# Science— Light Y6

| Key Vocabulary | |
|---|---|
| **light** | A form of energy that travels in a straight line from a source. |
| **light source** | An object that makes its own light. |
| **reflection** | When light bounces off a surface, changing the direction of the ray of light. |
| **refraction** | When light bends as it passes from one medium to another E.G light bends when it moves from air into water. |
| **visible spectrum** | Light that is visible to the human eyes. It is made up of a colour spectrum. |
| **prism** | A block of clear glass or plastic that separates light into the different colours that form it. |
| **shadow** | An area of darkness where light has been blocked. |
| **periscope** | A vertical tube which uses the reflection of light to allow you to see things around a corner. Often used in submarines to see what is above the water. |
| **transparent** | Describes an object that lets light pass through it easily. You can see through it. |
| **translucent** | Describes an object that lets some light through but it scatters the light so you cannot see through it properly. |
| **opaque** | Describes an object which does not let any light pass through it. |

## Key Facts

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

Light travels as a wave. But unlike sound waves, light does not need a medium to travel through. This means that light can travel through a vacuum (an airless space)

The law of reflection states that the angle of incidence is equal to the angle of reflection. Whenever light is reflected from a surface, it obeys this law.

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

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

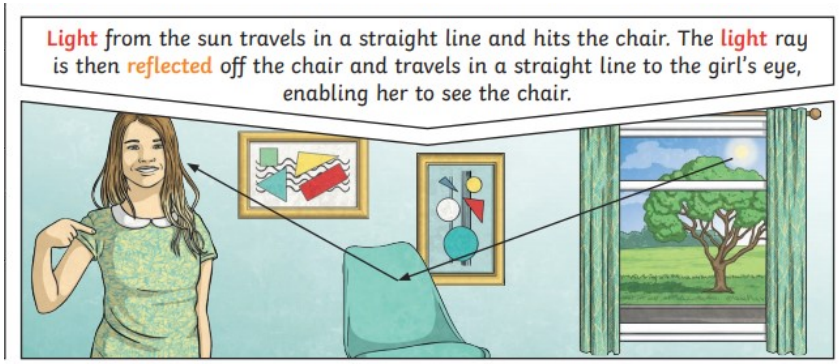
We see things because light travels to our eyes from a light source or from a light source and reflects off an object into our eyes.

## Key people—Isaac Newton (1643-1727)

Sir Isaac Newton carried out experiments into light an refraction and was the first to discover the light spectrum.
Newton published a series of experiments in 1672 where he is the first to understand the rainbow — he refracts white light with a prism, resolving it into its component **colours**: red, orange, yellow, green, blue and violet.

## How we see things

The spoon in this water looks as if it is bent. This is because light bends when it moves from air to water. When light bends in this way, it is called refraction.

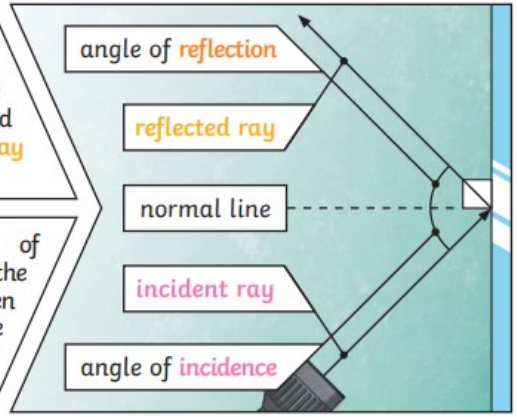



## The laws of reflection

The law of reflection states that the angle of incidence is equal to the angle of reflection. Whenever light is reflected from a surface, it obeys this law.

The angle of reflection is the angle between the normal line and the reflected ray light.

The angle of incidence is the angle between the normal line and the incident ray of light.




## Tier 2 Vocabulary

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|---|---|
| concept | An idea. |
| hypothesis | An idea that you think is true that you have some proof about. |
| interpret | To explain what you think something is or why you think something happened using evidence from the past. |
| investigate | To find out what something is or why something happens by testing out ideas. |
| vary | Changing things. |