Both P.D and E.M.F are measured in volts. What is the difference between these concepts????

Answer

Potential difference and *electromotive force* is both measured in volts. But, two of them are very different terms.

Potential difference refers to the amount of work or energy required to move a unit charge from two different points in a complete circuit. It can be any two points in a circuit. *Potential difference* does not involve the internal circuit, as in *electromotive force*. The formula of *potential difference* is $V = IR$, where I is the magnitude of current in the circuit and R, the resistance in the circuit. Note that the current and resistance in this formula only refers to that of in the external circuit.

Electromotive force refers to the amount of work or energy required to move a unit charge from one terminal to another in the circuit. *Electromotive force* is also different than *potential difference* in the sense that it takes the internal circuit in a dry cell as well. In a dry cell, resistance also exists in its interior or also known as internal resistance. The formula for *e.m.f* is $E = V + Ir$, where r refers to the internal resistance. It does take the p.d and an extra info, the voltage in the dry cell, Ir as well.