



Light travels in straight lines

Light originates from light sources. Light sources can be natural (e.g. The Sun, the stars) or man-made (e.g. street lamp, Christmas tree lights, glow stick, mobile phone, TV).

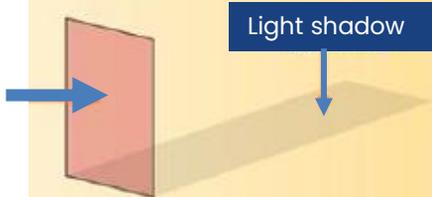
Opaque Object

An object that does not allow light to travel through it (Brick, wood, concrete, metal)



Translucent Object

An object which allows some light to travel through it (Paper, glass)



Transparent Object

An object which allows most light (if not all) to travel through it (Air, water)



We can see that light travels in straight lines when we shine a torch in a dark room, or when a ray of light comes through a window.

When an object passes in front of a ray of light, the light can be blocked, creating a shadow.

Opaque objects let no light through (creating the darkest shadows), translucent objects let some light through (creating fainter shadows), transparent objects let all light through (no shadow).

Key Vocabulary

Eyes: Organs of sight in the head of humans and vertebrate animals.

Filter: Pass through a device to remove unwanted material (liquid, gas, light or sound)

Light: The natural agent that stimulates sight and makes things visible

Light Source: Something that provides light, whether it be a natural or artificial source of light (e.g. the sun, a torch).

Periscope: An apparatus consisting of a tube of attached to a set of mirrors or prisms through which an observer can see things that are otherwise out of sight

Rainbow: An arch of colours visible in the sky, caused by the refraction and dispersion of the sun's light by rain or other water droplets in the atmosphere.

Reflection: The throwing back by a body or surface of light, heat or sound without absorbing it

Refraction: The bending of light as it passes from one substance to another with the bending caused by the difference in density between two substances

Shadow: A dark area or shape produced by a body coming between rays of light and a surface.

Spectrum: A band of colours, as seen in rainbows, produced by separation of the components of light by their different degrees of refraction

Our eyes – how do we see?

We see things because...

- a) they are a light source, sending light into our eyes, or
- b) light is reflected from a light source off them and into our eyes.

When the light enters our eyes, we see the object! For example, we see the Sun because it is a light source, sending light into our eyes. However, the Moon is not luminous (does not produce its own light). We see it because light from the Sun reflects off it into our eyes. After light reflects off objects, it continues to travel in a straight line, but in a new direction.

