

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	This is when light bounces off a surface, changing the direction of a ray of light
Incident ray	A ray of light that hits a surface
Reflected ray	A ray of light that has bounced back after hitting a surface
The law of reflection	The law states that the angle of the incident ray is equal to the angle of the reflected ray
refraction	This is when light bends as it passes through one medium to another
Visible spectrum	Light that is visible to the human eye. It is made up of a colour spectrum
prism	A prism is a solid 3D shape. The 2 ends are equal in shape and size
shadow	An area of darkness where light has been blocked
transparent	Describes objects that let light travel easily through
translucent	Describes objects that let some light travel through
opaque	Describes objects that do not let any light through

Year 6

Physics - Light

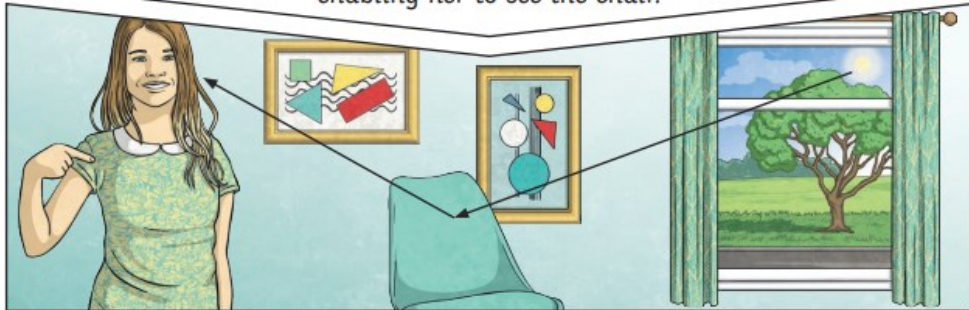
Key knowledge

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.

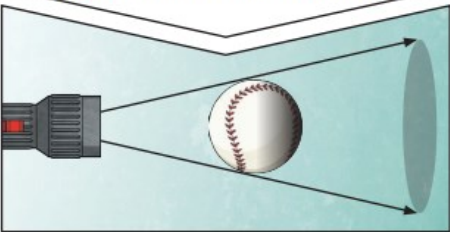
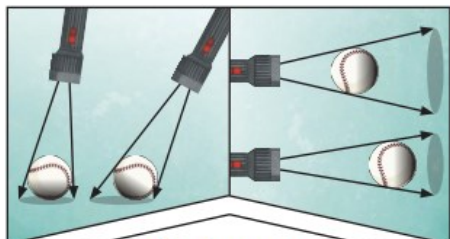
Isaac Newton shone a **light** through a transparent **prism**, separating out **light** into the colours of the rainbow (red, orange, yellow, green, blue, indigo and violet) - the colours of the **spectrum**. All the colours together merge and make visible **light**.



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.

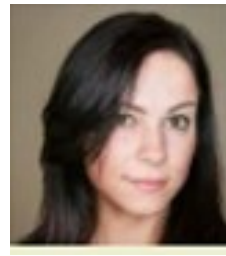


A **shadow** is always the same shape as the object that casts it. This is because when an **opaque** object is in the path of **light** travelling from a **light source**, it will block the **light rays** that hit it, while the rest of the **light** can continue travelling.



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**.

Famous Scientists



Ernesta Jonkute
Nanotechnologist
She developed the darkest human made substance ever made

What we will learn

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

Investigation

To raise and sort questions about light
Can you raise a range of questions about light?
Can you find ways that you can answer a range of questions?