

Middle School Simulation Ideas

PhET Interactive Simulations (phet.colorado.edu), University of Colorado

Motion, Force, & Energy

Balancing Act
Buoyancy
Collision Lab
Energy Forms and Changes
Energy Skate Park
Energy Skate Park: Basics
Friction
Gravity and Orbits
Gravity Force Lab
Forces and Motion: Basics
Friction
Lady Bug Motion 2D
Lady Bug Revolution
Lunar Lander
Masses and Springs
Maze Game
The Moving Man
My Solar System
Pendulum Lab
Projectile Motion
Ramp: Forces and Motion
States of Matter: Basics
Torque

Waves: Sound, Light, Water

Bending Light
Blackbody Spectrum
Geometric Optics
Microwaves
Radio Wave/EM Fields
Sound
Wave Interference
Wave on a String

Electricity & Magnetism

Balloons and Static Electricity
Capacitor Lab
Circuit Construction Kit
Electric Field Hockey
Faraday Electromagnetic Lab
Generator
John Travoltage
Magnets and Compass
Magnets & Electromagnets
Resistance in a Wire
Ohm's Law
Signal Circuit

Nuclear Science

Alpha Decay
Beta Decay
Build an Atom
Greenhouse Effect
Isotopes and Atomic Mass
Lasers, Neon Lights
Models of Hydrogen Atom
Nuclear Fission
Rutherford Scattering

Earth Science

Balloons and Buoyancy
Black Body Spectrum
Density
Fluid Pressure Flow
Gas properties
Glaciers
Gravity and Orbits
Greenhouse Effect
Radioactive Dating Game
States of Matter
States of Matter: Basics
Wave Interference

Biology

Color Vision
Eating and Exercise
Membrane Channels
Natural Selection
Neuron
Fluid Pressure Flow

Math

Arithmetic
Build a Fraction
Curve Fitting
Equation Grapher
Estimation
Fraction Matcher
Fraction Intro
Graphing Lines
Plinko Probability
Vector Addition

Chemistry

Acid-Base Solutions
Alpha Decay
Beta Decay
Balancing Chem. Equations
Beer's Law
Build an Atom
Build a Molecule
Concentration
Density
Friction
Gas Properties
Isotopes and Atomic Mass
Models of Hydrogen Atom
Molecule Shapes
Molecules and Light
pH Scale
Reaction and Rates
Reactants, Products, & Leftovers
Rutherford Scattering
Salts and Solubility
States of Matter
Sugar and Salts Solutions