

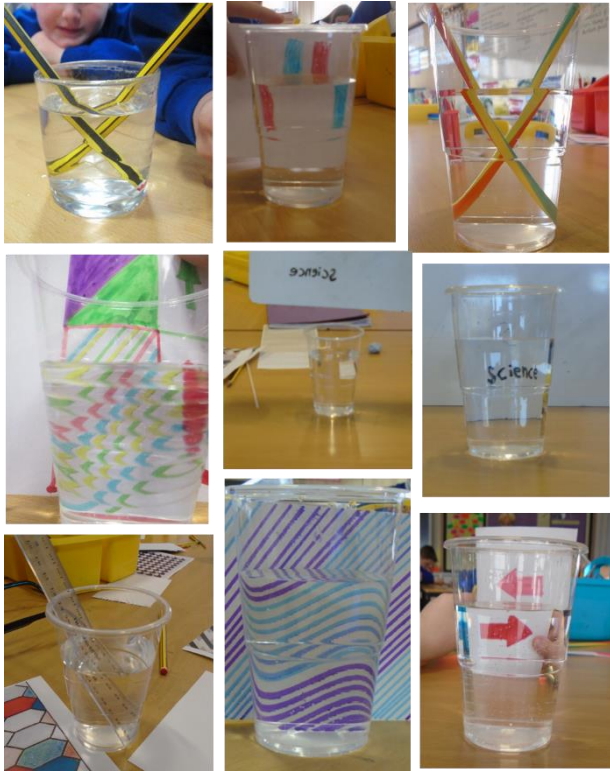


## Refraction

# Light

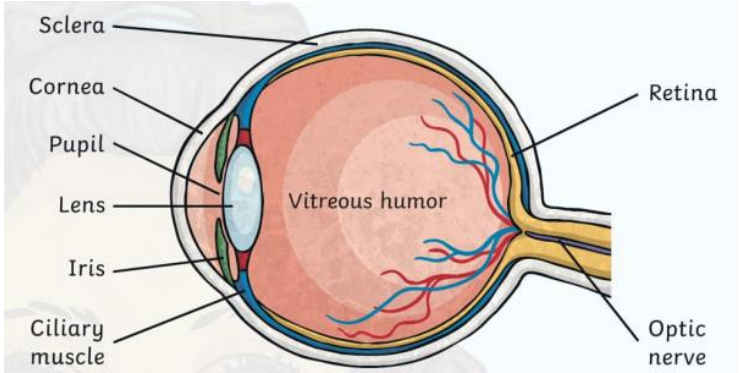
## The Eye

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.



Eyelid	Protect the eye and spread tears around to keep the eyeball and the socket moist and clean.
Iris	The iris is the coloured part of the eye.
Pupil	Do you see the dark opening in the middle of your eye, surrounded by the iris? That's the pupil! It allows light to enter your eye.
Sclera	The sclera is the white part of the eye. It provides support for the eye and helps it keep its shape, as it's very fibrous.
Cornea	It's transparent, allowing light to pass through it and enter the iris. Corneas are convex shapes, means that it curves outwards, and the middle is thicker than the edges.
Optic Nerve	The optic nerve is hidden in the back of the eye. It connects to the brain and carries important electrical signals.
Lens	The lens is a part of the eye which changes shape, getting thicker or thinner. As it does so, it can adjust how much light is let in, focusing it as it beams it onto the retina.
Retina	The retina is the inside lining of the back of the eye that changes light waves into electrical signals. Those electrical signals are sent onto the brain, allowing us to interpret the information that our eyes have taken in.

The human eye is one of the most wondrous, complex, and miraculous organs in the body. Hundreds of thousands of tiny muscles and processes work together to allow us to process visual information, giving us the sense of sight



## Key Vocabulary

light	Light is a form of energy.
dark	The absence of light.
reflect	When light from an object is reflected by a surface, it changes direction.
shadow	A dark shape made when light is stopped or blocked by an object
opaque	An object that blocks light so that light cannot travel through the object.
translucent	If an object is translucent, it means that some light passes through it, but the light is scattered, so you can't see clearly through it.
transparent	Light completely passes through the object, and you can see clearly through it.
mirror	Any glass or other smooth, polished surface that forms an image by reflection is a mirror.
light sources	Light comes from different sources called light sources; our main natural light source is the sun.
waves	Light is a type of electromagnetic radiation that can be detected by the eye. It travels as a transverse wave
refract	When light changes direction, or bends, when it moves from one material to another.

**Transparent   Translucent   Opaque**



## How Light Travels

Light always appears to travel in straight lines but these lines can be sent in other directions when it is reflected by different surfaces. Light which reflects off a completely smooth surface like a mirror will be reflected in a specific direction.



## Shadows



Light travels in straight lines. Anything that blocks that light, casts a shadow. The shape and size of shadow depends on distance and angle to the light source. Multiple light sources cast multiple shadows.

