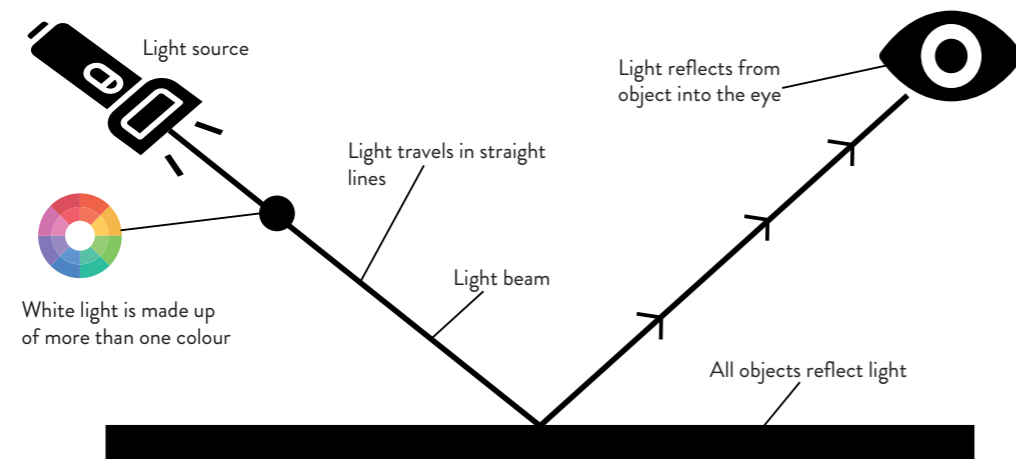
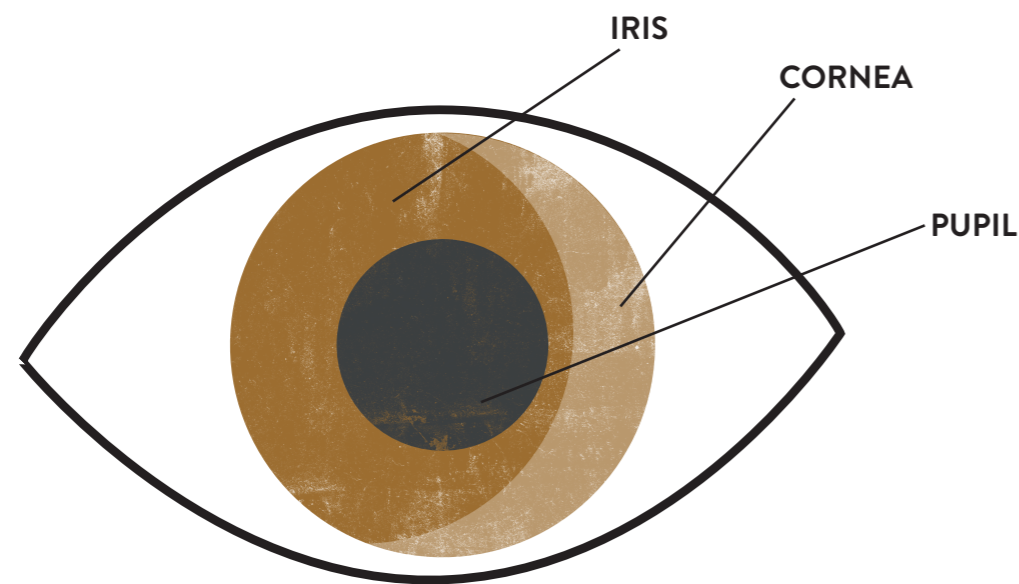


## KEY FACTS

- 
- Light travels in straight lines from a light source.
- A light source can be natural (eg the sun) or artificial (eg a torch).
- Shadows are formed when a solid object blocks the light. Shadows are the same shape as the object casting them.
- Reflection is when light bounces off a surface, causing it to change direction.
- This light then enters our eyes: this is how we see.
- All objects reflect light. Some reflect light more than others.
- When light passes a less dense material into a more dense material, it changes direction.
- White light is made up of all of the colours of the rainbow.



## THE HUMAN EYE



## WORKING SCIENTIFICALLY



OBSERVING



COLLECTING AND RECORDING DATA



TESTING/EXPERIMENTING



MEASURING



CONCLUDING

## SIGNIFICANT PEOPLE



**Sir Isaac Newton (1642 – 1727)** discovered that light falling upon a prism could split into its component colours. Newton also invented the reflecting telescope.



**Lene Vestergaard Hau 1959** is the first scientist to completely stop light from travelling.

## KEY VOCABULARY



- 
- Cornea:** the outer clear covering over the eye.
- Iris:** the coloured part of the eye.
- Lens:** the part of the eye that focuses the light.
- Pupil:** the black hole in the centre of the iris that lets light into the eye.
- Dispersion:** the splitting of white light into the colours of the rainbow.
- Light source:** a natural (eg the sun) or artificial (eg a light bulb) provider of light.
- Luminous:** radiating or reflecting light.
- Opaque:** not allowing light to pass through.
- 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.
- Prism:** a solid glass or crystal object through which light can pass. It has three rectangular sides and two triangular ends.
- 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 eg air to water. 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.
- Translucent:** partly allowing light to pass through
- Transparent:** allowing light to pass through.