

The Knowledge

Supporting the National Curriculum



Knowing More

Remembering More

Learning More

Electricity



ARDLEIGH GREEN
JUNIOR SCHOOL

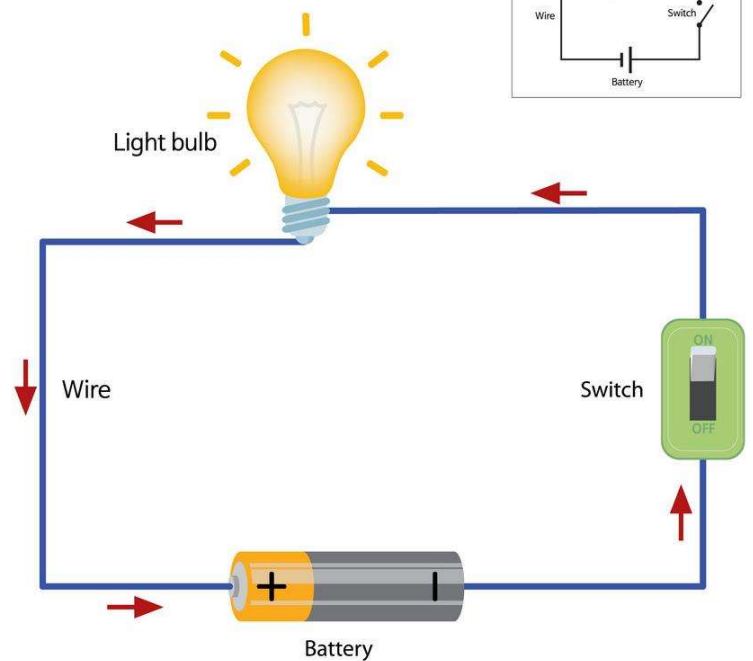
Year 6
Science

Circuits

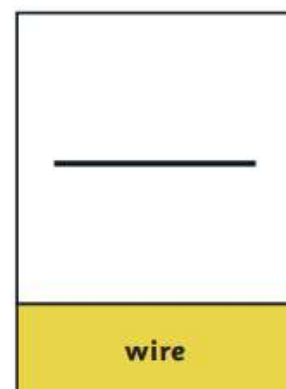
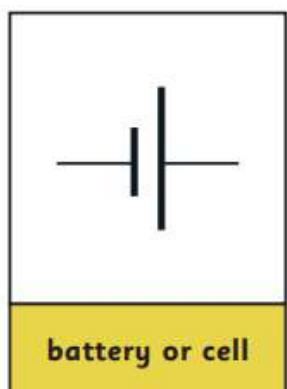
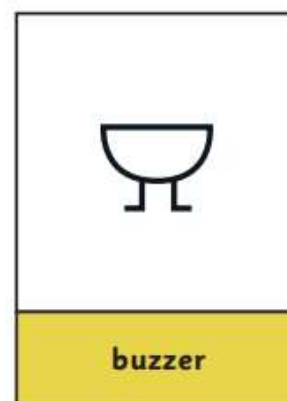
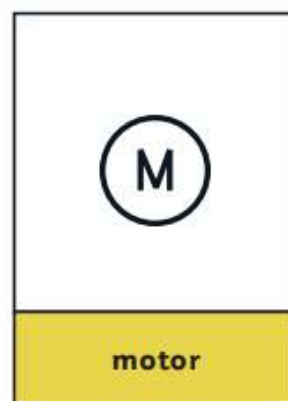
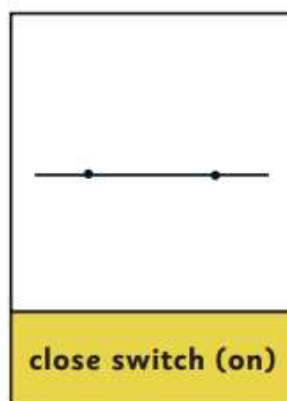
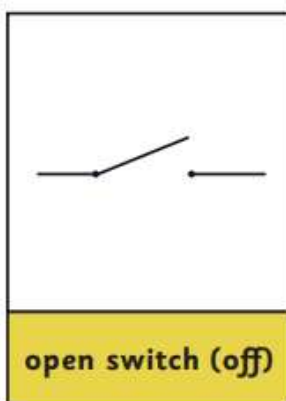
The circuit has to be **complete** to allow the electricity to travel all the way around it.

