



Year 3 - Light

Element 1 – Closed Test on Light

Why do we need light?

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:



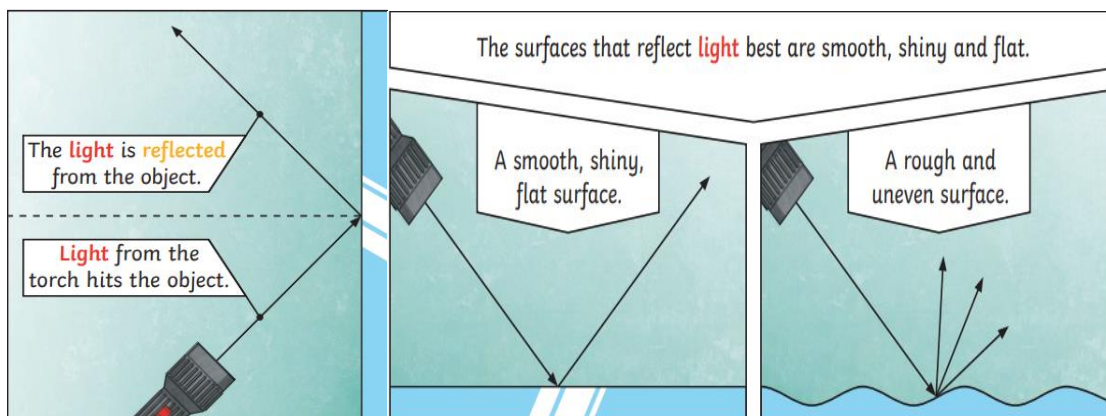
I wonder when you might need to wear a hi-vis jacket?

Where might you have seen cat's eyes like the image above?

More on Reflection:

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. Try it out for yourself!

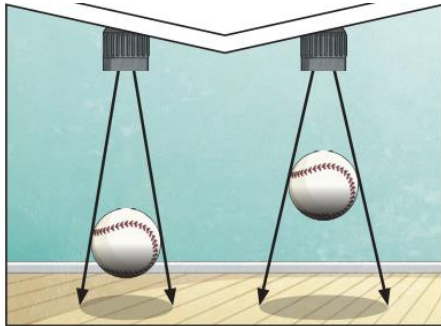
Reflection Diagrams:





Light Sources and 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.



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



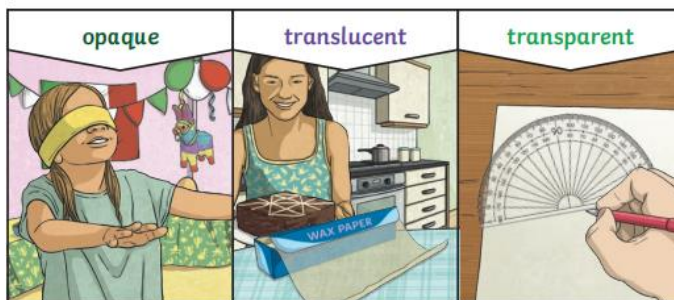
When a light source is to one side of an object, the shadow will appear on the opposite side. The shadow will also be longer.





Key Vocabulary:

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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.



Element 1 – Closed Test

- 1) How are we able to see objects?
- 2) Where would you see 'cat's eyes'?
- 3) Which surfaces are the best for reflecting light?
- 4) What time of day would your shadow appear longer in length?
- 5) What is the difference between opaque and transparent.

Element 2

- 1) Can you make a list of all the different light sources in your house?
- 2) What might you use as a light source if there was a power cut?

Extra Challenge:

Can you find, draw and label things in your house that are: Opaque, translucent and transparent?
How many of each can you find?

