

Year 3: Light

LIGHT:

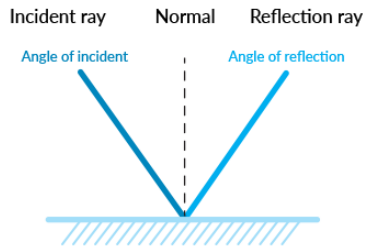
Light is a form of energy

Energy comes in different forms and can neither be created nor destroyed.

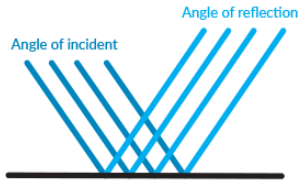
We need light to see things and darkness is the absence of light.

REFLECTION:

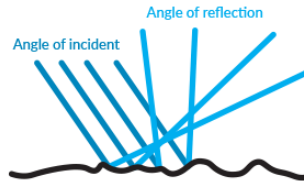
Mirror reflection



Specular reflection



Diffusion reflection

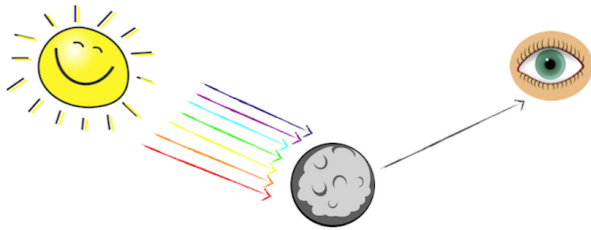


Light travels in straight lines.

Light is reflected when it travels from a light source and then 'bounces off' an object

Everything that we can see is either a light source or something that is reflecting light.

LIGHT SOURCES & SHADOWS:



The Sun is a light source, but the moon is not as it reflects light from the sun.

Many light sources give off light and heat.

The sun gives off light and heat when hydrogen turns into helium.

Filaments in traditional bulbs heat up until they glow, giving out light and heat.

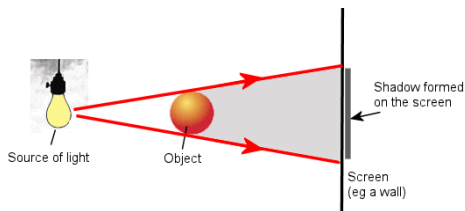
Florescent bulbs glow when electricity adds energy to a gas within the bulb

A data logger can keep track of light levels and this can be plotted on a graph to show how this changes over time.

Opaque objects block light creating shadows.

As objects move towards a light source, the size of the shadow increases.

Opacity, transparency and reflectiveness are properties of a material.



KEY VOCABULARY



BEAM: a ray or shaft of light



BRIGHT: a colour that is strong and noticeable and not dark



DARK: the absence of light



DATA LOGGER: an electronic device that records light levels



DIM: light that is not bright



ELECTRICITY: a form of energy that can be carried by wires and used for heating and lighting.



EMITS: to emit light or sound means to produce it



IMAGE: a representation of what can be seen



INCIDENT RAY: a rectilinear ray of light that strikes a surface



LIGHT: a brightness that lets you see things



MIRROR: a flat piece of glass that reflects light so that you can see yourself in it.



OBJECT: a material thing that can be seen and touched



OPAQUE: an object or liquid that can be seen and touched



PHOTONS: a particle representing a quantum of light. A photon carries energy.



REFLECT: send back from the surface and not pass through



SHADOW: a dark shape on a surface that is made when something stands between light and source.



SOLID: firm and stable in shape; not liquid or gas.



SOURCE: anything that makes light, whether natural or artificial



SUNGLASSES: glasses with dark lenses which are worn to protect your eyes from bright light



SURFACE: the top part of something or the outside of it.



TORCHES: a small electric light which is powered by batteries and which you can carry



TRANSLUCENT: some light can pass through it



TRANSPARENT: an object or liquid that you can clearly see through



WAVE: an electromagnetic wave by which light travels through a medium or vacuum.