

PhET simulation activities in High School Chemistry (from Trish Loeblein's class)

This is a list of lessons that can be found in the [Teaching Ideas](#) section of the [PhET website](#)

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

Introduction to Atoms, Molecules and Ions:

Build an Atom: IC/CQ

Salts & Solubility 1: IC/CQ

Isotopes: IC/CQ

States of Matter: demo/IC/CQ

Models of Hydrogen Atom: IC/Demo includes Neon lights and Discharge Lamps

Formulas, Composition, Measuring chemicals, Chemical Reactions, Stoichiometry

Reactions and Rates 1: Demo/IC/CQ

Balancing Chemical Reactions: IC/CQ

Reactants, Products, and Leftovers: 2 activities HW/CQ

Solutions

Salts & Solubility 2: IC/HW

Sugar and Salts: IC/HW/CQ

Molarity: IC/CQ

Concentration (activity still in draft)

Beer's Law (activity still in draft)

Gases

Gas Properties & Balloons and Buoyancy: Demo/IC/HW/CQ

Gas Properties – Gas Laws IC/HW/CQ

Thermochemistry Introduction

Reactions and Rates 2: IC/CQ

Atomic structure, Periodicity and General Bonding

Build an Atom: IC/CQ

Build a Molecule: IC or HW/CQ

Molecule Polarity: IC or HW /CQ

Molecular Shapes: IC or HW /CQ

Molecules and Light: IC

Greenhouse Gases: IC

Liquids and Solids

Density: IC/CQ

States of Matter and States of Matter Basics: IC/CQ

Atomic Interactions: Demo or HW (activity still in draft)

Chemical Kinetics and Equilibrium

Reaction and Rates 3: IC/CQ

Reaction and Rates 4 (also uses Salts & Solubility, States of Matter): IC/CQ

Acids, Bases and Electrolytes

pH Scale: IC/CQ

Acid Base Solutions: IC/CQ

Salts & Solubility 3: IC/CQ

Sugar and Salt Solutions Demo

Nuclear sims:

Beta Decay IC

Alpha Decay IC/CQ

Radioactive Dating Game IC/HW

Nuclear Fission IC (authored with Chasteen)

Rutherford: (activity still in draft)