

PhET simulation activities in HS Physics (from Trish Loeblein's class)

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



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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