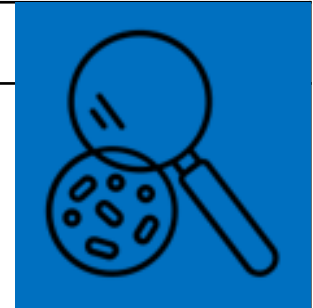




Objectives and Sticky Knowledge



**Prior Knowledge Recap:**

**Electricity** - The flow of an electric current through a material, e.g. from a power source through wires to an appliance.  
**Appliances** – A piece of equipment or a device designed to perform a particular job, such as a washing machine or mobile phone.  
**Battery** - A device that stores electrical energy as a chemical. Two or more cells joined together form a battery.  
**Circuit** - A pathway that electricity can flow around. It is based around wires and a power supply. Examples of components (parts) you can add in to a circuit are bulbs, switches, buzzers and motors.

**Land Objectives/ Sticky Knowledge**

<p><b>Compare and give reasons for why components work and do not work in a circuit</b></p>	<p><b>Draw circuit diagrams using correct symbols</b></p>	<p><b>Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer</b></p>
<p>-Know that metal objects act as conductors and non-metal objects act as insulators.                  -Know what different items have in common and what's different about them.</p>	<p>-Know what a circuit is.                  -Know that a circuit must be one complete loop with no gaps in order to work.                  -Know the key parts of a circuit including power source, bulbs, wires and switches and the corresponding symbols.</p>	<p>-Know that cells can have different voltages and that more cells will increase the voltage.                  -Know that more power means brighter light or louder buzzer.                  -Know that wires have a resistance..</p>

**Sea:**  
 Links with 'Communication':

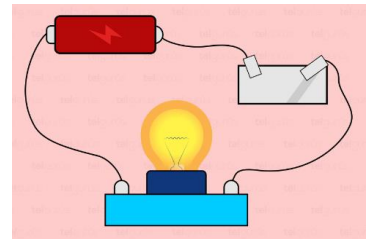
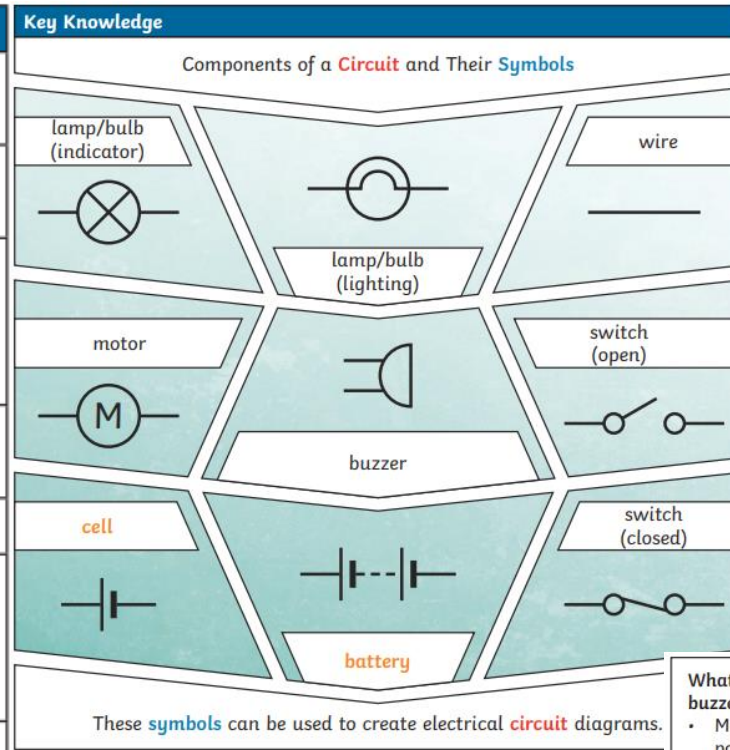
**Links with CST and CKA Values Crown:**



# Year 6 Science Advent 2 Knowledge Organiser Electricity



Key Vocabulary	
<b>circuit</b>	A path that an electrical <b>current</b> can flow around.
<b>symbol</b>	A visual picture that stands for something else.
<b>cell/battery</b>	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> .
<b>current</b>	The flow of <b>electrons</b> , measured in <b>amps</b> .
<b>amps</b>	How electric <b>current</b> is measured.
<b>voltage</b>	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.
<b>resistance</b>	The difficulty that the electric <b>current</b> has when flowing around a <b>circuit</b> .
<b>electrons</b>	Very small particles that travel around an electrical <b>circuit</b> .



## CONDUCTORS AND INSULATORS



### Sky objectives:

1. Ask well-considered questions that closely match personalised enquiries.
2. Skilfully plan and conduct child-led investigations, deciding which variables to control and what observations to make.
3. Use personal knowledge combined with accurate observations and data collection to draw a conclusion.

What will make a bulb brighter or a buzzer louder?

- More **batteries** or a higher **voltage** create more power to flow through the **circuit**.
- Shortening the wires means the **electrons** have less **resistance** to flow through.

Series **Circuit**  
A **circuit** that has only one route for the **current** to take. If more bulbs or buzzers are added, the power has to be shared and so they will be dimmer or quieter. If just one part of this series **circuit** breaks, the **circuit** is broken and the flow of **current** stops.

What will make a bulb dimmer or a buzzer quieter?

- Fewer **batteries** or a lower **voltage** give less power to the **circuit**.
- More buzzers or bulbs mean the power is shared by more components.
- Lengthening the wires means the **electrons** have to travel through more **resistance**.