

## Scientist



[CV Raman](#)  
(Physicist)



[Professor Colin Webb](#)  
(Professor of Laser Physics)

## Skills

I'm recognising and controlling variables like an ophthalmologist.



I'm taking measurements like an architect.



## Careers

Architect (designs buildings)

Ophthalmologist (a doctor specialising in vision and eye health)

## Enquiries

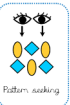


How does the angle that a light ray hits a plane mirror affect the angle at which it reflects off the surface?

Does the temperature of a light bulb go up the longer it is on?



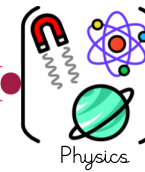
Is there a pattern to how bright it is in school over the day? And, if there is a pattern, is it the same in every classroom?



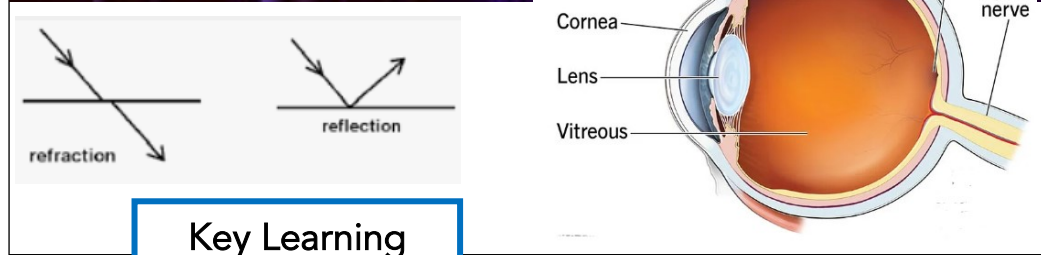
Can you identify all the colours of light that make white light when mixed together? What colours do you get if you mix different colours of light together?



How do astronomers know what stars are made of?



Exploring the way that light behaves, such as travelling in straight lines. Learn about light sources, reflection and shadows in more detail through investigations. Pupils will learn about how we see through the anatomy of the eye.



## Key Learning

- Recognise that light appears to travel in straight lines
- Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
- Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

## What you should already know

Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.  
Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.  
Name the eight planets that orbit the sun, and their order in terms of position from it.

## What comes next?

KS3 - The similarities and differences between light waves and waves in matter.  
The transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface .

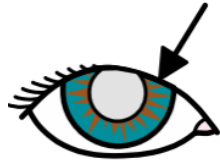
## Key vocabulary

Pupil	Convex
Iris	Concave
Lens	Kaleidoscope
Retina	Periscope
Reflection	Prism
Refraction	

# Year 6: Light



Pupil: the small, dark opening in the center of the eye. Light passes through the pupil into the eye.



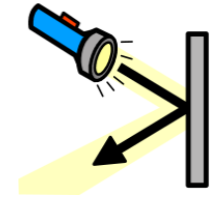
Iris: the coloured circle around the pupil of the eye. A person with blue eyes has blue irises.



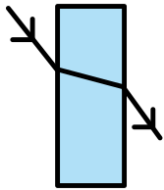
Lens: a clear part of the eye that brings together the rays of light needed for sight. The lens focuses rays of light so that they form an image inside the eye on the retina.



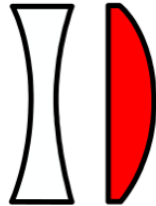
Retina: the part of the eye at the back of the inside of the eyeball. The retina has cells that sense light and colour. Images are formed on the retina and sent to the brain.



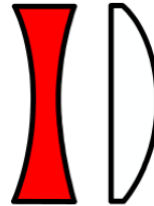
Reflection: light, or an image that bounces off an object or surface.



Refraction: the bending of rays or waves of light, heat, sound when passed from one medium to another such as from air to water.



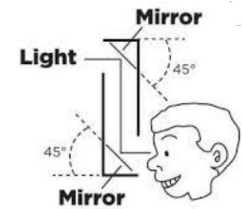
Convex: having a surface or edge that curves outward like the outside of a ball.



Concave: curved inward like the inside of a bowl. Opposite to convex.



Kaleidoscope: a tube with small bits of coloured glass and mirrors inside. The tube is held to the eye and turned to see changing forms.



Periscope: an instrument on a submarine that is made up of a long tube with mirrors and prisms that allow one to see above the surface of the water.

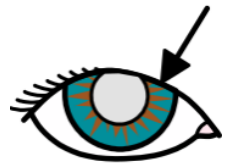


Prism: a solid glass or crystal object that splits a ray of light into the colours of the rainbow.

Year 6: Light



Pupil



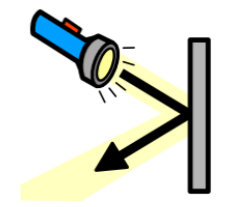
Iris



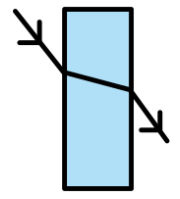
Lens



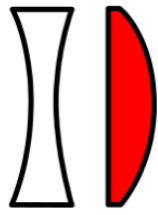
Retina



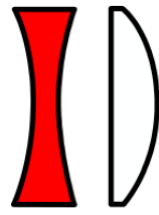
Reflection



Refraction



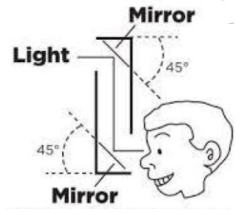
Convex



Concave



Kaleidoscope



Periscope



Prism