Electric Current pg 300

- The flow or movement of electric charges (positive and negative) from one place to another is called **electric current.**

- Electric current flows through a controlled path called an **electric circuit.** Electric circuits are used to convert electrical energy into the other forms of energy we need. i.e. a light bulb has an electric circuit

Each Circuit has at least 4 parts. Sketch from page 300 a complete circuit and label each part.

Figure 1

The Parts of an Electric Circuit

1) Source of Electrical Energy: a way to produce electrical energy. Ex. battery,cells

2) Electrical Load: what converts electrical energy into whatever form we need. More simply, whatever we are running at the time. Ex. toaster

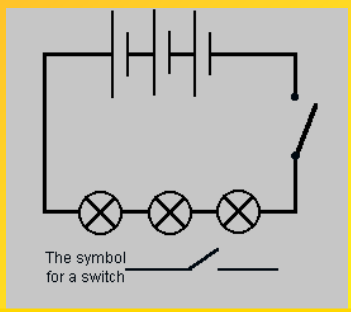
3) Electric Circuit Control Device: controls the flow of electricity. Ex. light switch, thermostat

4)Connectors: the conducting wires. (what the charges move through)

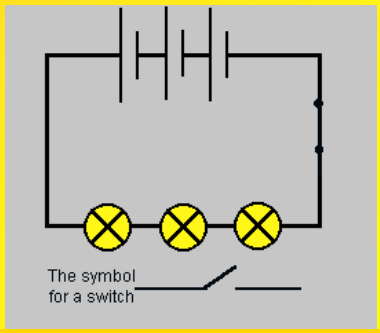
Figure 1

Control Devices
Closed or Open Circuit

- A closed circuit is one in which electricity is flowing. Ex. “on”
  In a closed circuit, electric current flows in a continuous loop from the negative to the positive terminal of the cell. Switch is closed.

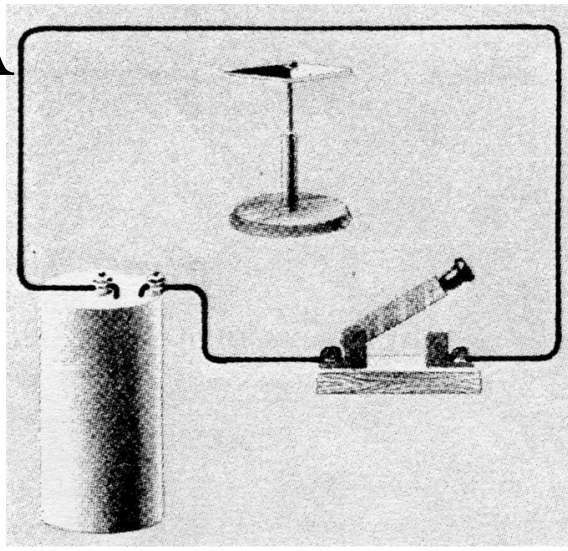


- An open circuit is one in which there is a break in the flow of electricity. Ex. “off”. Switch is open.

