Year 6: Electricity

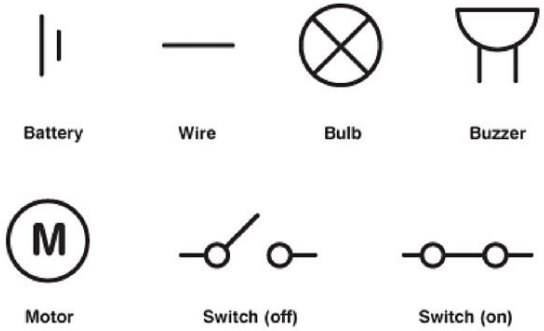
CREATING CIRCUITS AND UNDERSTANDING HOW DIFFERENT COMPONENTS AFFECT THEIR CAPABILITIES:

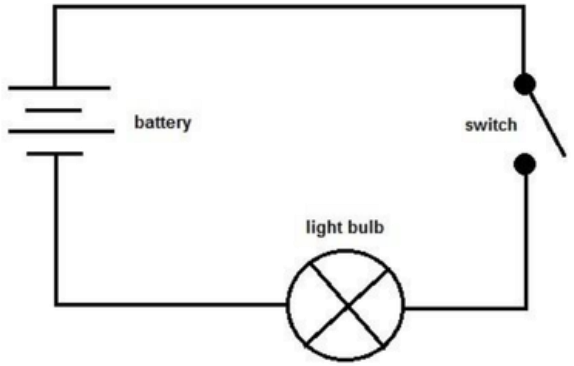
How to draw simple circuit diagrams

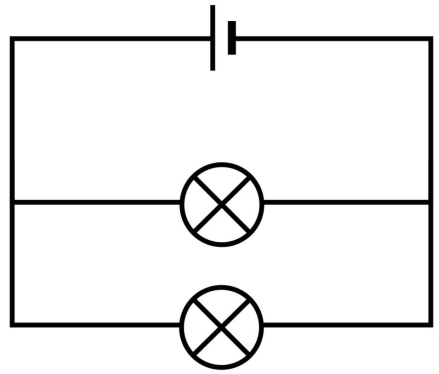
Electrical circuits can be represented by simple diagrams.

There are recognised symbols for all the components in a circuit such as battery, bulb, motor, buzzer, and wire.

Components need to be arranged in a specific way for a circuit to work.







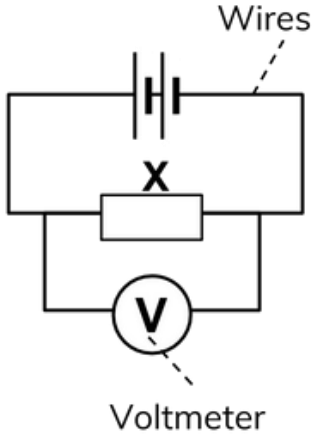
What does the voltage of an electrical current mean?

The voltage is what we use to measure the power of a cell to produce electricity; it is a measure of the push of electronic current.

As the number and voltage of cells in a circuit increases, the brightness of a bulb or the volume of a buzzer will increase.

If the voltage in a circuit is too high, it may overload the bulb or buzzer, which will lead to it breaking.

High voltages are dangerous if precautions are not taken



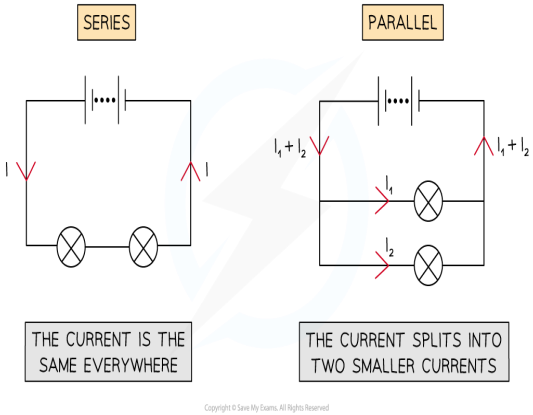
What affects how effective and electrical circuit is?

Two bulbs in a circuit can be wired up to create a series circuit or a parallel circuit.

If one bulb is removed in a series circuit the other will not shine as the circuit has been broken.

If one bulb is removed in a parallel circuit, there will still be a complete circuit for the other bulb so it will continue to shine.

We can use this knowledge to explain the advantages of using parallel circuits.



KEY VOCABULARY

CIRCUIT: a complete route which an electrical current can flow around

CURRENT ELECTRICITY: a flow of electricity through a wire or circuit

PARALLEL CIRCUIT: a circuit comprising of branches so that the current divides and only part of it flows through any branch

SERIES CIRCUIT: a circuit where all components are connected end-to-end to form a single path for current flow

VOLTAGE: the pressure from an electrical circuit's power source that pushes charged electrons (current) through a conducting loop