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| Vocabulary |
| Refraction | Refractions is the bending of light as it passes from one medium to another. |
| Visible spectrum | The range of colours we can see with our eyes. |
| Concave | A lens that curves inwards and reflects light differently as a result. |
| Lens | A lens is a curved piece of glass or plastic designed to refract light in a specific way. |
| Retina | The retina is at the back of your eye and it has light-sensitive cells called rods and cones. |
| Iris | By opening and closing the pupil, the iris can control the amount of light that enters the eye. |
| Pupil | The dark circular opening in the centre of the iris of the eye, which varies in size to regulate the amount of light reaching the retina |

Light and technology

Light also powers the technology around us: laser beams make CD and DVD players and printers possible, microscopes and telescopes use lenses to bend light (refraction), cameras record light as it reflects off objects and fibre-optic cables and lasers allow us to communicate at incredible speed.



Objectives

-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

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| Sticky knowledge |
| Light travels in straight lines. When light hits an object, it is reflected (bounces off) and enters our eyes. This is how we see the object. |
| 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. |
| Light passes from one medium to another (e.g. from air to water), it changes direction; this is called refraction; this happens because light travels at different speeds in different mediums. |
| When light reflects off an object, the angle of incidence is equal to the angle of reflection. |
| White light comprises all the colours of light. |
| A periscope takes advantage of the predictable angles of incidence and reflection to allow an image to be shown to a viewer. |
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