

Introducing Electric Current

Electric charges can build up on objects (static electricity). These charges can move a little, but their movement is random and uncontrolled.

Current electricity is the controlled flow of electrons through a conductor (often copper wire).

Electrons move through conductors and you are a pretty decent conductor so electrical wires are often covered with insulating plastic.

We can predictably direct the flow of these electrons and they can power electrical devices.

Introducing Electrical Circuits

Electrical circuit – a continuous path in which electrons flow.

A safe circuit needs 4 components:

1. Energy source (battery or plugged in)

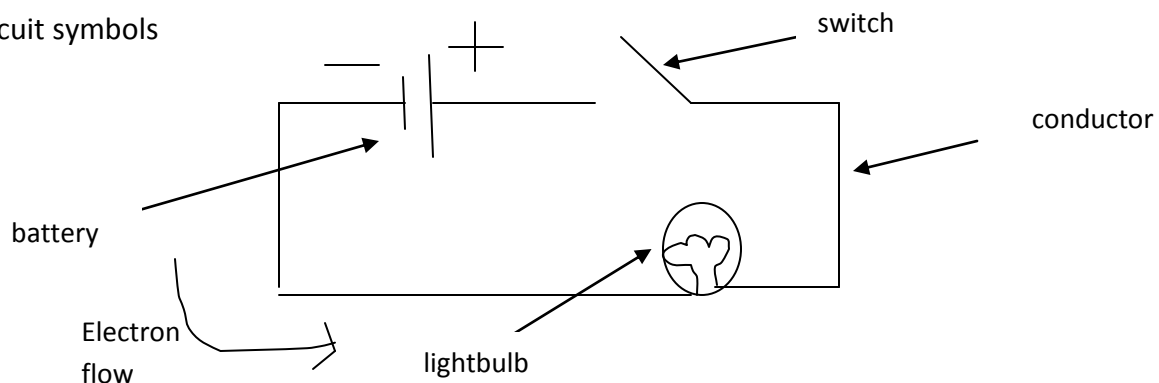
There is a high concentration of electrons at negative end of battery. They repel from each other and flow along the circuit to the positive end of battery. Your battery is dead when all the electrons have flowed and both ends are neutral.

2. On/off switch

3. Conductors (wires usually)

4. Load – something that uses some of the electrical energy
ie: toaster, TV, radio, (electrical device) ..or... a resistor

Circuit symbols



It is hard to realistically draw all the parts of the circuit, so we have symbols. Notice that the battery has 2 lines: long line = +ve side and the short line = -ve side. **Sometimes a battery is called a cell.**