

Vocabulary & Concepts

- Current
- Voltage
- Resistance
- Simple Circuit
- Ammeter
- Voltmeter
- Battery/power Supply
- Ohm's Law
Current & Voltage Relationship
Current & Resistance Relationship
- Power
- Energy
- Series Circuit
Observations from Lab - how does I, R & V compare? What happens if you unscrew a bulb?
- Parallel Circuit
Observations from Lab - how does I, R & V compare? What happens if you unscrew a bulb?

Equations

OHMS' LAW $V = IR$

POWER $P = IV = I^2R = \frac{V^2}{R}$

ENERGY $E = Pt = IVt = I^2Rt = \frac{V^2t}{R}$

Core Concepts

- Students will understand current, voltage, and resistance and their relationship (Ohm's Law) and will be able to use Ohm's Law to perform calculation in simple circuits.
- Students will understand electric power and will be able to calculate the power and energy used by an electrical device.
- Students will understand series and parallel circuits, sketch schematic diagrams and be able to compare and contrast practical applications of series and parallel circuits.
- Identify relationships between current and voltage in series and parallel circuits.
- **Honors:** Students will understand simple combination circuits and how to calculate voltage, current or resistance.