

## Key facts

- Light travels from light sources to our eyes or from light sources to objects and then to our eyes.
- Natural light sources include: sun, stars, lightning, fireflies and fire.
- Other light sources include: lamps, lightbulbs, torches, computers, traffic lights and televisions.
- Light travels in straight lines.
- We see objects when light is reflected off of an object into the eye.
- Shadows are formed when light cannot pass through an object.
- Shadows are formed in the shape of the object casting them.
- The size of a shadow increases as it moves closer to the light source.
- Light travels very fast – around 300,000 kilometres per second. It can go around the world eight times in one second.
- Light travels much faster than sound. For example, thunder and lightning start at the same time, but we will see the lightning first.
- Space does not have any light. We can see things in space due to light bouncing off of the objects in space.

## Important scientists

**Thomas Edison:** American business man who is credited with inventing the light bulb

**Ibn Al-Haytham:** Iraqi scientist who made important contributions to understanding of vision, optics and light

**Percy Shaw** – English inventor who invented ‘cats eyes’ for roads.

## Light Sources:

A **light source** makes light. The **Sun** and other **stars**, **fires**, **torches** and **lamps** all make their own light, so they are examples of sources of light.

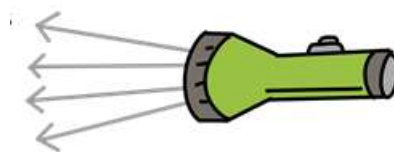


## Travelling Light:

Light travels very fast in **straight lines** called **light rays**.

Even though light travels in straight lines, it travels in **different directions**.

Light rays from a torch travel in different directions but **always in straight lines**.



## Exciting books / web links:



- <https://www.bbc.co.uk/bitesize/topics/zbssgk7/resources/1>
- <https://www.stem.org.uk/resources/community/collection/12741/year-6-light>
- <https://www.youtube.com/watch?v=XrhDN-bmOrk>

## Key words:

Eye	an organ of the sensory nervous system that reacts to visible light in order for us to see
Light	a source of energy that allows you to see
Light source	something that makes light
Opaque	cannot see through
Ray of light	an imaginary line that represents the line of light
Reflection	bounces or changes direction
Refraction	when light changes direction when going through the boundary of a state of matter
Shadow	a dark area or shape produced by an object coming between rays of light and a surface
Translucent	can see through partially, but not in detail
Transparent	can see through

## Parents as partners:

- Visit the National Science & Media Museum's Wonderlab (Bradford)
- Build a periscope or kaleidoscope
- Create a shadow puppet show, using understanding of how to change the size of shadows.
- Apply learning about electricity to build a torch using card tubes and foil pie cases
- Discuss: How can lights help to keep us safe?
- Discover: Why are mirrors used in cars and on bends in country lanes?
- How do we create a dark space when we go to bed in summertime and it's still light outside?