

In Science this term we are learning about...

## Electrical Circulates & Components

Big Question:

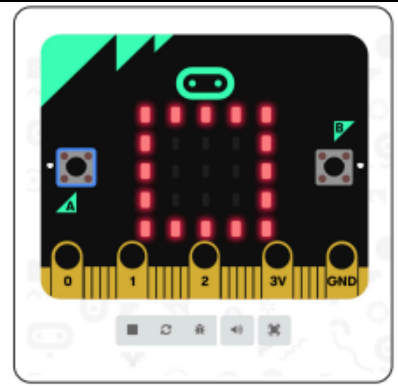
How do electrical circuits and their components function?

### Key knowledge check

Can you identify and draw five or more circuit component symbols?

Can you accurately draw a simple series circuit containing a cell, lamp and switch?

Micro:bits are small, programmable computers with an LED display and sensors. Micro:bits can be programmed to respond to environmental variables and are used to make a wide variety of different devices.



### Electrical hazards

Electricity can be dangerous. If a mains electric current goes through your body, it can cause serious injuries or death.

There are many situations where electrical appliances can be dangerous. For example, overloading plug sockets can lead to fires and touching electrical appliances with wet hands can cause electric shocks. Touching damaged wires can also cause electric shocks.



Speak like an expert scientist:

**Components** make up all electrical items and make them work.

A **circuit** is a collection of components connected by wires through which electricity can flow.

**Electric current** is the flow of electric charge through a circuit. For an electric current to flow, a circuit must be complete.  
**voltage** - In a circuit, the cell acts like a pump, pushing electric charge around the circuit. This pushing force can be measured using a voltmeter or multimeter. The pushing force is known as voltage, which is measured in volts (V).

**sensors** - Many devices (nightlights, burglar alarms, thermostats), use sensors to monitor environmental variables, such as light, movement or temperature. These devices are programmed switch on or off in response to environmental change. For example, some nightlights have sensors that cause them to switch off when light levels rise.

**LED** stands for light-emitting diode and is a device that produces light when an electric current flows through it. An LED only conducts electricity in one direction.

Something fascinating that I have learnt in this topic:

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