



# Trailblazers Cycle B: Autumn Term 2 - Electricity (Year 6)

## Overview, Vocabulary and Sticky Knowledge



### What do I already know about Electricity?

In Little Explorers, I learned...

- Never put water near electricity.

In Big Explorers, I learned...

- A waterproof object doesn't let water through.
- Materials are used for different things depending on their purpose.
- Electricity powers items such as TV's, lights and washing machines.
- A simple circuit may include: a cell, wire, bulbs and switches.
- Metals are good conductors of electricity.

Challenging vocabulary.

Systematically, synchronised

Words to learn.

Circuit, battery, resistor, variable resistor, output, signal, conductor, insulator, dimmer switch

Words I should know.

Electricity, electric, power, current, volts

### Key facts I will learn...

- 1) Circuits are made up of components.
- 2) Voltage is the force that electricity is pushed around a circuit.
- 3) A conductor allows electricity to flow, an insulator prevents it.



## Lesson Sequence



1. Describe the parts of an electric circuit



2. Explore voltage and its effect on an electrical circuit



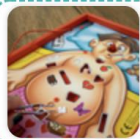
3. Apply knowledge to identify and correct problems in a circuit



4. Investigate what affects the output of a circuit

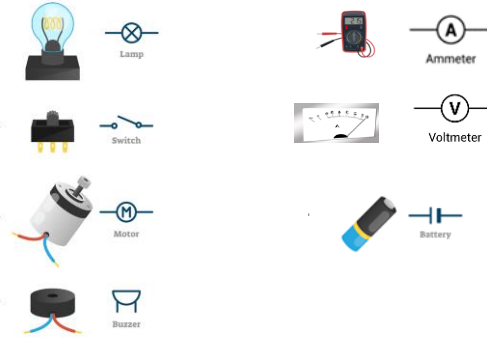


5. Build a set of traffic lights

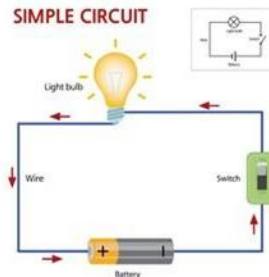


6. Apply knowledge of conductors and insulators

## Circuit Symbols

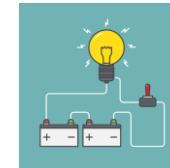
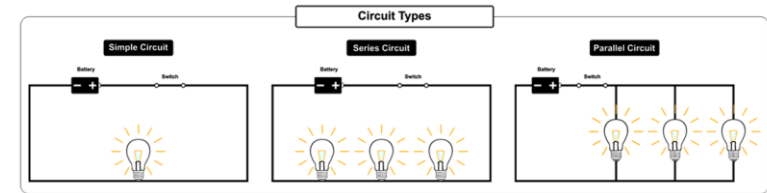


Wires are always drawn with a **straight line** using a **ruler** in scientific diagrams.

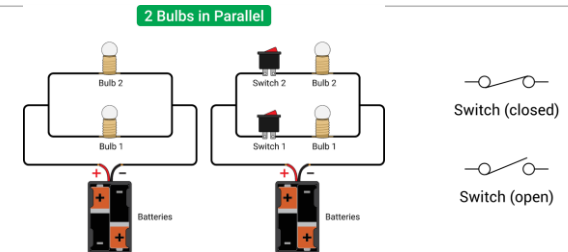
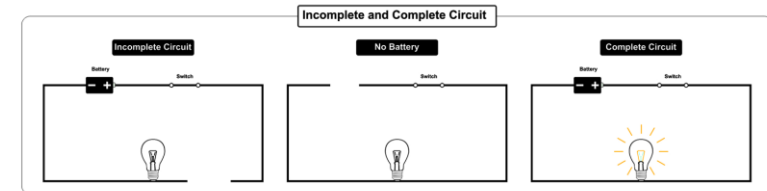


The **current** flows from negative to positive. There are no gaps - it is a **complete** circuit and the bulb lights up.

## Different Circuits



Adding more cells (batteries) to a circuit will make bulbs **brighter**, buzzers **louder** and motors **faster**.



Switches can be placed in a **parallel circuit**, so that 1 light can be turned on while another is off (just like in a house).