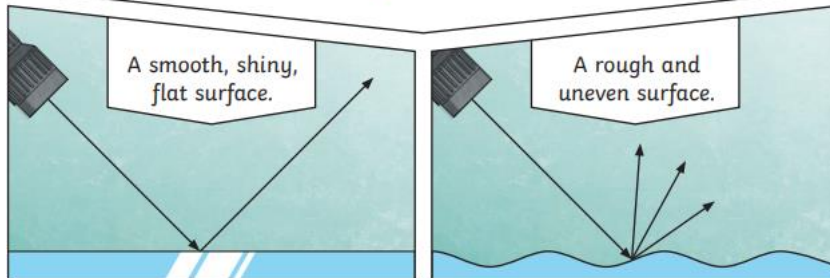
Mirrors reflect light very well, so they create a clear image. An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.



Outcomes

- Identify light sources.
- Understand that we need light to see.
- Know that light travels in a straight line.
- Identify reflective surfaces.
- Know that the sun can damage their eyes.
- Know how to protect their eyes from the sun.

The surfaces that reflect **light** best are smooth, shiny and flat.



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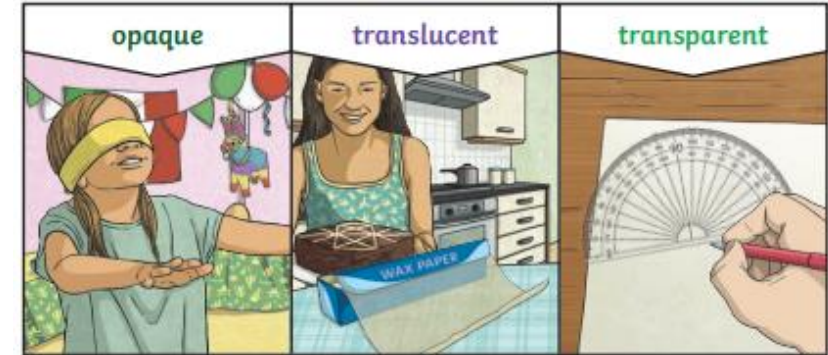
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ESSENTIAL VOCABULARY

Pupil	The black part of the eye which lets light in.
Retina	A layer at the very back of the eye. The retina takes the light the eye receives. It then changes it into nerve signals to send to the brain.
Shadow	An area of darkness where light has been blocked.
Opaque	Describes objects that do not let any light pass through them.
Translucent	Describes objects that let some light through but scatter the light so we can't see through them properly.
Transparent	Describes objects that let light travel through them easily, meaning that you can see through the object.

Shadows

A shadow is caused when light is blocked by an opaque object. A shadow is larger when an object is closer to the light source. This is because it blocks more of the light.



Key Knowledge

The pupils control the amount of light entering the eyes. If too much light enters, then it can damage the retina. To help protect the eyes, you can wear a hat with a wide brim and sunglasses with a UV rating.

