

IC In Class Activity; **CQ** clicker questions; **HW** homework ; **Demo**: teacher centered group discussion

Semester 1

Unit 1: **Introduction to Motion:**

Moving Man IC/CQ
Calculus Grapher HW/CQ

Unit 2: **More on motion and Measurement**

Vector Addition IC/CQ
Projectile motion IC/CQ

Unit 3: **Forces and the Laws of Motion Publishing skills: curve fit, drawing, tables**

Forces and Motion: Two activities IC/CQ
Ramp- Force and Motion: Two activities IC/CQ
Maze Game: HW/CQ
Curve Fitting: HW

Unit 4: **Work, Energy, Momentum and Collisions**

Energy Skate Park: Four activities IC/CQ
Masses and Springs: IC/CQ
Collision: HW

Unit 5: **Circular Motion and Semester Project**

Pendulum: HW/CQ
Gravity Force Lab: IC/CQ
Pendulum: HW
Ladybug 2D: HW/CQ
Ladybug Revolution: HW/CQ
Masses and Springs: HW
Balancing Act: (simulation & activity coming soon)

Semester 2

Unit 1: **Heat and Thermodynamics**

Friction: Demo
States of matter: IC/CQ

Unit 2: **Waves: Introduction to light and sound**

Waves on a String: IC/CQ
Fourier-Making Waves: Three activities IC/CQ/HW
Sound: IC/CQ
Wave Interference: IC/CQ
Resonance: IC/CQ
Bending Light: IC
Geometric optics: IC/CQ

Unit 3: **Electric and Magnetic Forces and Fields**

Faraday's Electromagnet Lab: IC/CQ
Electric Field Hockey with Charges and Fields: IC/CQ
Balloons and Static Electricity with John Travoltage: Demo / CQ
Gravity and Orbits: CQ

Unit 4: **Fluid Mechanics, Semester Projects**

Density: IC
Buoyancy: IC
Balloons and Buoyancy: IC/CQ
Under Pressure: IC/HW/CQ
Estimation: HW

Unit 5: **Current, Resistance, Circuits, and Circuit Elements**

Charges and Fields: Demo
Capacitor Lab: HW
Circuit Construction Kit: Three activities IC/CQ