Amperes – Current Electricity

Electric current is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Measures how many \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pass a point in a conductor in 1 second.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the current, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the electrons move.

Current is measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (amps) or milliamps by a device called an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**1 ampere = 1 coulomb of charge per second**

**coulomb = 6.24 x 1018 electrons (named after Charles Coulomb)**

\* 1 Amp (A) = 1000 milliamps (mA)

**ELECTRIC CURRENT**

* Originally people thought that electricity was

caused by the flow of fluid from the “+” to the

“-“ terminals. This direction is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* We now know that electricity is caused by the

flow of electrons from the “-“ to the “+” terminals.

This direction is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* **Direct current (DC)** – current flows in ie. from a cell

**Alternating current (AC)** – electrons direction. ie. through an electric outlet

In North American the current reverses directions 60 times a second (60 Hertz, with 120 V)

* + China – 220 V, 50 Hz
  + United Kingdom -230, 50 Hz
  + Taiwan - 110 V, 60Hz

**CONDUCTIVITY:**

Electric Current also requires **CONDUCTANCE** =

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ depends on how \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ electrons can flow through a material.

(a) CONDUCTORS (b) INSULATORS

**SCHEMATIC DIAGRAMS:**

|  |  |  |
| --- | --- | --- |
| **OBJECT** | **SYMBOL** | **NOTES** |
| **Ammeter** |  |  |