

Dear Year 6 parents/guardians,

This half term in Year 6, our science topic is based on light. By the end of the term your child should be able to: explain how light travels, how it can change direction when it hits a reflective materials and explain how shadows are formed. Please help your child with their learning by going through this fact sheet with them.

Many thanks, Year 6 teachers.

Key vocabulary

Light—A form of energy that travels in a wave from a source.

Light source—An object that makes its own light.

Reflection—Reflection is when light bounces off a surface, changing the direction of a ray of light.

Shadow—An area of darkness where light has been blocked.

Transparent—Describes objects that let light travel through them easily, meaning you can see through the object.

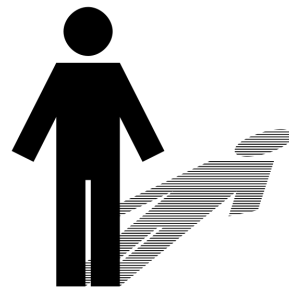
Translucent—Describes objects that things let some light through, but scatters the light so we can't see through them properly.

Opaque—Describes objects that do not let any light pass through them.

Shadows

A shadow is always the same shape as the object that casts it. This is because when an opaque object is in the path of light travelling from a light source, it will block the light rays that hit it, while the rest of the light can continue travelling.

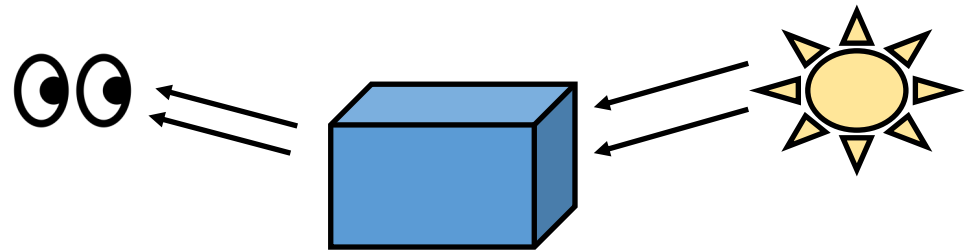
Shadows can also be elongated or shortened depending on the angle of the light source. A shadow is also larger when the object is closer to the light source. This is because it blocks more of the light.



Key knowledge

We need light to be able to see things. Light waves travel out from sources of light in straight lines. These lines are often called rays or beams of light.

Light from the sun travels in a straight line and hits the box. The light ray is then reflected off the chair and travels in a straight line to our eyes, enabling us to see the box.



Reflective materials

Different colours and materials can affect how light is reflected and how well you can be seen. Some surfaces and materials reflect light well. Other materials do not reflect light well. Reflective surfaces and materials can be very useful:

*Reflective strips on coats or bags mean you can be seen at night. They are also useful for fire-fighters or builders who may work in a dark and dangerous environment.

*'Cat's Eyes' help drivers see the road by reflecting light from headlamps.

*Mirrors let us see ourselves, and are also useful in cars, to allow drivers to see behind them.

*Retroreflectors are used for road signs so that drivers can see the signs from their car.

