

Electromagnetism

Enduring Understanding - All electric and magnetic phenomena are due to the motion of charged particles.

Electrostatics

The interactions of charged particles with electric fields. (Previous Unit)

Circuits

The movement of charged particles in an electric circuit.

Magnetism

The interactions of charged particles with magnetic fields. (Next Unit)

BOLD lined boxes mean Pre-AP ONLY

Essential Question

What are the advantages and disadvantages of series and parallel circuits?

Circuit Construction and Analysis

Intro to Circuits Lab

Conductors and Insulators Lab

Bulb Brightness Lab

Qualitative Lab

Essential Question
How do meters that are wired incorrectly affect an electrical circuit?

Meters Reading Lab

Ohm's Law Lab

Essential Question

What are the rules that govern the flow of current and the distribution of voltage?

Circuit Problems

Kirchhoff's Rules

Ohm's Law
 $V = iR$

Total or Equivalent Resistance
 $R_{\text{series}} = R_1 + R_2 + \dots$ $\frac{1}{R_{\text{parallel}}} = \frac{1}{R_1} + \frac{1}{R_2} + \dots$

Resistance
 $R = \frac{\rho L}{A}$

Current
 $i = \frac{Q}{t}$

Power
 $P = iV = i^2R = \frac{V^2}{R}$

Wiring Assessment



GravityKills