



## How does light travel?

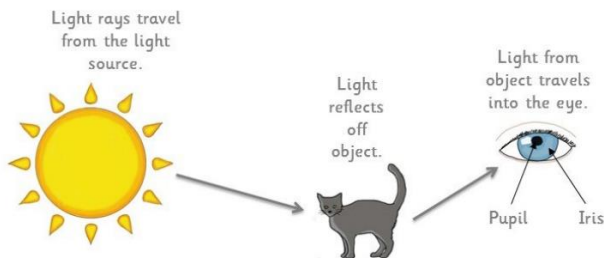
- Light travels in straight lines from the source.
- It reflects off objects in straight lines as well. This is how a smooth, shiny mirror reverses what you see.
- When light reflects off a rough surface it goes in different directions so you don't get a sharp reflection.
- Light travels in straight lines until it passes from one material to another, for example from air to water or water to air.
- When this happens, the light is refracted, which means it changes speed. This can change the direction of the light, causing objects underwater to look bent or like they don't line up properly.



## Vocabulary

darkness	the absence of light
light	the natural substance that makes objects visible
opaque	a material that is not transparent and blocks light
reflect	when light bounces off something
refraction	when light bends or changes direction as it goes from one transparent material into another, like from air into water
shadow	a place that light cannot get to because something is blocking the light

## How do we see?



Light travels in a straight line from a light source. It is absorbed and reflects off objects. The reflected light enters our eyes.

## What is a shadow?

- Shadows are created when an opaque object appears between that object and a source of light.
- The size of a shadow changes depending on how close an object is to the light source. The closer the object, the bigger the shadow. The further away the object, the smaller the shadow.

## Light and dark

- We need light so that we are able to see.
- Dark is the absence of light.
- A light source can emit light by burning, electricity or chemical reactions: burning – sun, flames from a fire, stars; electricity – lamps, car headlights, street lights; and chemical reactions – light is a product of the reaction e.g. glow sticks.