

AP PHYSICS 1

6 Big Ideas

Big Idea 1: Objects & Systems

Objects & Systems
Objects
Electric Charge
Positive & Negative Charge
Elementary Charge
Inertial Mass
Gravitational Mass
Equivalence Principle
Resistivity

Big Idea 2: Fields

Vector Field
Gravitational Force
Gravitational Field Strength

Big Idea 3: Forces

Motion
Forces
Interaction Forces
Newton's Third Law
Vector Sum of Forces
Free-Body Diagrams
Simple Harmonic Motion
Gravitational Force
Electric Force
Contact Forces
Momentum
Impulse
Kinetic Energy
Torque
Rotational Motion
Angular Motion
Gravitational Forces

Big Idea 4: Interactions

Linear Motion
Position, Velocity & Acceleration
Newton's Second Law
Linear Momentum
Force-Time Graph
Total Energy
Mechanical Energy
Rotating Systems
Angular Momentum
Angular Momentum, Torque & Time

Big Idea 5: Conservation Laws

Systems
Conservation Laws
Object Interactions
System Boundaries
Single Object Energy
Internal Energy
Internal Potential Energy
Internal Energy of a System
Work & Power
Kirchhoff's Loop Rule
Kirchhoff's Junction Rule
Conservation of Linear Momentum
Elastic & Inelastic Collisions
Center of Mass
Conservation of Angular Momentum
Angular Momentum

Big Idea 6: Waves

Transverse & Longitudinal Waves
Mechanical & Electromagnetic Waves
Wave Amplitude
Wave Energy
Wave Period & Frequency
Wavelength
Wave Motion
Doppler Effect
Wave Superposition
Resultant Waves
Standing Waves
Standing Wave Boundaries
Beats