

Knowledge Organiser

Science Focus

Light

Year 6

Spring 2

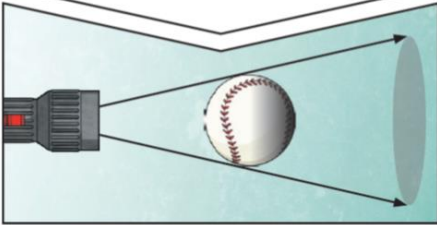
What? (Key Knowledge)

Light

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

How shadows are cast?

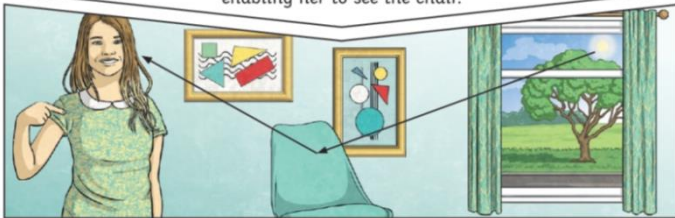
A **shadow** is always the same shape as the object that casts it. This is because when an **opaque** object is in the path of **light** travelling from a **light source**, it will block the **light** rays that hit it, while the rest of the **light** can continue travelling.



Light travelling through objects

- | | |
|-------------|--|
| Transparent | • Describes objects that let light travel through them easily, meaning you can see through the object. |
| Translucent | • Describes objects that things less some light through, but scatters the light so we can't see them properly. |
| Opaque | • Describes objects that do not let any light pass through them. |

Light from the sun travels in a straight line and hits the chair. The light ray is then **reflected** off the chair and travels in a straight line to the girl's eye, enabling her to see the chair.



What? (Key vocab)

Spelling

Definition

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.

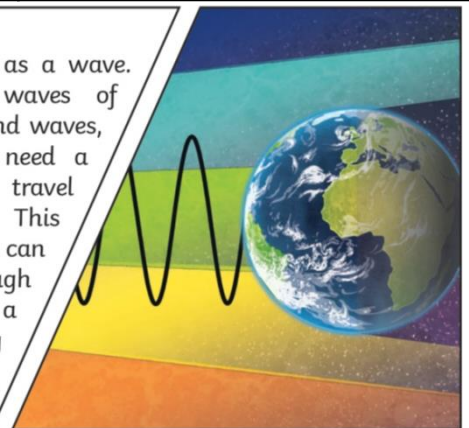
Refraction

Refraction happens when objects slow down the light beam and it deflects from its path (slightly changes its direction).

Shadow

A dark area or shape produced by a body coming between rays of light and a surface.

Light travels as a wave. But unlike waves of water or sound waves, it does not need a medium to travel through. This means **light** can travel through a vacuum - a completely airless space.



• Statutory requirements

- recognise that light appears to travel in straight lines.
- use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.
- explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Possible experiences

- Making a kaleidoscope or/and periscope
- Investigate how much light passes through different materials
- Use increased knowledge to create protective systems against too much light.