ELECTRICAL CIRCUITS

The flow of electricity around a circuit is called CURRENT and runs from negative to positive

Current (Abbreviated to I, e.g. I = 1) is measured in amps (A) and is <u>the amount of electrons passing a</u> <u>given point in one second</u>

 $1 \text{ Amp} = 6.25 \times 10^{18} \text{ electrons}$

Drawing circuit diagrams

Called "schematic circuit diagrams"

Connecting wires are drawn as straight lines and at right angled corners.

Circuit components are symbols which are simple and usually look similar to what is happening



Parts of an Electric Circuit



Open vs. Closed Circuits

Open circuit: The circuit is NOT operating. <u>The</u>
<u>light switch is "off"</u>
<u>and so are the lights</u>



Closed circuit: the circuit is operating and the current is flowing. **The light switch is "on" and so are the lights.**



What is an electric current?

An electric current is a flow of negatively charged particles called **electrons** flowing through wires and

components.



In which direction does the current flow?

Current flows from the Negative terminal to the Positive terminal of a cell.

Types of circuits

There are two types of electrical circuits;

SERIES CIRCUITS

PARALLEL CIRCUITS



SERIES CIRCUITS



The components are connected end-to-end, one after the other.

They make a simple loop for the current to flow round.

If one bulb 'blows' it breaks the whole circuit and all the bulbs go out.



The components are connected side by side.

The current has a choice of routes.

If one bulb 'blows' there is still a complete circuit so the other bulb will stays alight.