

Upper Key Stage 2 – Elveden Academy Knowledge Organiser- Light

Children will learn to:

- Investigate how light travels and what happens in the eye and how it is interpreted in the brain.
- Investigate the precise formation of shadows – light and dark.

Vocabulary

Reflection: this happens when light bounces off a surface.

Light source: where light originates.

Shadows: a dark area where light is blocked by an opaque object.

Waves: light travels in waves which travel

Refraction: the bending of light as it passes from one medium to another

Transparent: a medium that light travels through easily

Translucent: a medium that allows some light to travel through it

Opaque: a medium that stops all light from travelling through it.

Colour spectrum: the range of light waves seen by the human eye.

Prism: a solid 3D shape with flat sides which separates light into the visible spec-

Key facts

Isaac Newton (1642 – 1727) was a famous scientist and mathematician. He was the first to discover the spectrum of colour.

Light travels in a straight line from a light source.

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

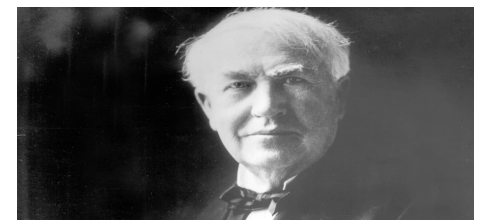
White light is actually made up of all the colours of the rainbow. This is called the 'visible spectrum'.

Objects are seen because they give out or reflect light into our eyes.

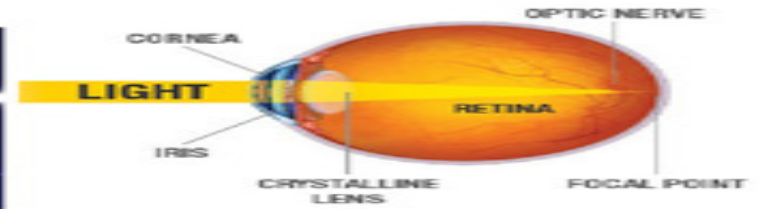
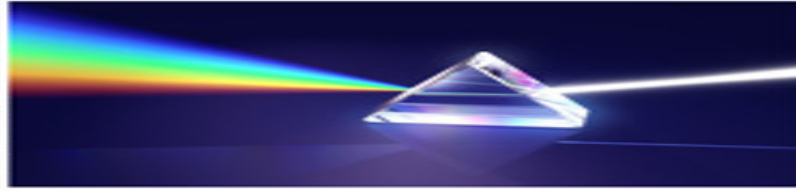
We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.

Light waves travel at a different 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.

A shadow is always the same shape as the object that casts it, but it can change in size depending on how close to or far from a light source it is.



Thomas Edison, 1847- 1931 was an American inventor and entrepreneur, who invented many things. Edison developed one of the first practical light bulbs, but contrary to popular belief did not invent the light bulb. Edison's 1093 patents were the most granted to any inventor in his time. He started the General Electric Company to make some of the things he invented.



Continued Vocabulary	Definition
light wave	the movement of light conceptualized as a wave , defined by such properties as reflection, refraction, and dispersion.
concave	having an outline or surface that curves inwards like the interior of a circle or sphere.
convex	having an outline or surface curved like the exterior of a circle or sphere.
lens	Lens, in anatomy, a nearly transparent biconvex structure suspended behind the iris of the eye, the sole function of which is to focus light rays onto the retina
retina	a layer at the back of the eyeball that contains cells sensitive to light, which trigger nerve impulses that pass via the optic nerve to the brain, where a visual image is formed.
cornea	the transparent layer forming the front of the eye.
iris	Iris , in anatomy, the pigmented muscular curtain near the front of the eye , between the cornea and the lens
pupil	What are pupils? Pupils are the black centre of the eye. Their function is to let in light and focus it on the retina