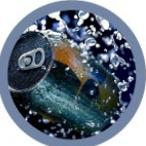


# Knowledge Organiser

## Key Light 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.



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.



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 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.

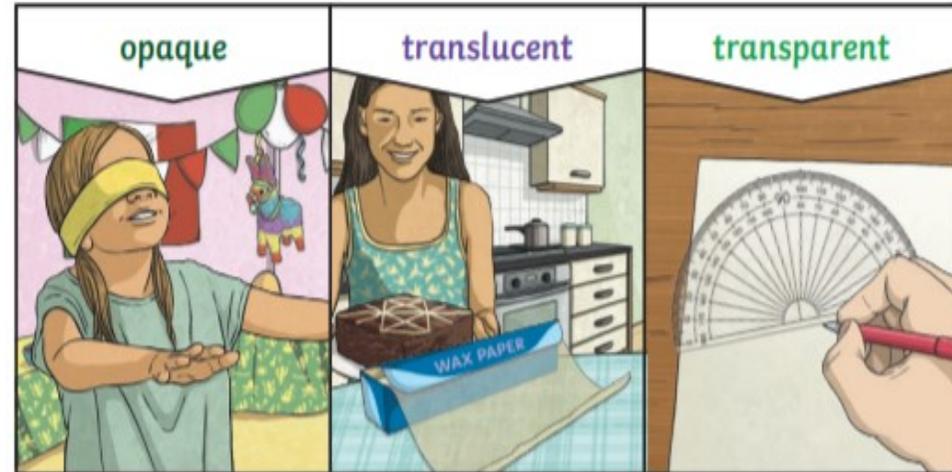


When the light source is directly above the object, the shadow will be directly underneath. When a light source is to one side of an object, the shadow will appear on the opposite side. The shadow will also be longer.

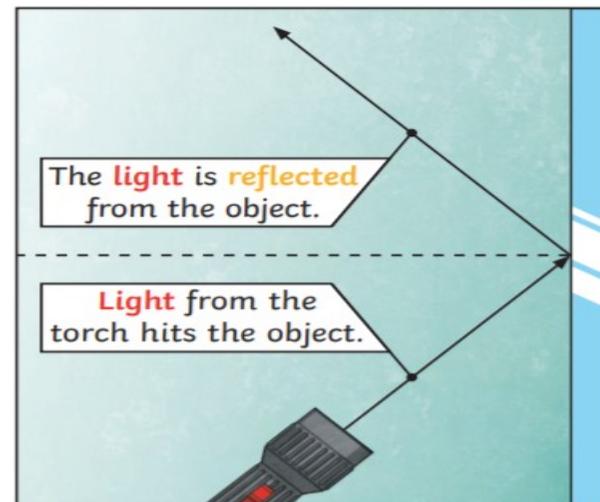


The light from the sun can be dangerous and that there are ways to protect their eyes. You can wear sunglasses and hats. The sun's rays can pass through haze and thin clouds

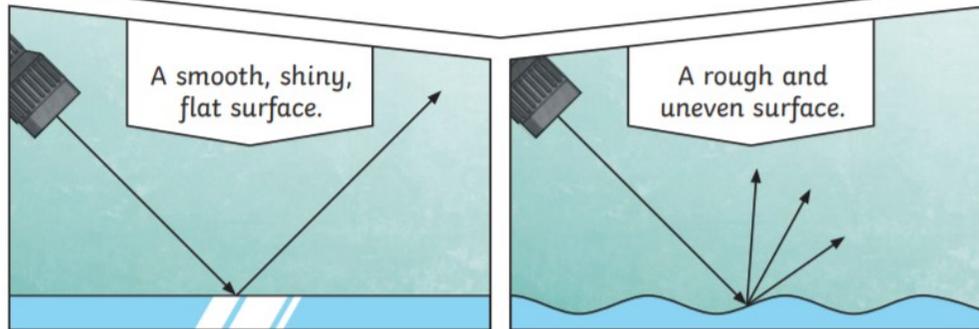
## Types of reflective/non-reflective materials:



## Example of how light is reflected:



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



Key Figure



**Thomas Young, (1773 -1829):**

An English physician and physicist who established the principle of interference of light and thus resurrected the century-old wave theory of light. He was also an Egyptologist who helped decipher the Rosetta Stone.

### Vocabulary/Terminology

**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.

**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.