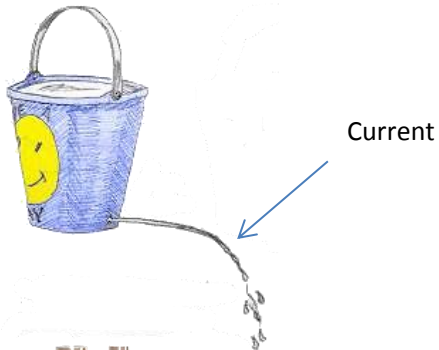


Lesson One: Voltage , Current and Batteries

What is Voltage?

- Voltage is an electromotive force that allows current to flow through an electrical circuit. The greater the voltage, the greater the flow of electrical current.
- Understanding what voltage is can be a bit difficult so imagine two buckets of water both have a hole near the bottom. One bucket is full the other has only a small amount of water. The water flowing out of the full bucket will be much faster than the bucket with less water because the water pressure is higher. It's the same with voltage, the 9 volt battery will have more power that a 1.5 volt battery.

This bucket is full so the leak will spurt out more quickly than the bucket with less water. Likewise a 9 volt battery will produce more current than a 1.5 volt battery

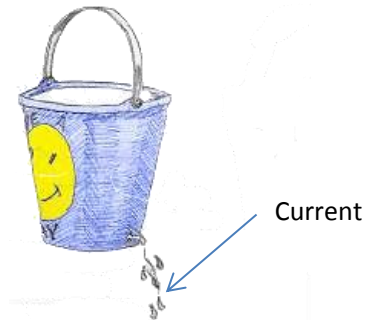


9 Volt battery



This battery will produce more current than a 1.5 volt battery

¼ of bucket of water, a bit like a 1.5 volt battery



1.5 Volt battery



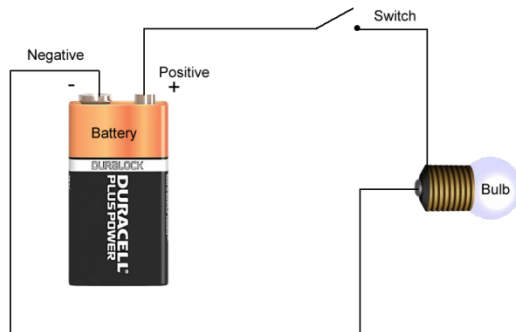
This battery will produce less current than a 9 volt battery

Lesson One: Voltage , Current and Batteries

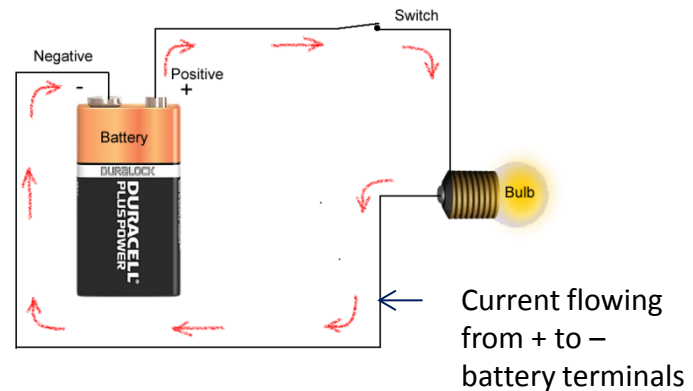
What is Current?

- Current is the flow of electricity through a circuit a bit like water flowing through a pipe.
- An electrical current always flows from the positive to negative
- An electrical current will only flow if the circuit is complete

No current will flow in this circuit because the switch is open and the circuit is not complete.



The switch is now closed, current will flow from the positive terminal to the negative terminal of the battery which will light the bulb.



Lesson One: Voltage , Current and Batteries

What is a battery?

- A battery is a device that converts stored chemical energy into useful electrical energy
- Batteries come in all shapes, sizes and voltages. Popular batteries are given a code to make it easier to identify them when you want to buy one. For example a PP3 is a popular 9 volt battery used in small radios and toys. AA and AAA batteries are commonly found in torches, cameras and TV remote controls.
- When you connect two or more batteries in series you increase the overall voltage.
- When you connect two or more batteries in parallel the voltage does not increase but the amount of current is increased.

