Chapters 35: **Electric Circuits**

Text:
Chapter 35
Think and Explain: 1-10
Think and Solve: 1-4

Vocabulary:
ammeter, voltmeter, series, parallel, equivalent resistance, circuit, short circuit, open circuit

Equations:

$$R_{eq} = R_1 + R_2 + \cdots \qquad \frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \cdots$$

$$I = \frac{Q}{t} \qquad V = IR \qquad P = IV \qquad V = \frac{PE_e}{q} \qquad P = \frac{PE_e}{t} \qquad Q = ne$$

Constants: e = 1.6 x 10^{-19} C

Key Objectives:
Concepts
- ❑ explain what happens to current and voltage in series and parallel circuits.
- ❑ correctly interpret a circuit diagram.
- ❑ correctly use ammeters and voltmeters in a circuit. (**Lab Practical**!)
- ❑ compare and contrast an ammeter and a voltmeter.
- ❑ apply the law of conservation of charge to a circuit (i.e. what happens to current in a circuit)
- ❑ apply the law of conservation of energy to a circuit. (i.e. what happens to voltage in a circuit)
- ❑ given a circuit made of identical light bulbs, be able to predict the relative brightness of each bulb and what would happen if bulbs were unscrewed or shorted.
- ❑ explain how the outlets in your home are connected and why.

Problem Solving
- ❑ solve for the missing variable in Ohm's Law.
- ❑ calculate the equivalent resistance for resistors connected in series or parallel.
- ❑ calculate the missing variables (V, I, R) for a series, parallel or compound circuit.