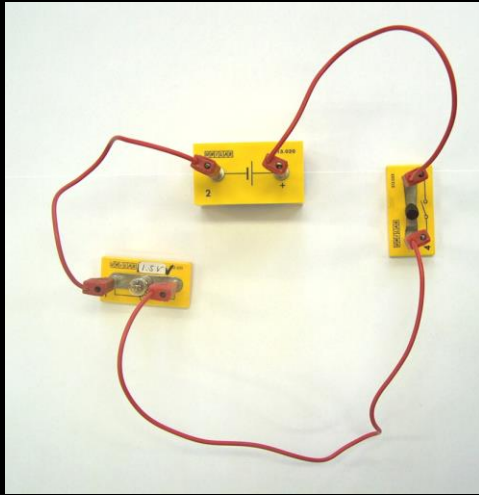
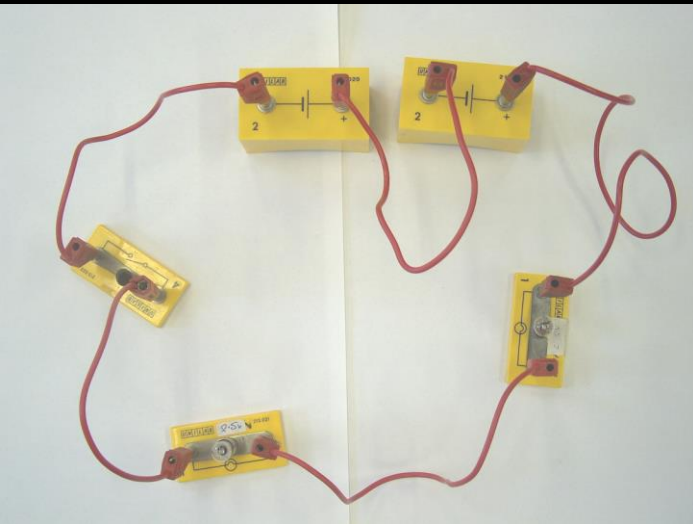
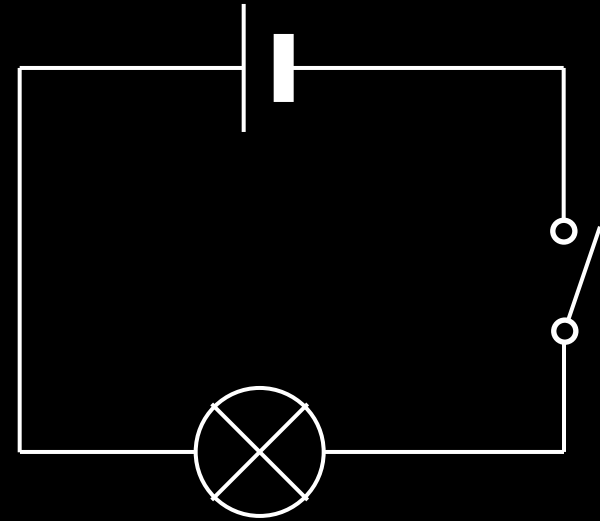


Electrical Circuits

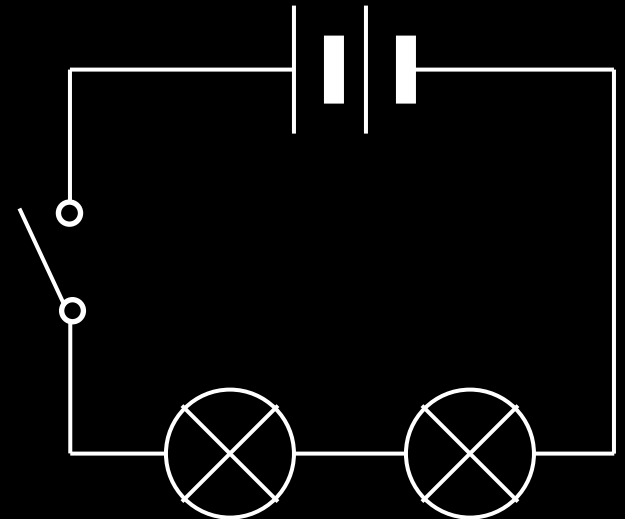
Drawing Circuits



1) A cell, a bulb and a switch "in series"

