

Year 6 – Light

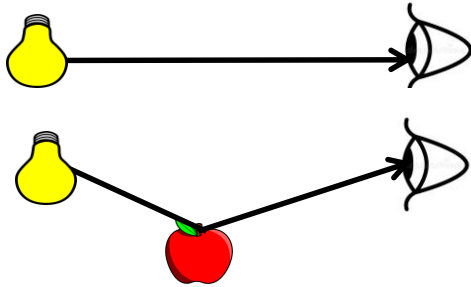
Light travels at 299 792 458 metres per second!

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.

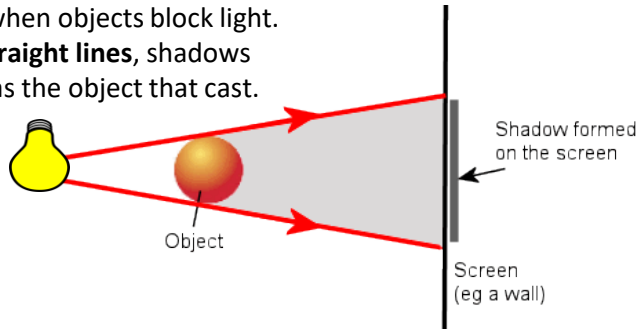
How we see objects?

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



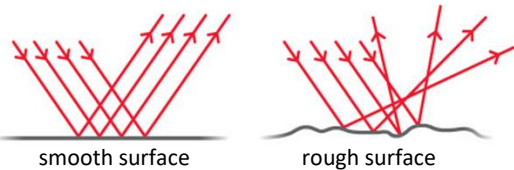
- **Luminous object** (light sources) are objects that emit light.
- We see **luminous objects** because the light they emit travels directly to our eyes. **Non-luminous objects** are seen because light is **reflected** off them and into our eyes.

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



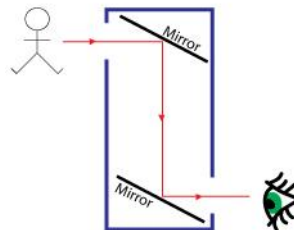
Reflection

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.

Smooth surfaces like mirrors can be very useful. Can you explain how they work?



ROCKET WORDS – learn these words and their definitions

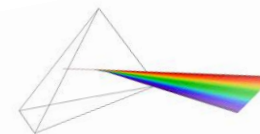
Key Word	Definition
luminous objects	objects that emit visible light.
non-luminous objects	objects that do not emit visible light
reflection	the change in direction of a wave (e.g. light or sound) when it hits an object
refraction	when light bends as it passes from one medium to another
visible spectrum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

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.

A filter is a transparent objects that absorbs some colours and allows others to pass through.