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

SIMPLE CIRCUIT



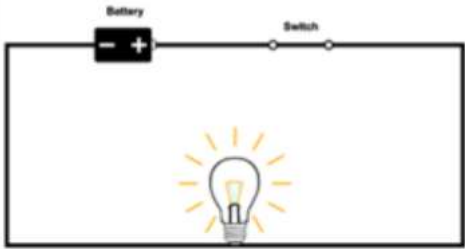
Circuit Symbols



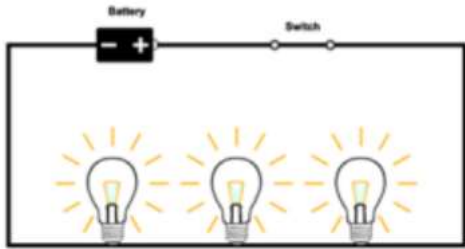
Different Circuits

Circuit Types

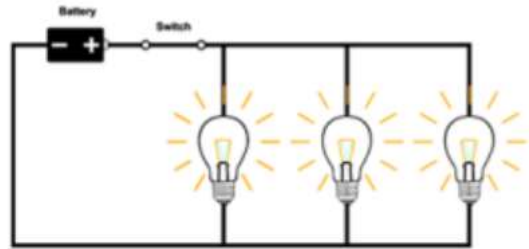
Simple Circuit



Series Circuit

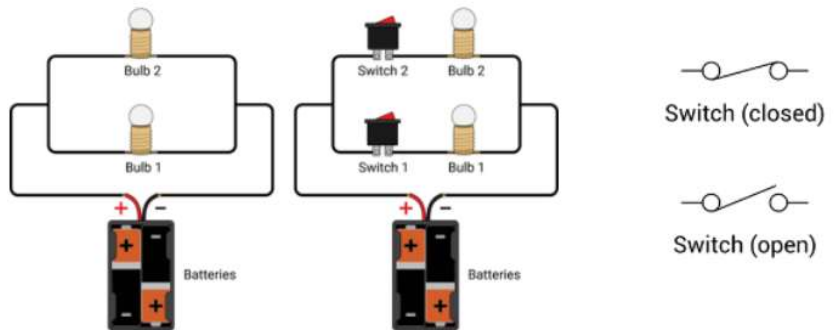


Parallel Circuit



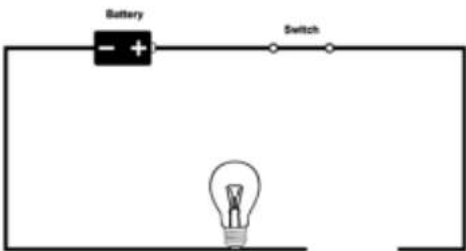
Switches can be placed in a **parallel** circuit, so that 1 light can be turned on while another is off (just like in a house).

2 Bulbs in Parallel

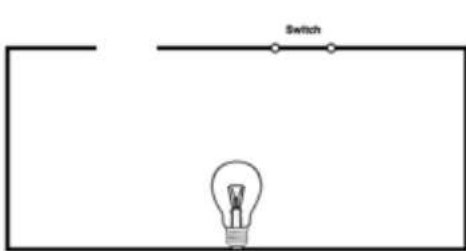


Incomplete and Complete Circuit

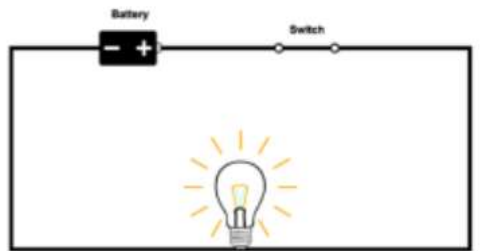
Incomplete Circuit



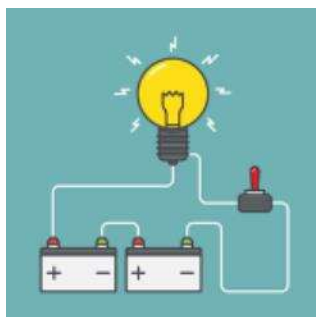
No Battery



Complete Circuit



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



Key Vocabulary

circuit - a complete **path** which allows **electricity** to **flow**

battery - a source of **energy** in an electrical circuit

electricity – a form of **energy**

resistor – a **component** that **reduces** electric **current** flow

variable resistor - a component which **varies** the amount of electric current **flow**

output - the **amount** of something **produced** (e.g. brightness of a bulb)

synchronised - operating at the **same time** or rate

signal - an electrical **impulse transmitted** or **received**

conductor - **materials** which **allow electricity** to **flow** through them easily

insulator - materials that **do not let electricity pass** through them easily

Test Yourself

- What are the different components of a circuit?
- What symbols are used to represent different components of a circuit?
- What is voltage and how does it affect a circuit?
- Can I correct a problem in a circuit?
- What affects the output on a circuit?
- How do traffic lights work?
- How do conductors and insulators affect a circuit?