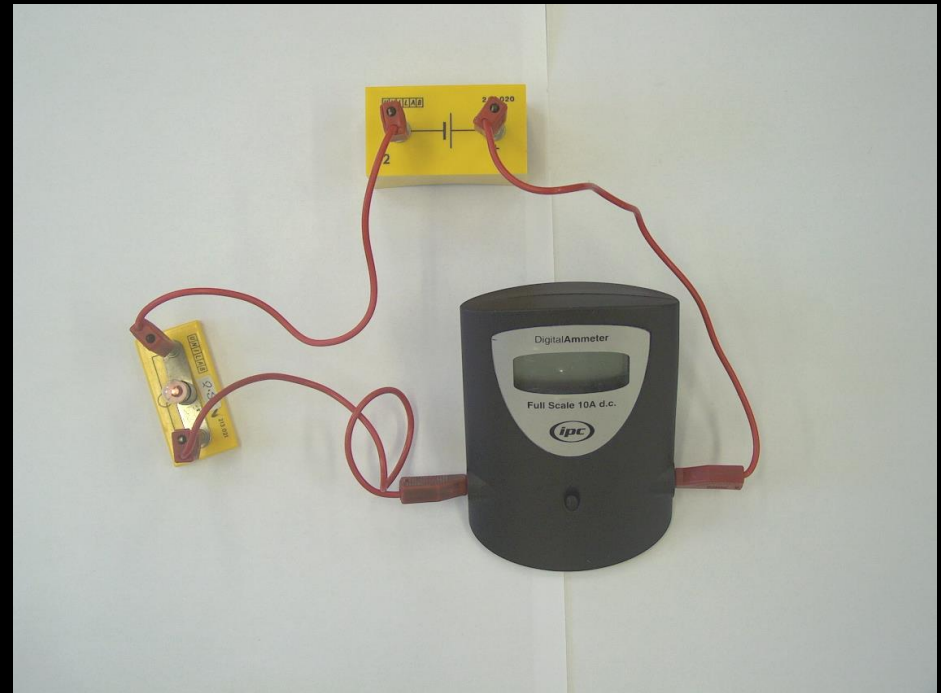
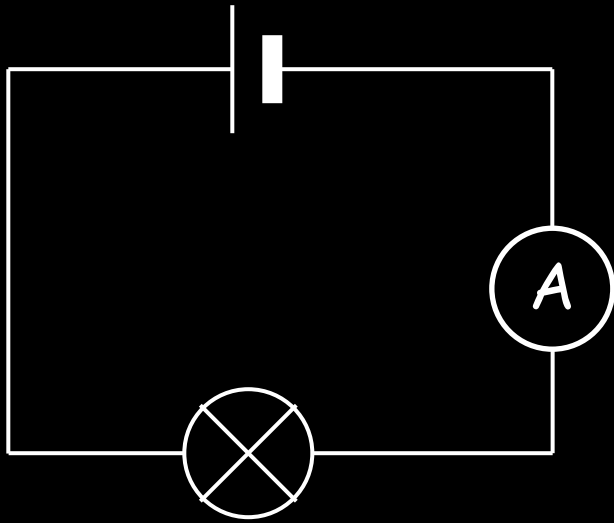


2) A battery of cells, a switch and two bulbs in series



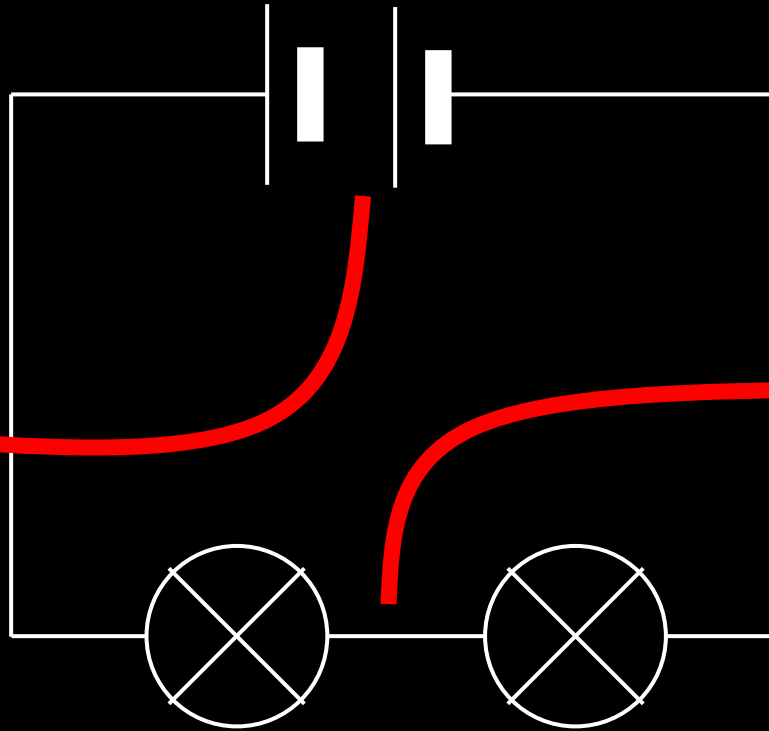
Measuring electric current

We can measure the amount of electric current flowing through a circuit using a device called an "ammeter".



