

# Frogwell School Year 6 Science Knowledge Organiser Term 3




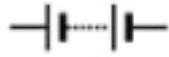

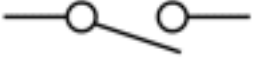




## Electricity

### What I already know:

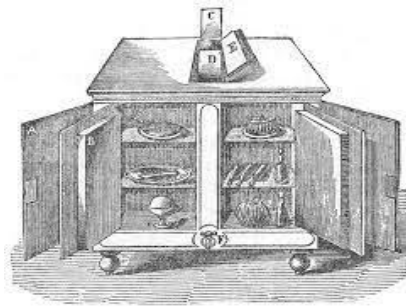
- I can identify common appliances that are run on electricity.
- I can construct a simple series electrical circuit.
- I can name basic electrical parts: cells, wires, bulbs, switches and buzzers.
- I can tell if a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.
- I recognise that a switch opens and closes a circuit.
- I can recognise some simple conductors and insulators.

### Key Vocabulary

circuit	A path that an electrical current can flow around.
complete circuit	When the path of an electrical circuit is complete
circuit diagram	A visual representation of an electrical circuit.
circuit symbol	A visual picture that stands for an electrical component.
cell	A device that stores energy as a chemical until it is needed, A cell is a single unit.
battery	A battery is a collection of cells.
bulb	An electrical component that emits light when electricity flows through it.
buzzer	An electrical component that emits a sound when electricity flows through it.
motor	An electrical component that moves or spins when electricity flows through it.
switch	A device that opens and closes a circuit.
voltage	The force that makes the electric current move through the wires. The greater the voltage, the more current will flow.

Electrical device	Circuit symbol	Electrical device	Circuit symbol
Lamp/bulb (indicator)		cell	
lamp/bulb (lighting)		battery	
wire		switch - open	
motor		switch - closed	
buzzer		voltmeter	

The word, electricity, comes from the greek word, elektron, which means amber. Before electricity generation began over a 100 years ago, houses were lit with kerosene lamps, food was chilled in iceboxes and rooms were warmed by wood or coal-burning stoves.

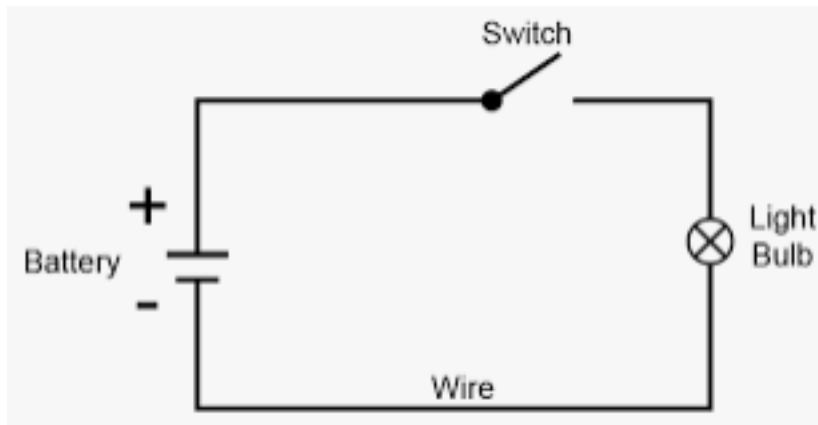
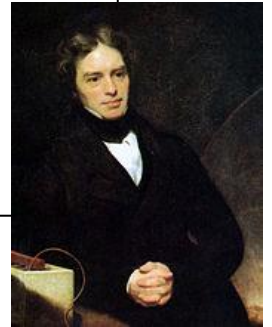


Scientists that are associated with discoveries in electricity.

**Benjamin Franklin**, an American, conducted extensive research in electricity. It is believed that in 1752, he attached a key to the bottom of a dampened kite string and flown it in a storm. The sparks that jumped from the key to the back of his hand showed that lightning was electrical in nature.

**Michael Faraday** invented the electric motor in 1821

**Thomas Edison** bought the Patent rights for the first electric light bulb from two Canadian scientists. He took their idea and created the first practical bulb, making their design more effective and economical.



**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.

**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.

**Series circuits.**

A circuit that has only one route for the current to take is known as a series circuit. If more bulbs or buzzers are added, the power has to be shared and so the bulbs will be dimmer or the buzzers quieter.

If one part of the series circuit breaks, the circuit is broken and the flow of current stops.

