



# Year 6 Sticky Knowledge Mat: Electricity

Autumn 2

## EXCITING BOOKS/ RESOURCES:

Designing their own fairground ride using scientific knowledge.

## Subject Specific Vocabulary

| Component      | Symbol | Purpose   |
|----------------|--------|---|
| Cell (Battery) |        | Provides electrical energy                      |
| Power supply   |        | Alternative to using cells                      |
| Wire           |        | Allows current to travel                        |
| Bulb/light     |        | Converts electrical energy into heat and light  |
| Motor          |        | Converts electrical energy into movement energy |
| Buzzer         |        | Converts electrical energy into sound energy    |
| Switch         |        | Allows circuit to be opened or closed           |

|                        |   |
|------------------------|---|
| <b>cells</b>           | An electrical cell is a device that is used to generate electricity, or one that is used to make chemical reactions possible by applying electricity. |
| <b>conductor</b>       | Allows electricity to pass through. (metals, especially copper, iron and steel)   |
| <b>current</b>         | The flow of electricity through a circuit.  |
| <b>fuses</b>           | These are safety devices. A fuse is a strip of wire that melts and breaks an electric circuit if it goes over a safe level.                           |
| <b>generator</b>       | A machine that converts energy into electricity.  |
| <b>insulator</b>       | Stops electricity passing through, e.g. plastic, wood, glass and rubber.  |
| <b>series circuits</b> | A circuit which has only one path for electricity to flow through.  |
| <b>socket</b>          | A socket is a safe device to plug your electrical items into at home. Almost every room at home will have at least one socket.                        |
| <b>volts</b>           | Voltage is a measure of how powerful a cell is.   |

## Sticky Knowledge

Greater voltage = more powerful output (e.g. a bulb will be brighter, a buzzer will be louder)

Electricity is created by generators which can be powered by **non-renewable** sources (gas, coal, oil) or **renewable** sources (wind, solar, hydropower).

Electrical energy can be converted into other types of energy, such as light, heat, movement or sound.

Electricity is a type of energy. It can build up in one place (static electricity), or flow from one place to another (current electricity).

Electricity is dangerous. If you come into contact with an electrical current, you could get an electric shock which could be fatal.

Lightning is a form of electricity.

In 1879, Thomas Edison invented the kind of electric light bulb which we use today.

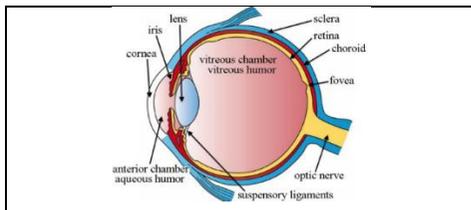


# Year 6 Sticky Knowledge Mat: Light Autumn 2



## Exciting resources

'Fairground Rides'  
Torches



## Sticky Knowledge about

Light travels in a completely straight line (in 'light waves') until it hits an object that will bend it.

Light travels at different speeds when it has to pass through different mediums, such as air, water or glass..

Light is produced and controlled in many ways. The sun, our main light source, is around 150,000,000km away.

Light that we see from the sun actually left the sun about eight minutes before we see it (8 'light minutes').

We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.

Light travels in straight lines and therefore shadows have the same shape as the objects that cast them.

Plants use a process called 'photosynthesis' to convert light energy into food in order to grow.

## Subject Specific Vocabulary

|                |  |
|----------------|--|
| <b>Light</b>   | (illumination) a form of energy that travels in waves, like sound                              |
| <b>Concave</b> | a lens curving inwards, changing the way it reflects light                                     |
| <b>Convex</b>  | a lens curving outwards, changing the way it reflects light                                    |
| <b>Filter</b>  | a transparent material that absorbs some colours and allows others to pass through             |
| <b>retina</b>  | a layer of tissue at the back of the eye that converts light into signals to send to the brain |
| <b>Cornea</b>  | the thin, clear outer layer of the eye that focuses light as it enters                         |
| <b>iris</b>    | By opening and closing, it controls how much light enters the eye                              |
| <b>Pupil</b>   | the opening at the centre of the eye that allows light to strike the retina                    |