

Electric circuit

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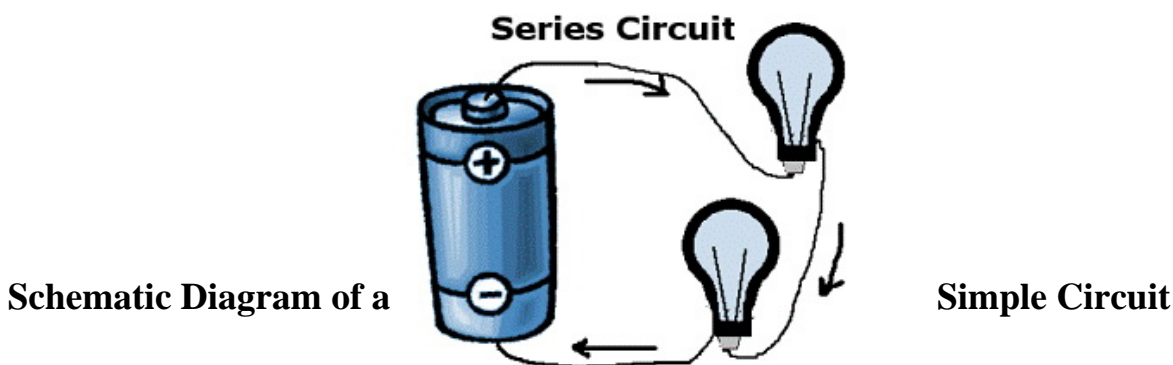
Introduction to Electric circuit

An electrical circuit is a closed loop formed by a power source, wires, a [fuse](#), a load, and a [switch](#). When the switch is turned on, the electrical circuit is complete and current flows from the [negative terminal](#) of the power source, through the wire to the load, to the [positive terminal](#). Any device that consumes the energy flowing through a circuit and converts that energy into work is called a load. A light bulb is one example of a load; it consumes the electricity from a circuit and converts it into work — heat and light.

A very simple circuit, for example, might consist of a battery, some wire, a switch, and an incandescent light bulb. The battery supplies the energy required to force electrons around the loop, heating the filament of the bulb and causing the bulb to radiate a lot of heat and some light. Energy is transferred from a source, the battery, to a load, the bulb.

What is a Simple Circuit?

A simple circuit consists of three minimum elements that are required to complete a functioning electric circuit: a source of electricity (battery), a path or conductor on which electricity flows (wire) and an electrical resistor (lamp) which is any device that requires [electricity](#) to operate. The illustration below shows a simple circuit containing, one battery, two wires, and a bulb. The flow of electricity is from the high potential (+) terminal of the battery through the bulb (lighting it up), and back to the negative (-) terminal, in a continual flow.

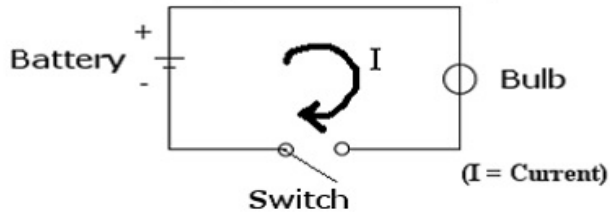


The following is a schematic diagram of the simple circuit showing the electronic symbols for the battery, switch, and bulb

Appliances may be placed into an electric circuit in one of two ways. In a series circuit, current flows through the appliances one after the other.

In a parallel circuit, an incoming current is divided up and sent through each separate circuit independently.

Schematic Diagram of a Simple Circuit



Advantage of parallel circuits is their [resistance](#)

to damage.

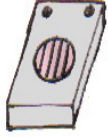
Suppose that any one of the appliances in a series circuit is damaged so that current cannot flow through it. This breakdown prevents current from flowing in any of the appliances.

Such a problem does not arise with a parallel circuit. If any one of the appliances in a parallel circuit fails, current still continues to flow through the other appliances in the circuit.

Some Electrical Symbols

Description	Picture	Symbol
a connecting wire		
a bulb		
a switch		
a battery		
a motor		

a buzzer



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