

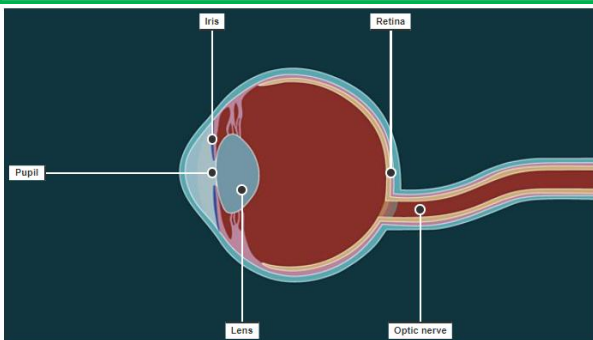
Science - Year 6 – Autumn 2 - How do we see things?

What I already know:

Our eyes are associated with the sense of sight.
We need light in order to see things. Darkness is the absence of light.
Some surfaces reflect light.
Light from the sun can be dangerous and we must therefore protect our eyes.
Shadows are formed when the light from a light source is blocked by an opaque object.
The size of shadows change based on how far away the light source is.
The moon reflects light from the sun. The sun is a light source.

What I need to know:

We see objects because they give out or reflect light into the eye.
The eye has different parts which each have a different function. These parts include the iris, pupil, retina, cornea, lens and optic nerve.
When light travels, it appears to do so in straight lines.
Light travels from a light source to the object and then to our eyes.
Scientists represent how light travels using scientific diagrams.
When light reflects off an object, the angle of incidence is equal to the angle of reflection. The direction in which light travels can be altered, particularly with smooth and shiny surfaces.
Refraction is the bending of light rays when light travels through different mediums, such as air and water.
White light is comprised of all the colours of light. This was discovered by the scientist Isaac Newton.
Rainbows form when white light is refracted.
Shadows have the same shape as the objects that cast them.



Vocabulary Focus:

Tier 2:

energy – force or power.
lens – a piece of clear material that bends light as light passes through it.
source – the start, cause or origin of something.
angle – the space between two intersecting lines (measured in degrees).
reflection – light that bounces off an object or surface.
rays – a thin beam of light.
absorb – to take in.
dense – thick and hard to see or pass through.
white light – a combination of all other colours of light.
prism – a solid glass object that light can pass through. A prism splits a ray of light into the colours of the rainbow.
cast - to direct or project.

Tier 3:

cornea – the clear part of the eyeball's outer coating. The cornea covers the pupil and iris.
retina – part of the eye at the back of the inside of the eyeball. The retina senses light and colour. Images form on the retina and are sent to the brain.
iris – the coloured circle around the pupil of the eye.
pupil – the small, dark opening in the centre of the eye. Light passes through the pupil into the eye.
optic nerve – either one of the two nerves that connect the retinas of the eyes to the brain.
transparent – letting light pass through so objects can be seen clearly.
translucent – letting only some light through so that what can be seen on the other side is not clear.
opaque – not letting light pass through.
angle of incidence – the angle a ray makes which is perpendicular to the surface.
periscope – an instrument made up of a long tube with mirrors and prisms that allows sight of objects above a surface.
Refraction – the bending of rays of light.
medium – a material that moves energy or lights from one substance to another.