

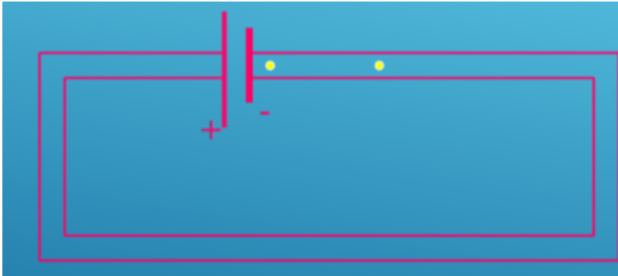
AC/DC Current

Three common voltage sources are batteries, solar cells, and generators.

A battery converts chemical energy to electrical energy.

An electric current is a flow of electrons flowing through wires and components.

The current flows from the negative terminal to the positive terminal.



The SI unit of electric current is the ampere (amp).

The two types of current are alternating current (AC) and direct current (DC).

Alternating current (AC) is a flow of electric charge that regularly reverses its direction.

ex: outlet

Direct current (DC) is where charge only flows in one direction. ex: flashlight

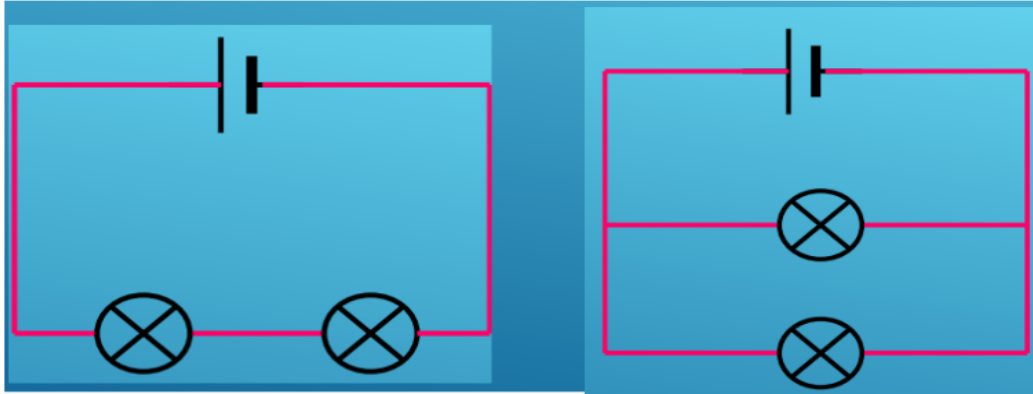
Most power stations in our country produce alternating current. AC changes direction every 1/100 second and its frequency is 50 Hertz (Hz).

One advantage of AC over DC is that it can be transmitted over long distances without much loss of energy.

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 around.

If one bulb burns out all of the bulbs go out.

Parallel circuits:

The components are on separate branches.

There are several paths for current to take.

If one bulb goes out the others remain lit.

Resistance (R) is opposition to the flow of charges in a material.

The SI unit of resistance is the Ohm (symbol: Ω)

A material's thickness, length, and temperature affect its resistance.