

# Science- Electricity

Electricity	
What is Electricity?	<ul style="list-style-type: none"> <li>Electricity is created by generators which can be powered by gas, coal, oil, wind or solar.</li> <li>The electrical energy can be converted into other types of energy such as light, heat, movement or sound.</li> <li>Electricity is dangerous, so be careful when using electrical appliances.</li> </ul>
An electrical circuit	
A series circuit (One pathway around the circuit)	<ul style="list-style-type: none"> <li>Electricity can flow through the components in a complete electrical circuit.</li> <li>A circuit always needs a power source, such as a battery, with wires connected to both the positive (+) and negative (-) ends. (A battery is made from a collection of cells connected together).</li> <li>A circuit can also contain other electrical components, such as bulbs, buzzers or motors, which allow electricity to pass through.</li> <li>Electricity will only travel around a circuit that is complete. That means it has no gaps.</li> </ul>
What is a switch?	<ul style="list-style-type: none"> <li>You can use a switch in a circuit to create a gap in a circuit. This can be used to switch it on and off.</li> <li>When a switch is open (off), there is a gap in the circuit. Electricity cannot travel around the circuit.</li> <li>When a switch is closed (on), it makes the circuit complete. Electricity can travel around the circuit.</li> </ul>
Increasing the brightness of a bulb or the volume of a buzzer.	<ul style="list-style-type: none"> <li>The more cells that are used in a circuit, the brighter the bulb or louder the buzzer.</li> <li>If one cell is used, the higher its voltage, the more powerful the cell is.</li> </ul>

**Key concepts:**

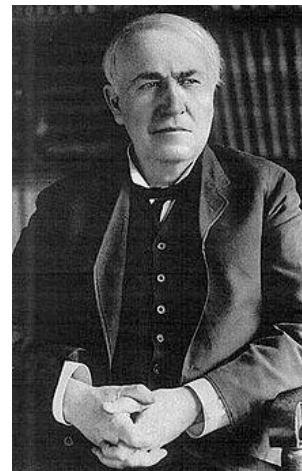
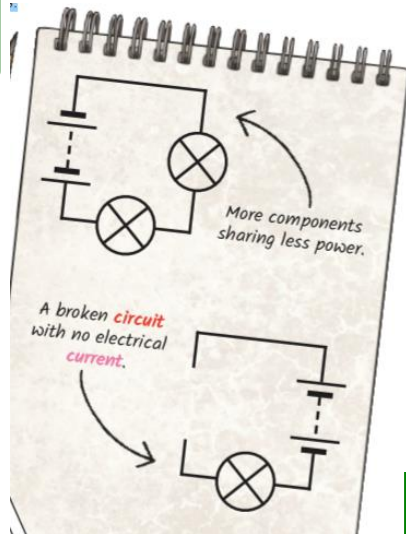
- To work scientifically
- To understand electrical circuits

**Learning Questions:**

- What are the rules for drawing circuits and symbols?
- What is a complete/incomplete circuit?
- What are variations within a circuit?
- How does the voltage in a circuit affect the loudness of a buzzer? (plan)
- How does the voltage in a circuit affect the loudness of a buzzer? (investigation)

Key Vocabulary	Definition
<b>Circuit</b>	A path that an electrical current can flow around.
<b>Symbol</b>	A visual picture that stands for something else.
<b>Cell/Battery</b>	A device that stores energy as a chemical until it is needed. A cell is a single unit. A battery is a collection of cells.
<b>Current</b>	The flow of electrons, measured in amps.
<b>Amps</b>	How electric current is measured.
<b>Voltage</b>	The force that makes the electric current move through the wires. The greater the voltage, the more current will flow.
<b>Resistance</b>	The difficulty that the electric current has when flowing around a circuit.
<b>Electrons</b>	Very small particles that travel around an electrical circuit.

What is the difference between a series and parallel circuit?



**Thomas Edison** was a great inventor. He came up with more than 2,000 inventions, which includes almost everything that we need to use electricity in our homes including switches, fuses, sockets and meters.