Current in a series circuit

If the current here is 2 amps...



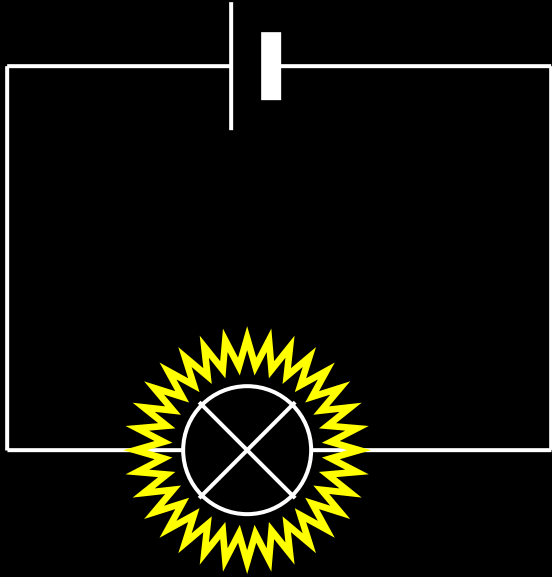
The current here will be...

The current here will be...

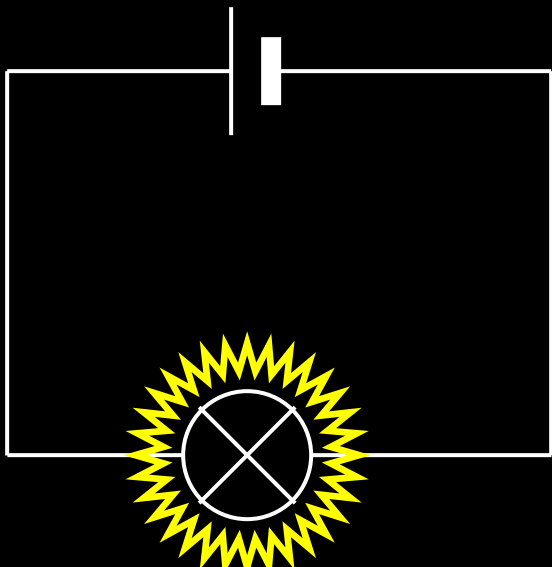
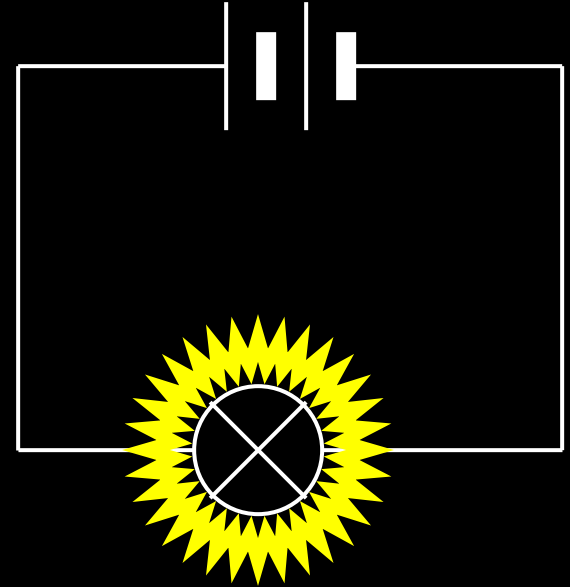
And the current here will be...

