

# Year 5 and 6: Electricity and Light Knowledge Mat

## Subject Specific Vocabulary Dozen

Circuit	A path that an electrical <b>current</b> can flow around.
Circuit diagram	A simple picture of an electrical circuit.
Symbol	A visual picture that stands for something else.
Cell/battery	A device that stores chemical energy until it is needed. A <b>cell</b> is a single unit. A <b>battery</b> is a collection of <b>cells</b> .
Motor	A device that rotates (spins around).
Voltage	The force that makes the electric <b>current</b> move through the wires. The greater the <b>voltage</b> , the more <b>current</b> will flow.
Light	A form of energy that travels in a straight wave.
Light source	Where light comes from. This could be natural or manmade.
Reflection	Reflection is when light bounces off a surface, changing the direction of a ray of light.
Shadow	An area of darkness where light has been blocked.
Opaque	Describes objects that do not let any light pass through them.
Translucent	Describes objects that things let some light through, but scatters the light so we can't see through them properly.

## What I will know at the end of the unit:

I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.

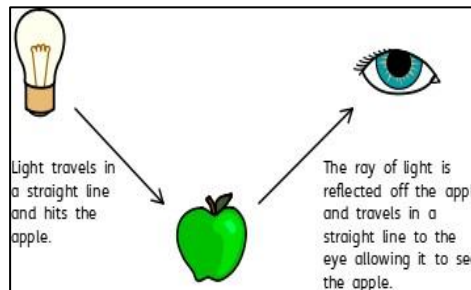
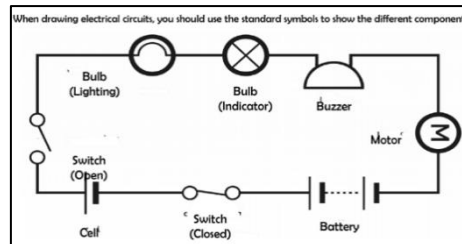
I can compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.

I can use recognised symbols when representing a simple circuit in a diagram.

I can 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.

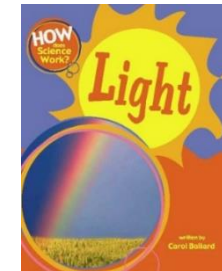
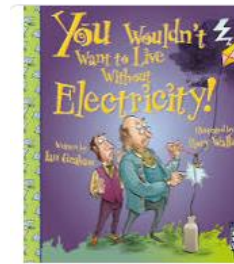
I can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.

I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.



How we see

## Exciting Books



## Sticky Knowledge about electricity and light

Adding more cells to a complete circuit will make a bulb brighter, a motor spin faster or a buzzer make a louder sound. If you use a battery with a higher voltage, the same thing happens.

Adding more bulbs to a circuit will make each bulb less bright. Using more motors or buzzers, each motor will spin more slowly and each buzzer will be quieter.

Turning a switch off (open) breaks a circuit so the circuit is not complete and electricity cannot flow. Any bulbs, motors or buzzers will then turn off as well.

You can use recognised circuit symbols to draw simple circuit diagrams.

Light appears to travel in straight lines, and we see objects when light from them goes into our eyes. The light may come directly from light sources, but for other objects some light must be reflected from the object into our eyes for the object to be seen.

Objects that block light (are not fully transparent) will cause shadows. Because light travels in straight lines the shape of the shadow will be the same as the outline shape of the object.

