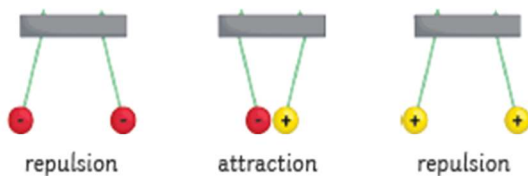


KNOWLEDGE ORGANISER

Static

A build-up of static is caused by friction. When materials are rubbed together, the electrons move from one to the other. One material becomes positively charged and the other is negatively charged. The positive charges do not move.

Too much static can cause a spark. If the potential difference is large enough, the electrons can jump across the gap - this is the spark.



Electric Charge

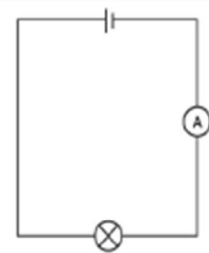
Some particles carry an electric charge. In electric wires these particles are called electrons. An electric current is a flow of charge, and in a wire this will be a flow of electrons.

For an electric current to flow we need:

- Something to transfer the energy to the electrons, such as a cell, battery or power pack.
- A complete path for the electrons to flow through (a complete circuit).

Current

Current is measured in amperes (A). 20A is a bigger current than 10A. An ammeter is used to measure the current. The ammeter must be connected in series.

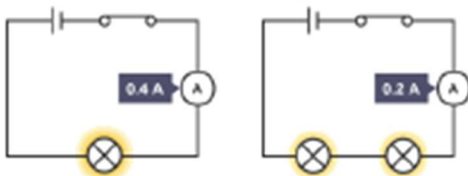


Resistance

The wires and other components in a circuit reduce the flow of charge through them - this is resistance.

The resistance increases when you add more components in series.

The resistance of two lamps is greater than the resistance of one lamp, so less current will flow through them.



Potential Difference

Potential difference is a measure of the difference in energy between two parts of a circuit. The bigger the difference in energy, the bigger the potential difference.

Potential difference is measured in volts. A 230V is a bigger potential difference than 12V.

A voltmeter is used to measure the potential difference, and must be in parallel.