In other words, the current in a series circuit is **THE SAME** at any point

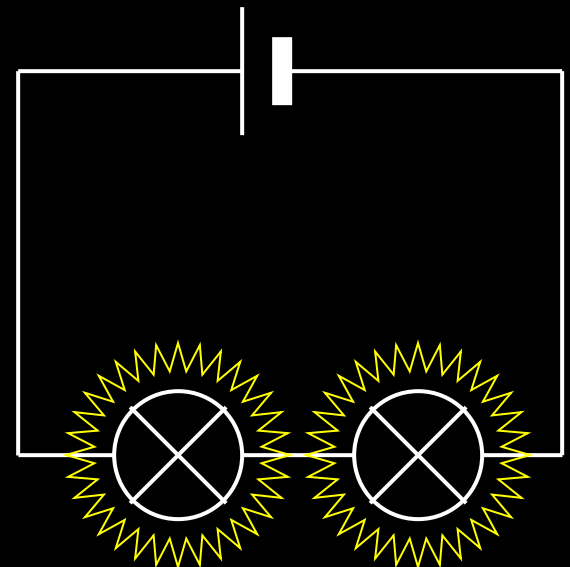
Changing the current



If a battery is added the current will _____ because there is a greater _____ on the electrons

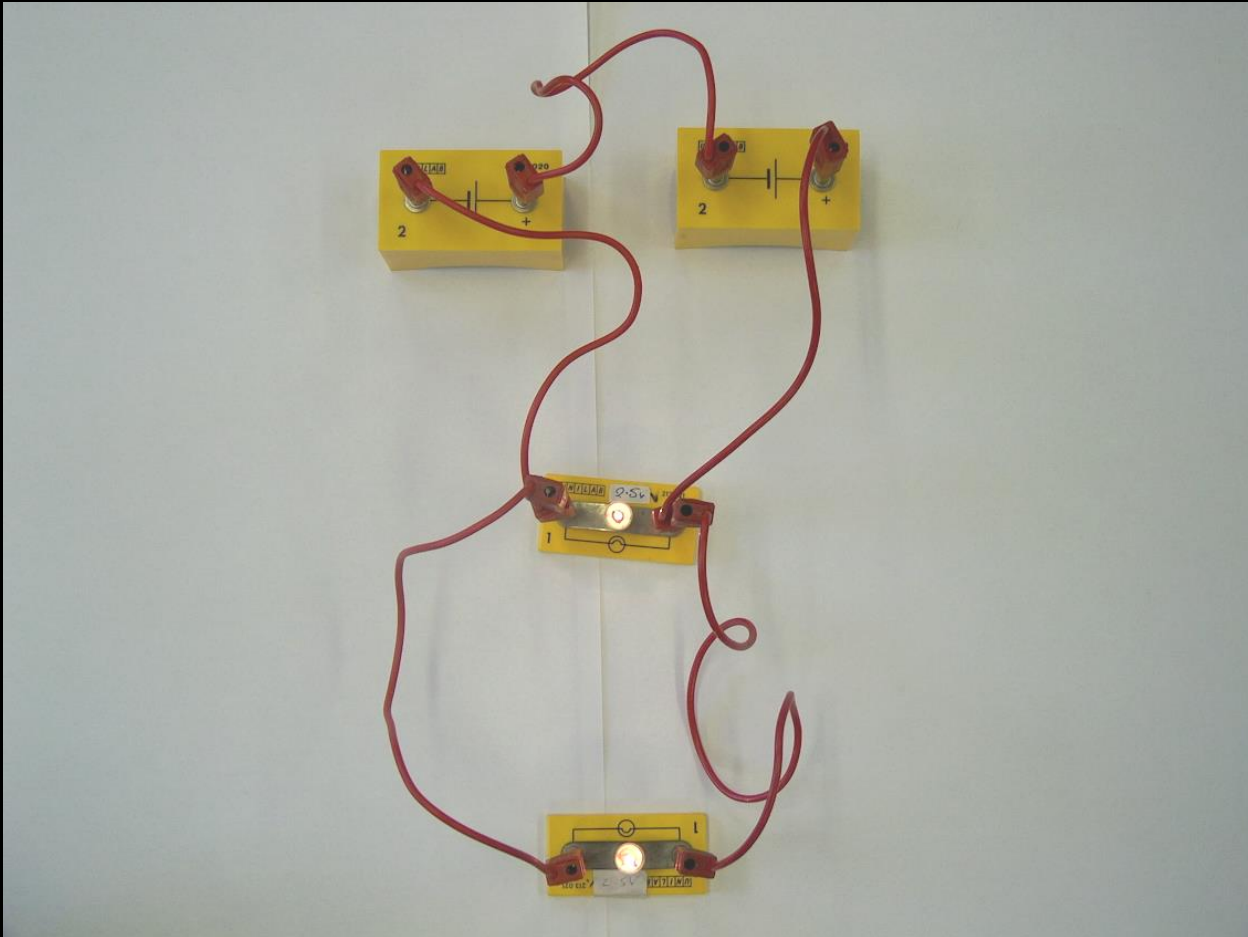


If a bulb is added the current will _____ because there is greater _____ in the circuit



