

# Year 6 – Light

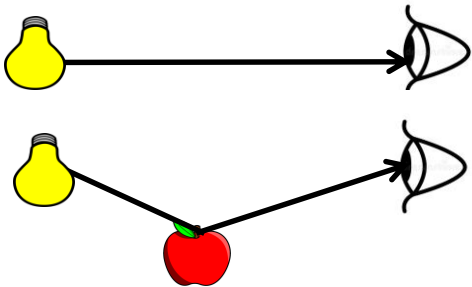
Light travels at 299 792 458 metres per second!

The light from the sun travelled for 10 minutes to reach Earth.

Light is the only form of energy that we can see with our naked eyes.

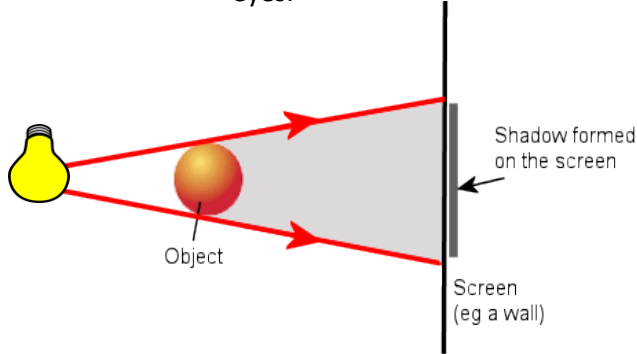
## How we see objects

Light is a form of energy that travels in **straight** lines.



- **Luminous object** (light sources) are objects that **emit** light.
- We see **luminous objects** because the light they emit travels directly to our eyes. **Non-luminous objects** are seen because light is **reflected** off them and into our eyes.

Shadows are formed when objects block light. Since light travels in **straight lines**, shadows have the same shape as the object that cast.

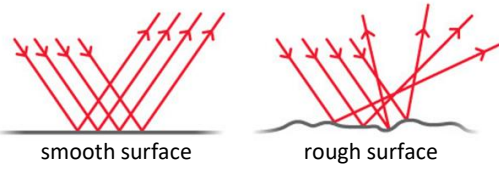


## Vital Vocabulary

Key Word	Definition
<b>luminous objects</b>	objects that emit visible light.
<b>non-luminous objects</b>	objects that do not emit visible light
<b>reflection</b>	the change in direction of a wave (e.g. light or sound) when it hits an object
<b>refraction</b>	when light bends as it passes from one medium to another
<b>visible spectrum</b>	light that is visible to the human eye (It is made up of a colour spectrum.)
<b>emit</b>	To emit light or sound means to produce it and give it out.

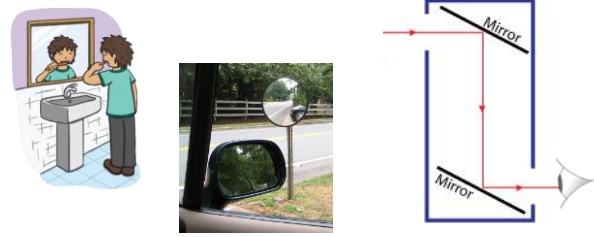
## Reflection

Light **reflects** off a surface at the same angle as it hits it.



You can see your face in really **smooth surfaces** because light meeting the surface in one direction is all **reflected** in one direction.

Very **reflective** surfaces like mirrors can be very useful.



## Refraction

- Light waves travel at a slower speed when they go through other **transparent** materials, such as water or glass. This causes the **rays of light** to change direction and bend. This is known as **refraction**.
- **Refraction** creates illusions. This is why a pencil in a glass of water appears bent.



## Colour

**Isaac Newton** shone a light through a **transparent** prism, separating out light into the colours of the rainbow - the colours of the **visible spectrum**. All the colours together merge and make visible light.



When a **ray** of white light shines on an object, the object **absorbs** some colours and **reflects** others.

