Examples of PhET Simulations
aligned with Middle and High School Science Content

(All available from http://phet.colorado.edu)

Motion, Forces, Work, and Energy

Buoyancy (gravity, force balance, *coming soon*)
Collision Lab (Conservation of momentum)
Energy Skate Park (Conservation of Energy: Potential and Kinetic)
Gravity Force Lab (gravity)
Forces and Motion (forces, F=ma)
Friction (thermal energy)
Lady Bug Motion 2D (motion vectors)
Lady Bug Revolution (rotational motion, angular momentum)
Lunar Lander (gravity, mass)
Masses and Springs (gravity, oscillations, net force)
Maze Game (position, velocity, acceleration)
Moving Man (speed, velocity, acceleration)
My Solar System (gravity)
Pendulum Lab (conservation of energy)
Projectile Motion (air resistance, gravity)
Ramp: Forces and Motion (forces, energy, work)
Torque (rotational motion)

Circuits, Electricity, and Magnetism

Balloons and Static Electricity (electrical charge, electricity)
Circuit Construction (circuits, resistors)
Electric Field Hockey (charges, electrostatic forces)
Faraday's Electromagnetic Lab (magnets, electricity, induction)
John Travoltage (static electricity)
Magnets and Compass (magnetism)
Ohm's Law (circuits)
Signal Circuit (circuits)

Waves: Sound, Light, Water

Blackbody Spectrum (light/radiation)
Radio Waves & Electromagnetic Fields
Sound (images of sound)
Wave Interference (water, sound, light)
Wave on a String (basics of waves)

Chemistry

Acid-Base Solutions (concentration, strength)
Alpha Decay / Beta Decay (nuclear decay)
Balloons and Buoyancy (density)
Build an Atom (atomic structure, periodic table)
Conductivity (properties of matter)
Density (properties of matter)
Friction (molecular motion)
Gas Properties (pressure, volume, temperature)
Greenhouse Effect (molecular absorption)
Lasers, Neon Lights (atomic structure, energy levels)
Microwaves (absorption)
Models of the Hydrogen Atom (atomic structure, energy levels)
Molecules and Light (interactions, *coming soon*)
Nuclear Fission (conservation of mass, isotopes)
pH Scale (acids and bases)
Reaction and Rates (chemical reactions)
Reactants, Products, and Leftovers (reaction equations, limiting reactants)
Rutherford Scattering (models, atomic structure)
Salts and Solubility (physical properties, compounds)
States of Matter (temperature, phase changes)

Earth Science

Black Body Spectrum (star colors)
Density (properties of matter)
Glaciers (water cycle, weather)
Gravity and Orbits (*coming soon*)
Greenhouse Effect (weather)
My Solar System (planets, orbits, gravity)
Radioactive Dating Game (half life)
Wave Interference (longitudinal & transverse)

Biology

Eating and Exercise (nutrition, human body)
Color Vision (light, vision)
Gene Machine: The Lac Operon (DNA to protein, regulation)
Natural Selection (genetic affects on survival)
Neuron (cell membrane potential)