Science– Light – Year 3 Autumn Term

Prior Learning:

In **year 1** you were taught to identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense

Key Vocabulary

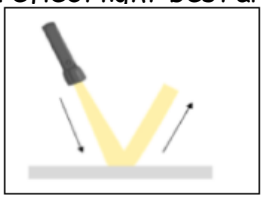
light	A form of energy that travels in a wave from a source.
light source	An object that makes its own light.
dark	The absence of light.
reflection	When light hits the surface of an object and bounces back into our eyes.
reflect	To bounce off.
ray	Waves of light. Can also be called beams.
shadow	The area of darkness behind an object where the light is blocked.
opaque	Describes objects that do **not** let any light pass through them.
translucent	Describes objects that let **some** light through them.
transparent	Describes objects that let light travel through easily so can be seen through.

Christiaan Huygens 1629-1695

He discovered that light travels in waves.

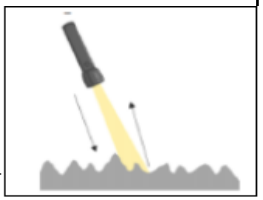
Reflection

We see objects when light is reflected off them into our eyes. Some objects reflect light better than others. Objects and surfaces that reflect light best are smooth, shiny and flat.



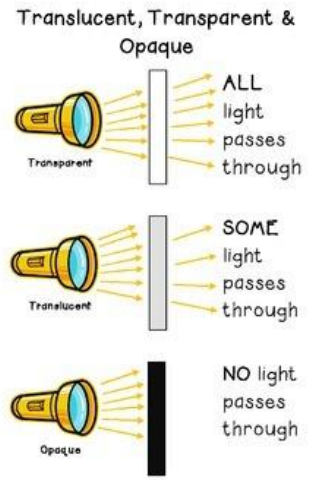
Light travelling and reflecting off a smooth surface. ←

Light travelling and reflecting off a rough surface. →

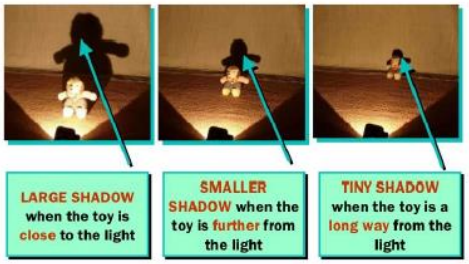


Mirrors

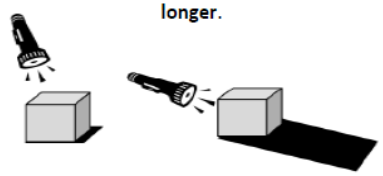
Mirrors reflect light very well, so they create a clear image. An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.



Shadows:



As the **light source** moves **higher** in relation to the **object**, the **shadow** gets **shorter**. As the **light source** moves **lower**, the **shadow** gets **longer**.



Key Learning

- We need light to be able to see things.
- Darkness is caused by the absence of light.
- The moon does not emit its own light – it reflects the sun.
- The size and shape of a shadow changes based on the distance and angle compared to the light source.

Light sources

Can I…?

Explain how we see objects when the light reflects off them?

Recognise that shadows are formed when the light from a light source is blocked by a solid object.

Find patterns in the way that the size of shadows can change.