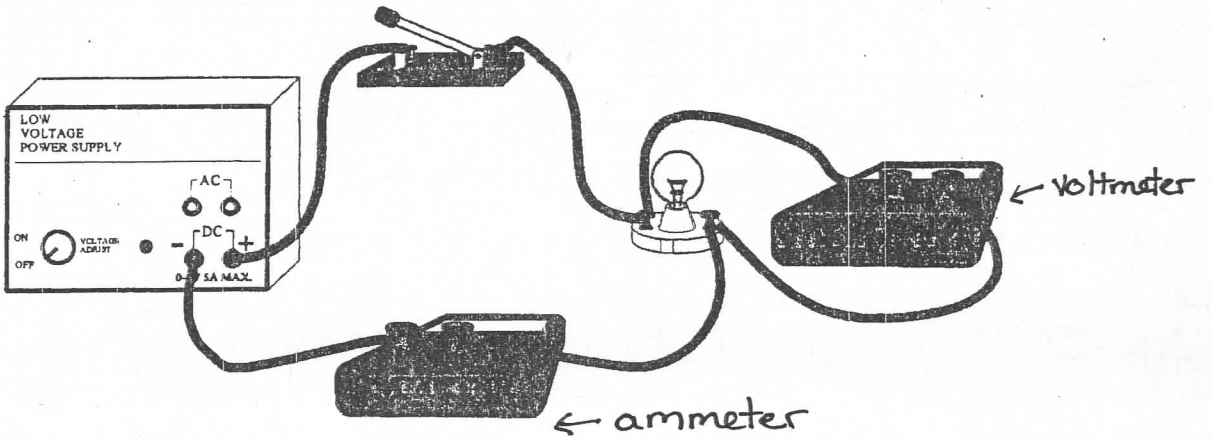
# CURRENT ELECTRICITY

The problem with understanding electricity, is that it's effects happen too quickly and you can't see it. For this reason we use models to understand it. Two models that have been found useful are the Styrofoam Ball Model, and the Water Model.

## .esson 1: A Simple Electric Circuit




1) In the table below describe what the following parts in the circuit above, do.

| Electric Circuit Part | What the parts do. |
|---|---|
| Battery (or Source) | |
| Conductor (wires) | |
| Switch | |
| Insulator | |
| Ammeter | |
| Volt"meter" | |
| Light Bulb | |
| LED | |
| resistor | |

2) In order to connect a _____ to a circuit you must break the circuit and insert the meter.

3) In order to connect a _____ to a circuit you measure around the circuit component.

4) What is a circuit?

5) Fill in the table below

| Type Of Meter | Physical Quantity Measured | Unit Of Measurement | Relationship To Other More Fundamental Units |
|---|---|---|---|
| Ammeter | | | |
| Voltmeter | | | |

6) A Light Bulb, Motor, Electrical Heater, Radio can all be referred to as a _____.

7) What does our model predict about where can a switch be placed in our circuit?

8) What is current?

9) What does our model predict about the amount of current flowing through different points in our circuit?

10) What is voltage?

11) What does our model predict about the voltage gain at the source compared to the voltage drop across the light bulb?

12) What is a short circuit?

13) What does our model predict will happen in a short circuit?

14) What actually happens to the current in a short circuit?

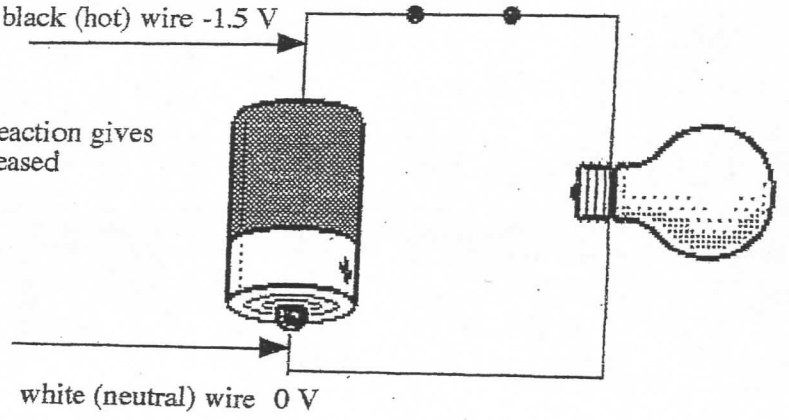
SNC1 *3.4 What is Electric Current?*

Date:_____ Name:_____

When electric charges move from one place to another , we say they make an _____

_____

| Term | Definition | Units of Measurement |
|---|---|---|
| electric current | | |
| voltage | | |
| resistance | | |




A chemical reaction gives energy to released electrons,

The energy released by the chemical reaction in the dry cell is changed into light and heat energy in the bulb.

*Electric Current Ratings:*

The _____ is the device that converts electrical energy into the needed form of energy.

| Electrical Device | Current | Energy Conversion |
|---|---|---|
| calculator | 0.002 A | light ---> electrical ---> _____ |
| light bulb (100W) | 0.833 A | electrical ---> _____ and _____ |
| television | 4.1 A | electrical ---> _____ and _____ |

*Human Response To Electric Shock:*

One reason that it is important to read safety warnings in the book or manual used to tell you how to use an electrical device is because _____

_____