

Electric Potential Difference

Potential difference is known as voltage. The potential difference can be define as the work done to move one unit coulomb of charge in the close loop circuit.

The formula of Potential difference is

$$V = \frac{E}{Q}, \text{ whereby E is Energy, Q is the Charge in Coulomb}$$

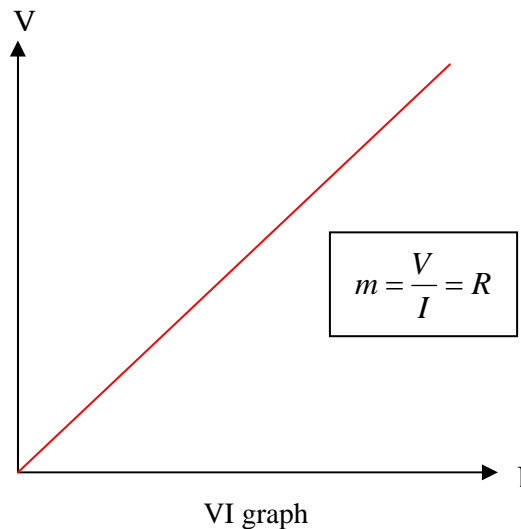
Relationship between voltage and current can be related to



$$V = IR, \text{ whereby V is Voltage, I is current and R is Resistance}$$

The equation $V = IR$ shows the relationship of Ohms Law

Ohm's Law



The graph above shows that V is proportional to I . The slope shows that the constant value of R which is the resistance of the device.

Ohm's Law states that the Voltage is proportional to the Current I across a conductor provided that the temperature remained constant.

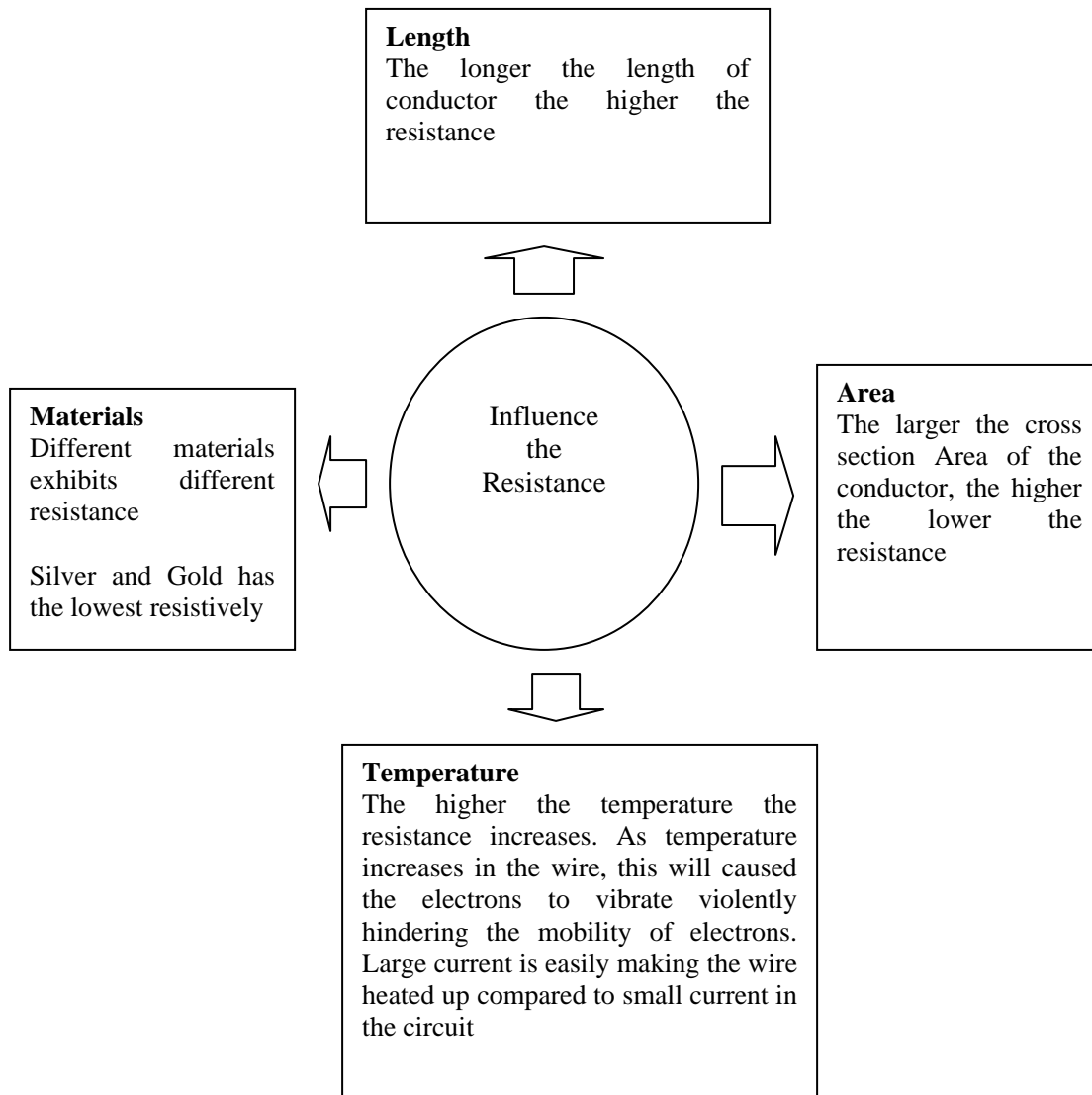
Resistance or Ohm (Ω)

Investigating the Ohm

$$R = \ell \frac{l}{A}$$

Resistance in a circuit is depending on

- Length of conductor
- Cross Section of the Area of the conductor
- Temperature
- Materials



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