



Using Vernier Technology in AP* Physics

The AP program of study encourages students to participate in labs that reflect the breadth and depth of the syllabus. Many experiments in the Vernier Software & Technology's lab books are suitable for use in an AP Physics laboratory.

Newtonian Mechanics

Activities found in [*Physics with Computers*](#) and [*Physics with Calculators*](#)

Kinematics

- Graph Matching
- Back and Forth Motion
- [Picket Fence Free Fall](#)
- Ball Toss
- [Bungee Jump Accelerations](#)
- Modern Galileo
- Determining g on an Incline
- Projectile Motion

Newton's Laws of Motion

- Newton's Second Law
- Atwood's Machine
- Static and Kinetic Friction
- [Air Resistance](#)
- Newton's Third Law

Work, Energy, Power

- Work and Energy
- Energy of a Tossed Ball
- Energy in Simple Harmonic Motion

Systems of particles, linear momentum

- Momentum, Energy, and Collisions
- Impulse and Momentum

Circular Motion and Rotation

- Centripetal Accelerations on a Turntable
- Centripetal Accelerations at the playground

Oscillations and Gravitation

- Simple Harmonic Motion
- Energy in Simple Harmonic Motion
- Back and Forth Motion
- Pendulum Periods

Electricity and Magnetism

Activities found in [*Physics with Computers*](#) and [*Physics with Calculators*](#)

Conductors, Capacitors, Dielectrics

- Capacitors

Electromagnetism

- The Magnetic Field in a Coil
- [The Magnetic Field in a Slinky](#)

Waves and Optics

Activities found in [*Physics with Computers*](#) and [*Physics with Calculators*](#)

Wave Motion (including Sound)

- Speed of Sound

Atomic and Nuclear Physics

Activities found in [*Nuclear Radiation with Computers and Calculators*](#)

Nuclear Physics

- α , β , and γ
- Distance and Radiation
- Background Radiation Sources
- Radiation Shielding

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