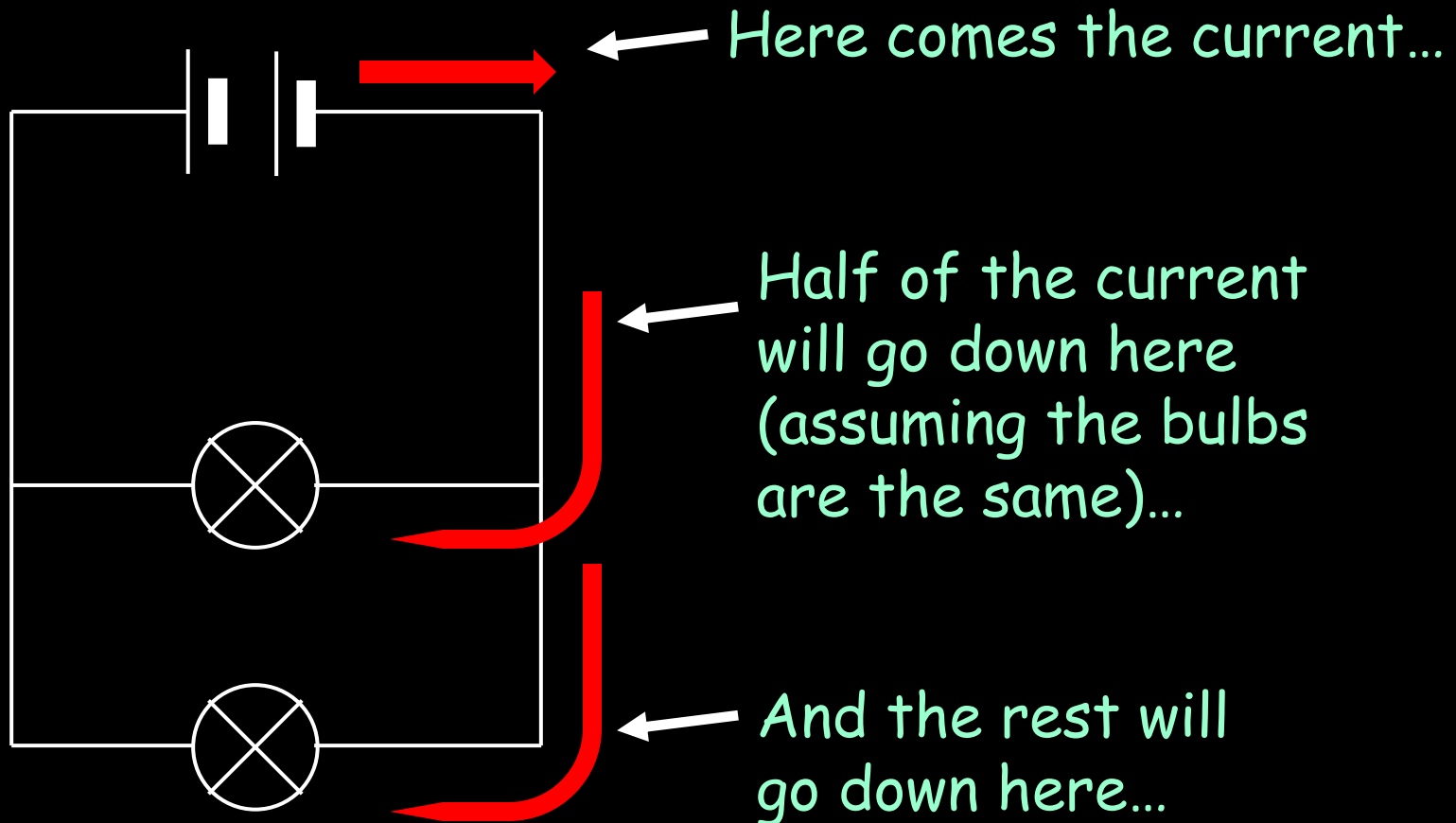
Parallel circuits

A parallel circuit is one where the current has a "choice of routes":



Current in a parallel circuit

A PARALLEL circuit is one where the current has a "choice of routes"