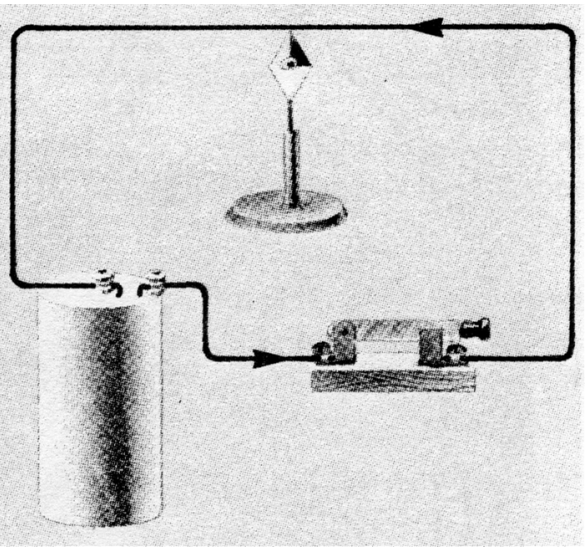


Circuit

A

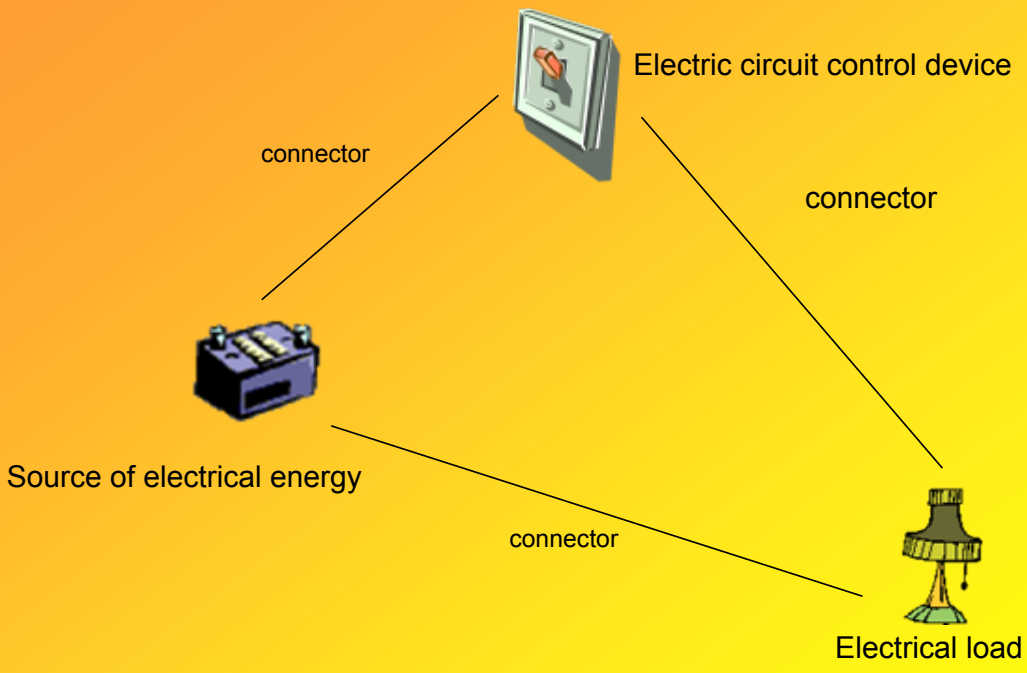


B



Which circuit is open?
Which circuit is closed?
How can you tell?

A Simple Electric Circuit



Assignment

Pg 301 #1 to 5

Answers Page 300-301

1)Static electricity stays in one place on an object and current electricity is an electric charge that is moving in one or more paths.

2)

Part of circuit	Function	Examples
Source of electrical energy	Provide energy to the electrical load in the circuit	Dry cell, 120-V source, etc.
Electrical load	Convert electrical energy into another form of energy	Light bulb, motor, etc.
Electric circuit control device	To control the flow of electric current in the circuit	Switch, fuse
Connectors	To provide a conducting path between the parts of the electric circuit	Connecting wires, copper strips on printed circuit boards

Answers Page 300-301

3) The electric charge flows from the negative terminal of the dry cell, through the switch, the bulb and back to the positive terminal of the dry cell. Negative charges are released at the negative terminal are attracted to the positive terminal.

4) a) Light bulb inside the fridge, ceiling light bulb, viewing light on microwave, warning light on the stove for element.

b) coffee grinder, blender, bread making machine, can opener.

Most energy- ceiling light bulb

least- warning light on stove

Answers Page 300-301

5) a) kitchen- wall switches for ceiling light, on/off lever switch for the toaster, control knob for stove element, timer controls on microwave oven.

b) basement/laundry- wall switch for ceiling light, door switch for electric dryer, timer control on electric dryer, washing cycle switch on the washing machine.

c) Car- switch for headlights, push button for horn, switch to start engine, switch for controlling window defrost heaters

Attachments

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