



Get an inside look at what to expect when our lab kits arrive!

## Chemistry

Investigate chemical reactions, build molecular models, and identify unknown chemicals online.

Investigate the structure, properties, and transformation of matter with our engaging chemistry lessons. Classic experiences include observing and describing chemical reactions, building molecular models, performing titrations, and identifying unknown chemicals. Advanced activities require students to model complex chemical theories and substantiate their findings with balanced chemical equations and quantitative data.

Semester 1 Lessons - LP-2123-CK-03	Semester 2 Lessons - LP-2139-CK-03
Ideal Gas Law	Colligative Properties and Osmotic Pressure
Separation of a Mixture of Solids	Beer's Law
Lab Techniques and Measurements	Chromatography of Food Dyes
Identification of Gases	Electrochemical Cells and Cell Potential
Caloric Content of Food	Oxidation-Reduction Activity Series
Stoichiometry of Precipitation Reaction	Anions, Cations, and Ionic Reactions
Observations of Chemical Changes	Equilibrium and Le Chatelier's Principle
States of Matter	Reaction Order and Rate Laws
Determination of Water Hardness Using a Titrator	Using Buffers
Acid/Base Chemistry	Titration for Acetic Acid in Vinegar
	Determination of $K_a$ for a Weak Acid
Additional Lessons	
Dissolved Oxygen	Analysis of Phosphate in Water
Biological Macromolecules	Boyle's Law
Solutions and Dilutions	Hess's Law
Solubility and Solubility Curves	Energy Comparison of Fuels
Antacid Analysis and Titration	Ultraviolet Radiation and Sunscreen
Calculating Carbohydrate Content	Quantitative Spectroscopy and Visible Light
Macromolecules of Life - Sugars and Starches	Chemical Reactions
Macromolecules of Life - Lipids	The Mole: Conversions, Mass Determination, and Hydrates
Macromolecules of Life - Amino Acids	Limiting Reactants
Extraction and Analysis of Casein	Using the Scientific Method to Identify Unknowns
Naming Organic Compounds	Math and Graphing Prep
Synthesis and Analysis of Soap	Mass Conversion to Moles and Atoms
Stereochemistry 2: Stereoisomerism	Intro to Periodic Table
Stereochemistry 1: Structural Isomerism	Intro to Chemical Compounds
Melting Points	Atoms, Isotopes, and Atomic Mass
Hydrolysis of Acetylsalicylic Acid	Molecular Modeling and Lewis Structures
Functional Groups in Organic Chemistry	pH of Common Materials
Drawing Organic Compounds	Water, pH, and Buffers
Naming Ionic and Molecular Compounds	