Current in a parallel circuit

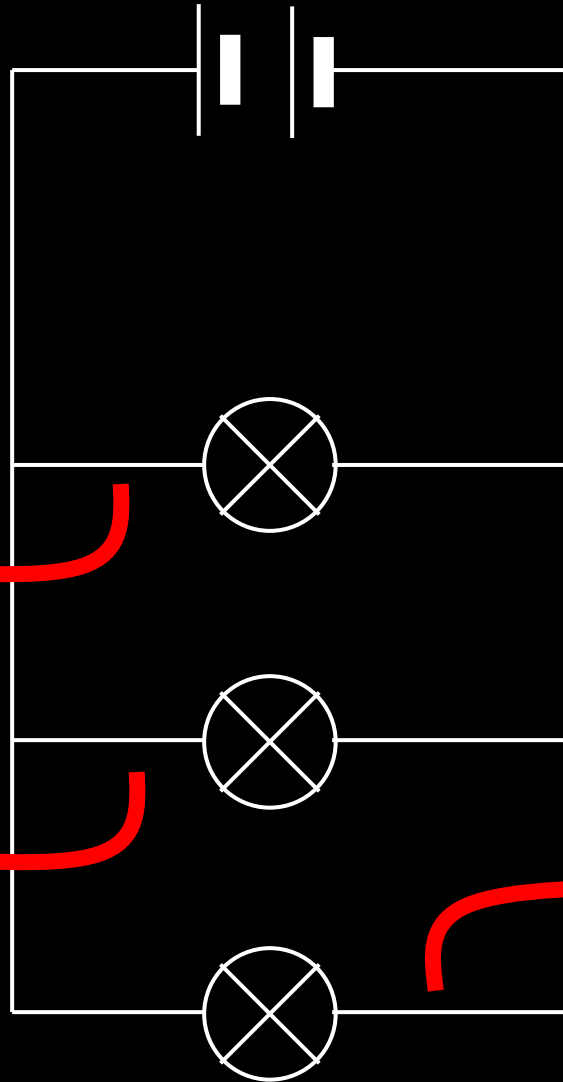
If the current here is 6 amps

And the current here will be...

The current here will be...

The current here will be...

The current here will be...



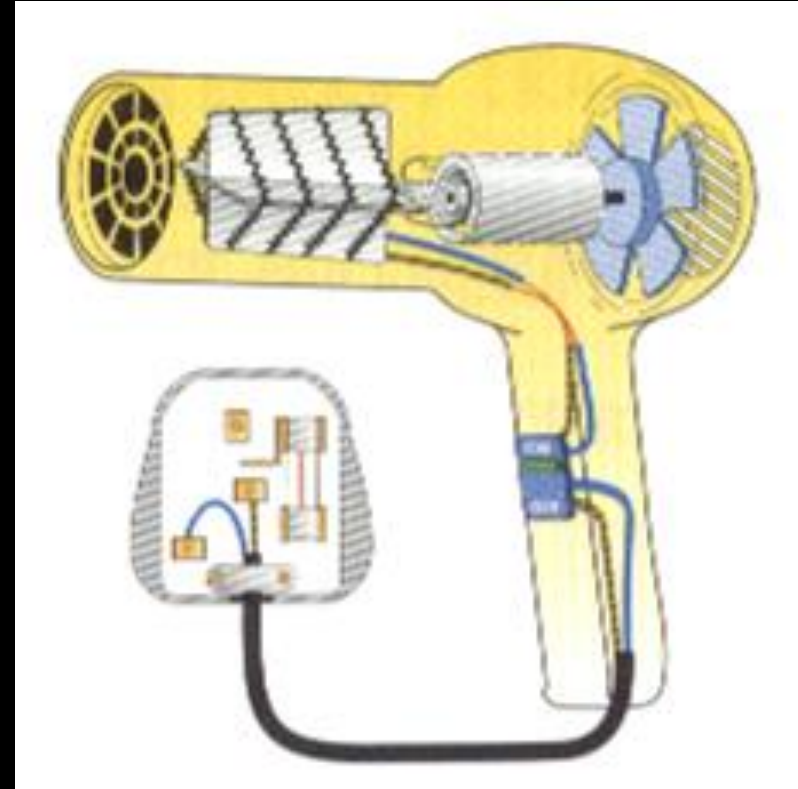
Advantages of parallel circuits...

There are two main reasons why parallel circuits are used more commonly than series circuits:

- 1) Extra appliances (like bulbs) can be added without affecting the output of the others
- 1) If one appliance breaks it won't affect the others either

Fuses

Fuses are _____ devices. If there is a fault in an appliance which causes the _____ and neutral (or earth) wire to cross then a _____ current will flow through the _____ and cause it to _____. This will break the _____ and protect the appliance and user from further _____.



Words - large, harm, safety, melt, live, circuit, fuse