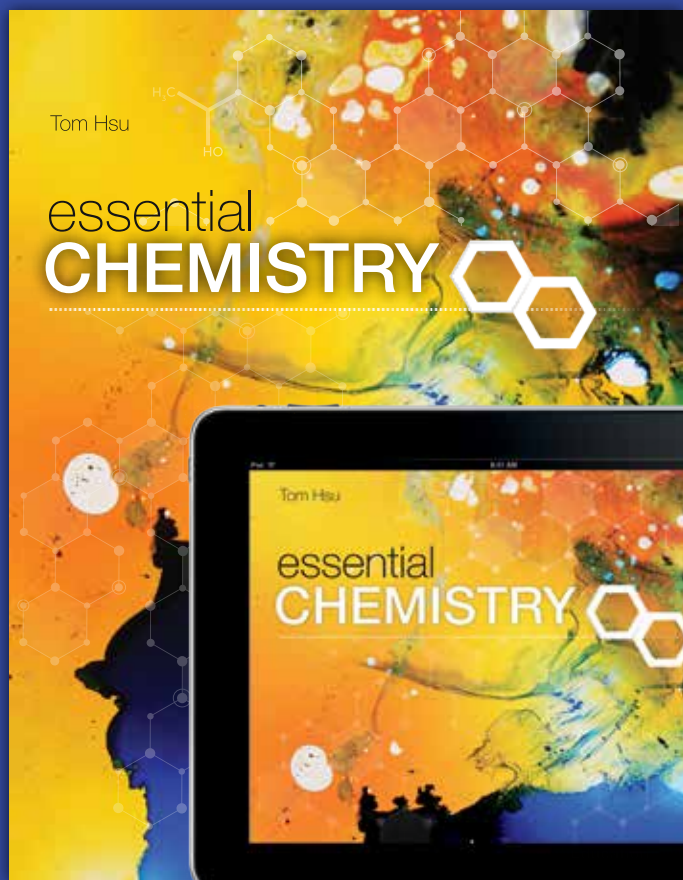


essential CHEMISTRY

List of Investigations



71
total investigations



Chapter 1: The Science of Chemistry

Investigation	Number	Equipment Package
Experimental Variables	1A	
Investigating the Temperature Scale	1B	Basic or Standard

Chapter 2: Measurement and Analysis

Investigation	Number	Equipment Package
Density of a Solid	2A	
Density of a Liquid	2B	

Chapter 3: Classifying Matter

Investigation	Number	Equipment Package
Physical or Chemical Change	3A	
Chemical Formula	3B	
Pure Substances and Mixtures	3C	

Chapter 4: Temperature and Heat

Investigation	Number	Equipment Package
Temperature and Thermal Energy	4A	Basic or Standard
Specific Heat	4B	Basic or Standard
Heat of Fusion	4C	Basic or Standard

Chapter 5: Chemical Compounds

Investigation	Number	Equipment Package
Patterns and Trends	5A	
Naming Ionic Compounds	5B	
Store Labels and Models	5C	Basic or Standard

Chapter 6: Moles

Investigation	Number	Equipment Package
Counting by Weighing	6A	
Molar Mass	6B	Basic or Standard
Percent Composition of a Hydrate	6C	
Empirical Formula of Magnesium Oxide	6D	
Empirical Formula of Magnesium Chloride	6E	

Chapter 7: Chemical Reactions

Investigation	Number	Equipment Package
Balancing Equations	7A	Basic or Standard
Chemical Reactions	7B	Basic or Standard
Solubility Rules	7C	

Chapter 8: Stoichiometry

Investigation	Number	Equipment Package
Conservation of Mass	8A	
Limiting Reactants Modelled	8B	Basic or Standard
Determining Limiting Reactants	8C	Standard
Percent Yield	8D	

Chapter 9: Atomic Structure

Investigation	Number	Equipment Package
Light Energy	9A	
What Is a Wave	9B	
Flame Tests	9C	

Chapter 10: Bonding and Valence

Investigation	Number	Equipment Package
Types of Bonding	10A	Basic or Standard
Lewis Structures	10B	Basic or Standard
Molecular Geometry	10C	Basic or Standard
Surface Tension	10D	

Chapter 11: Thermochemistry

Investigation	Number	Equipment Package
Evaporative Cooling	11A	Basic or Standard
State Change	11B	Basic or Standard
Heat of Reaction	11C	Basic or Standard
Hess's Law	11D	

Chapter 12: Gases

Investigation	Number	Equipment Package
Volume of a Gas	12A	Standard
Boyles Law	12B	Standard
Charles Law	12C	Basic or Standard

Chapter 13: Solutions

Investigation	Number	Equipment Package
Colored Solutions	13A	Standard
Electrolytes	13B	Basic or Standard
Solution Concentration	13C	Standard

Chapter 14: Reaction Rates

Investigation	Number	Equipment Package
Optimum Conditions	14A	Standard
Catalysts	14B	

Chapter 15: Equilibrium

Investigation	Number	Equipment Package
Reaction Equilibrium	15A	Basic or Standard
LeChatelier's Principle	15B	Standard

Chapter 16: Acids and Bases

Investigation	Number	Equipment Package
What Is pH?	16A	Basic or Standard
Titration of Acids	16B	Basic or Standard
Antacids	16C	Basic or Standard

Chapter 17: Oxidation and Reduction

Investigation	Number	Equipment Package
Vitamin C Titration	17A	

Chapter 18: Electrochemistry

Investigation	Number	Equipment Package
Lemon Battery	18A	Standard
Electrochemical Series	18B	Standard
Electroplating	18C	

Chapter 19: Nuclear Chemistry

Investigation	Number	Equipment Package
Half-Lives	19A	
Isotopic Composition	19B	

Chapter 20: Organic Chemistry

Investigation	Number	Equipment Package
Bonding and Organic Chemistry	20A	Basic or Standard
Distilling Aromatic Hydrocarbons	20B	
Fragrant Esters	20C	Basic or Standard

Chapter 21: Molecular Biology

Investigation	Number	Equipment Package
Polymerization	21A	
Amino Acid to Protein	21B	Basic or Standard

Chapter 22: Biochemistry

Investigation	Number	Equipment Package
Respiration and Temperature	22A	Standard
Chlorophyll Extraction	22B	Standard

Chapter 23: The Earth

Investigation	Number	Equipment Package
Oil Spills	23A	
Water Cycle	23B	Basic or Standard
Ocean Current	23C	Basic or Standard

Chapter 24: The Universe

Investigation	Number	Equipment Package
Solar Spectrum	24A	
Greenhouse Gases	24B	Basic or Standard

STEM Design Projects

Design an Insulator		Basic or Standard
Design an Airbag		
Design a Purification Process		
Design a Galvanic Cell		Standard