



# Revision

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- **Electronics** is a field of science in which we study about electric currents generated due to the movement of electric charges.
- A circuit made of electronic components and wires is known as an **electronic circuit**.
- **Voltage** is nothing but a type of pressure difference that a power source creates at its two ends. This difference makes the charge flow around the circuit.
- **Battery** is the power source of the circuit which provide voltage.



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- We measure the voltage using a device known as a **voltmeter**.
- The rate of flow of charge is defined as **current**.
- The property of any material to resist the flow of charge is called **resistance**.
- More the resistance, slower the flow i.e. lesser the current.
- A resistor is a passive two-terminal electrical component that implements electrical resistance as a circuit element.
- **Polarity** is the property of having two poles that have opposite physical properties:
  - Positive
  - Negative



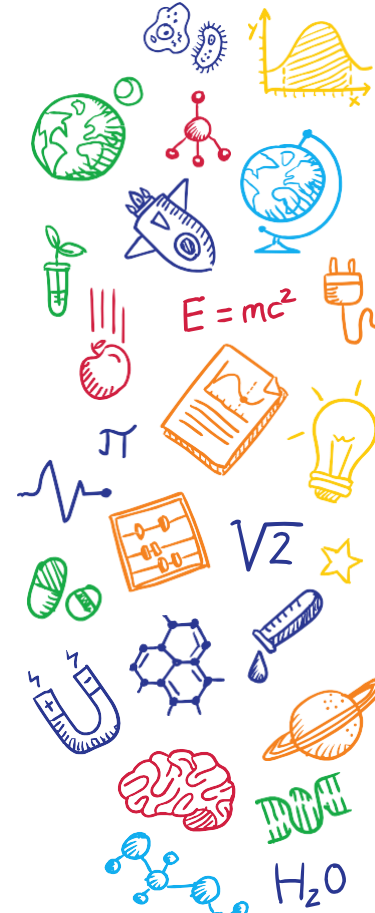
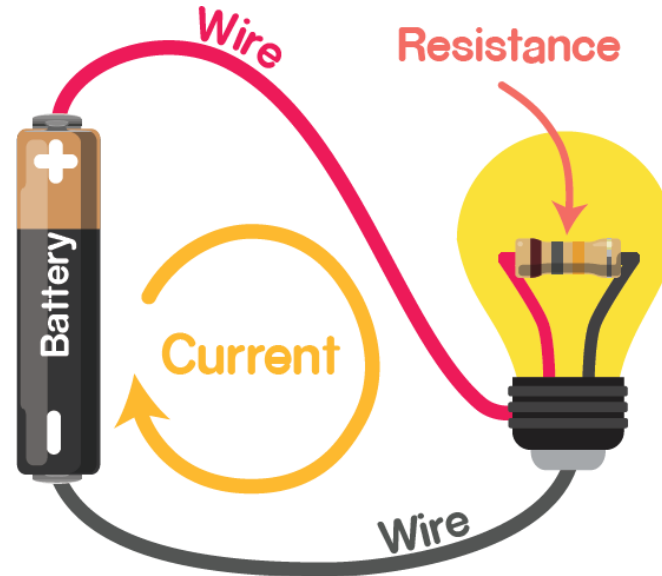
# Ohm's Law



# Ohm's Law

- The law suggests that current increases when the voltage increases or when the resistance decreases, it is mathematically expressed as

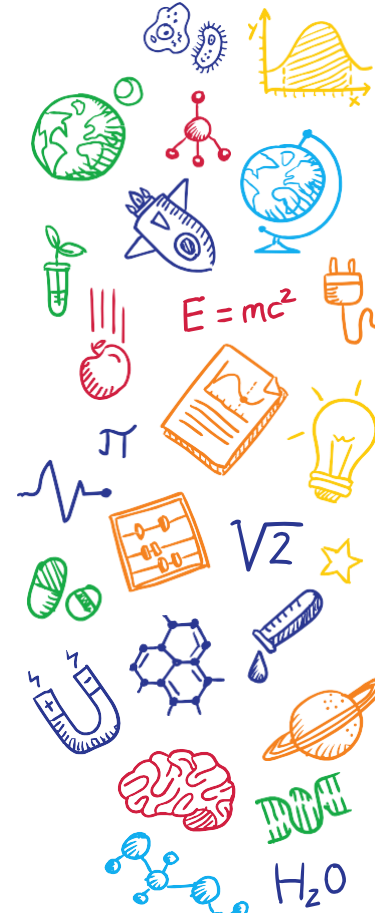
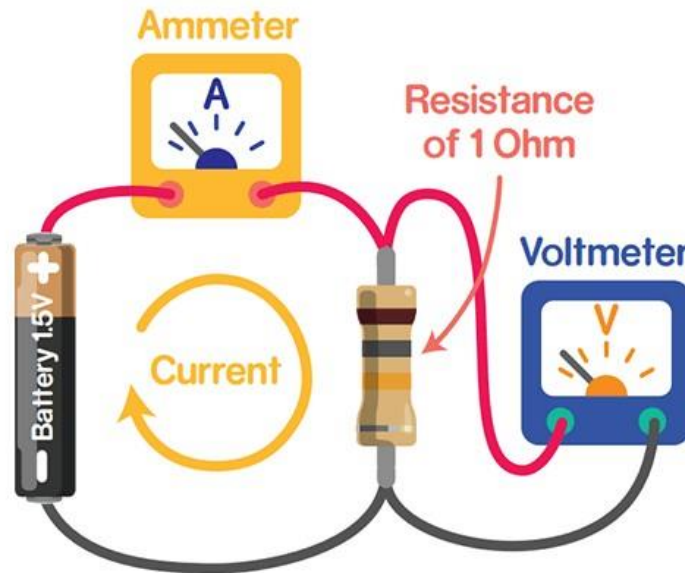
$$V=IR$$



# Ohm's Law

- If battery's voltage is 1V and resistance of circuit is 1Ω, then the current flowing in the circuit will be 1A, and the relation between these units is expressed as

$$1V = 1A * 1\Omega$$





# Using Ohm's Law

- Suppose you have a simple circuit with a battery of **9V** and a resistor. The current in the circuit is **3A**.
- $R = \frac{V}{I}$
- $R = 9/3 = 3\Omega$

