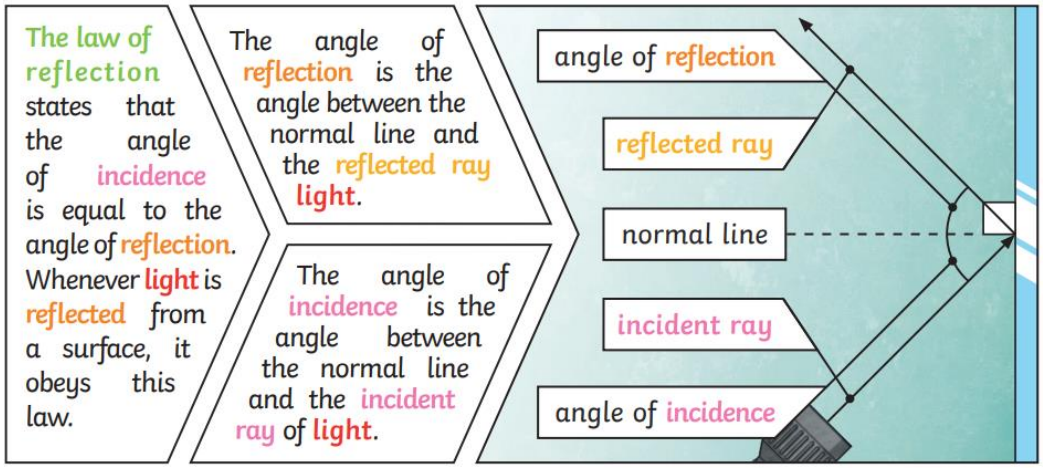
Knowledge Organiser Science Light Year 6

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**
shadow	the area of **darkness** where light has been **blocked**
waves	Light travels in **straight line** waves. (Unlike sound waves)
incident ray	a **ray of light** that **hits a surface**
reflected ray	a **ray of light** that has **bounced back** after hitting a surface
law of reflection	the angle of the **incident ray** is **equal to** the angle of the **reflected ray**

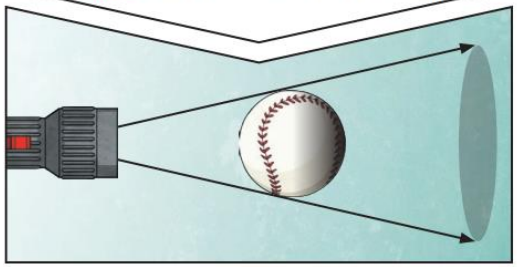


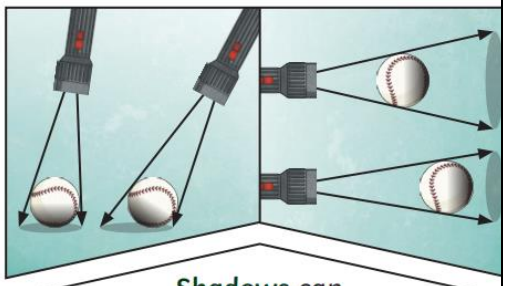
transparent	describes objects that **let light travel** through them	
opaque	describes objects that **do not let light travel** through them	
translucent	describes objects that let **some light** through, but **scatters** the light so we can't see through them properly	
refraction	When light bends as it passes through one medium to another. E.g. light bends when it moves from air into water.	
visible spectrum	Light that is visible to the human eye. It is made up of a colour spectrum.	
prism	A solid 3D shape with flat sides. The two ends are an equal shape and size. A transparent prism separates out visible light into all the colours of the spectrum.	

- **Isaac Newton** discovered that visible light is made up of all the colours of the rainbow (red, orange, yellow, green, blue, indigo, violet)
- He shone a light through a **transparent prism**
- The light was separated into the colours of the rainbow.

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**.