DYNAMIC ELECTRICITY

> Basics

In dynamic electricity, we often use the terms voltage, resistance, and current.

symbols:

- voltage = V
- resistance = R

(ohms (Ω) is the unit of resistance)

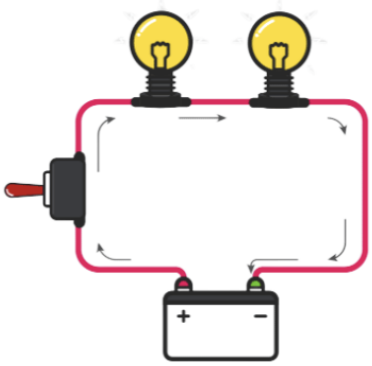
- current = I

(ampere (A) is the unit of current)

formula:
V = R x I

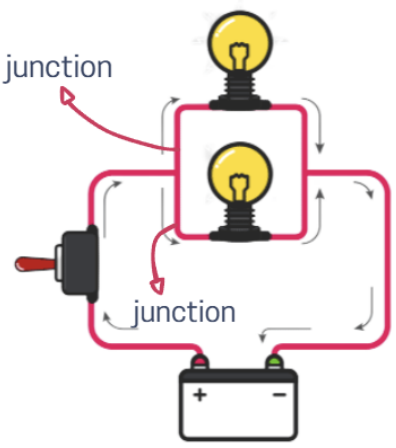
> Types of Circuits

- Series Circuit



- series circuits **don't have junctions**.
- throughout a series circuit, they **share** the **same current**.
- the **bulbs** in a series circuit **will not light up the same**. Only the **first bulb will** light up the **brightest** because it **receives the most pressure** when current is pushed.

- Parallel Circuit

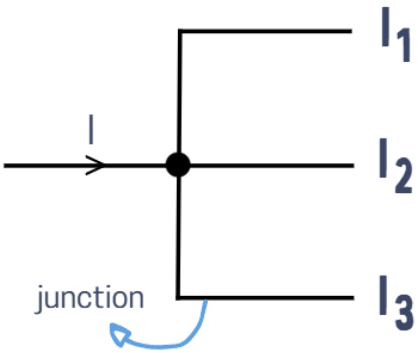


- parallel circuits have **junctions**.
- throughout a parallel circuit, they **share** the **same voltage**, the current will be divided into the junctions.
- the **bulbs'** in parallel circuit will **light up the same** because they all have the same pressure pushing current through the bulbs.

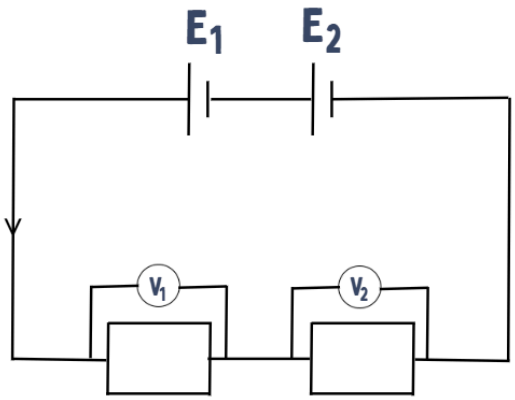
> Kirchhoff's Law

The total amount of current flowing into a junction, always equal to the total amount of current flowing out of the junction.

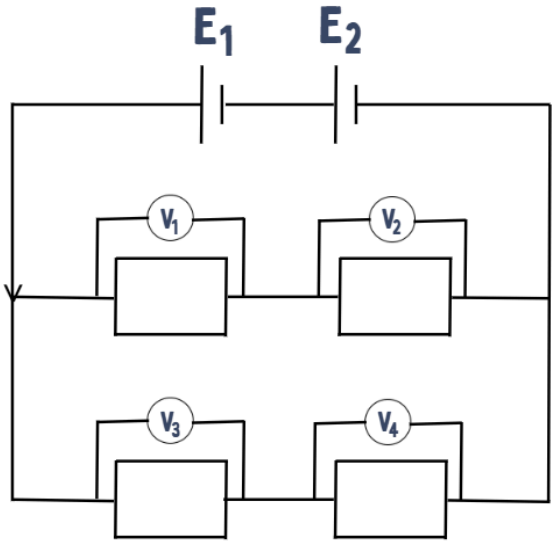
1. $I = I_1 + I_2 + I_3 + \ldots$



2. $E_1 + E_2 = V_1 + V_2 + V_4 + V_3 + \ldots$

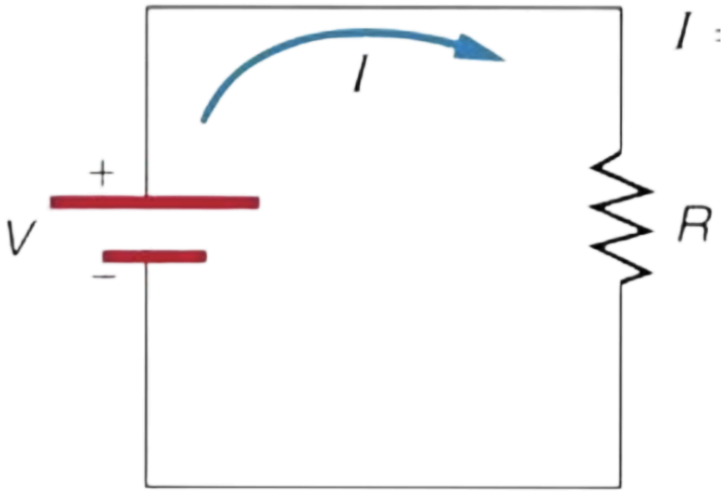


3. $E_1 + E_2 = V_1 + V_2 = V_4 + V_3$



> Ohm's Law

The amount of current is proportional to the voltage and inversely proportional to the resistance of the circuit.



symbol:
Ohm → Ω

formula:
R = V / I