


# Light Science Knowledge Organiser

## Phase 2


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

### Key Knowledge

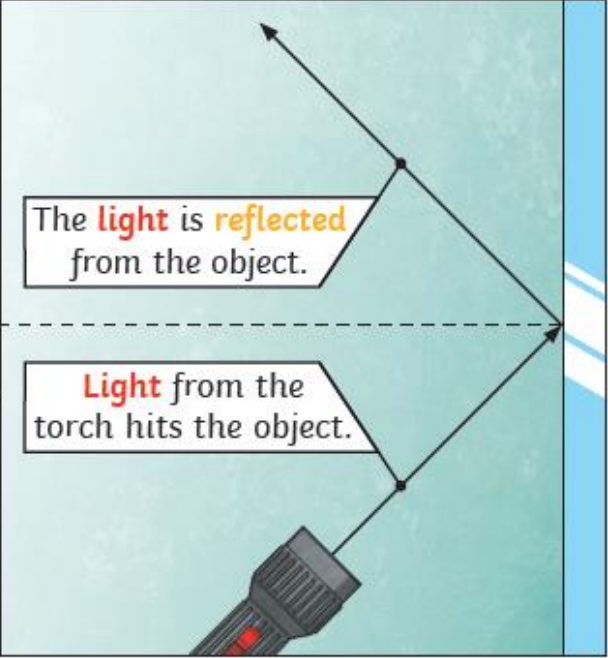
We need **light** to be able to see things. **Light** travels in a straight line. When **light** hits an object, it is **reflected** (bounces off). If the **reflected light** hits our eyes, we can see the object. Some surfaces and materials **reflect light** well. Other materials do not **reflect light**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



hi-vis jacket




cat's eyes



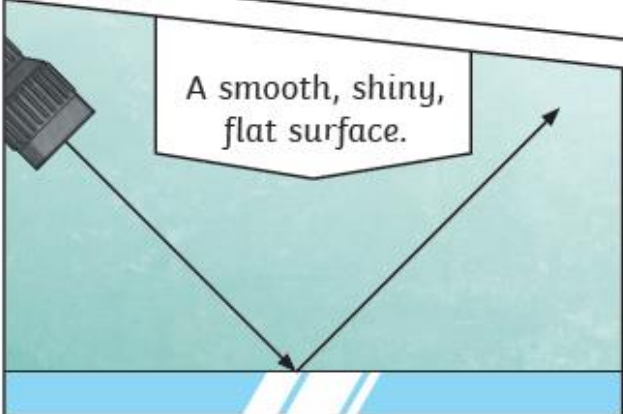
The **light** is **reflected** from the object.

**Light** from the torch hits the object.

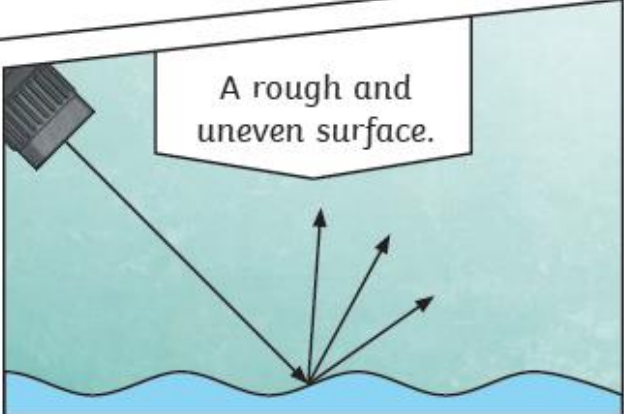
Mirrors **reflect light** very well, so they create a clear image. An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.



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

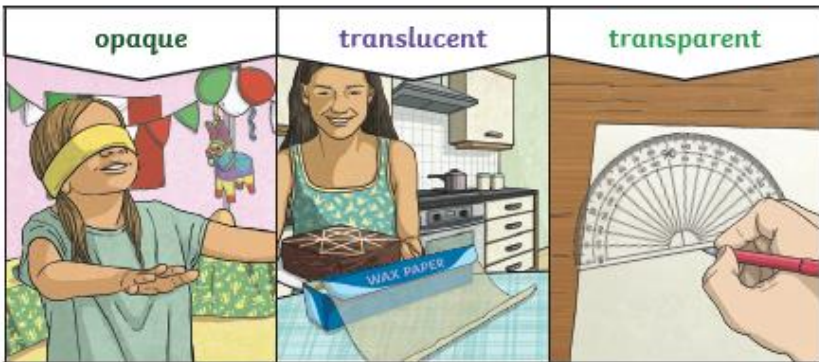


A smooth, shiny, flat surface.



A rough and uneven surface.

Key Vocabulary	
<b>pupil</b>	The black part of the eye which lets <b>light</b> in.
<b>retina</b>	A layer at the very back of the eye. The <b>retina</b> takes the <b>light</b> the eye receives. It then changes it into nerve signals to send to the brain.
<b>shadow</b>	An area of darkness where <b>light</b> has been blocked.
<b>opaque</b>	Describes objects that do not let any <b>light</b> pass through them.
<b>translucent</b>	Describes objects that let some <b>light</b> through, but scatter the <b>light</b> so we can't see through them properly.
<b>transparent</b>	Describes objects that let <b>light</b> travel through them easily, meaning that you can see through the object.



### 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.

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**.

The diagram shows two light sources (represented by lamps) shining on a baseball. The light source on the left is closer to the baseball, and its shadow is larger. The light source on the right is further away, and its shadow is smaller.

When the **light** source is directly above the object, the **shadow** will be directly underneath.

middy

When a **light** source is to one side of an object, the **shadow** will appear on the opposite side. The **shadow** will also be longer.

sunset