



Syllabus

# High School Chemistry EXPERIMENTS & ACTIVITIES

by Chad Husting

## The Scientific Method

Lab # 1 Observation Lab  
Class Notes 2 Observations Conclusions  
Worksheet 1 Safety  
Lab # 2 Mystery Liquid  
Class Notes 7 Operational Definitions  
Lab #3 Operational Definitions  
Class Notes 11 Measurement  
Worksheet 2 Measurement

## Nature of Chemistry

Lab #4 Chem Survey  
Class Notes 3 Classification of Matter  
Class Notes 5 Solvent and Solute  
Lab #5 Separation Lab  
Class Notes 8 Chromatography  
Lab #6 Chromatography Lab  
Lab #7 Chromatography Lab Assessment  
Class Notes 13 Density  
Worksheet #3 Density  
Lab #8 Density Lab  
Lab #9 Density Lab Assessment  
Class Notes 18 Significant Figures  
Worksheet #4 Significant Figures  
Class Notes 19 Significant Figure  
Calculations

## Experimental and Historical Chemistry

Class Notes 1...Physical and Chemical  
Changes  
Lab #10 Aluminum and Copper  
Chloride  
Class Notes 4 Kinetic Theory of Matter  
Lab #11 Kinetic Theory of Matter  
Worksheet #5 FMEA Chart  
Class Notes 6 History  
Class Notes 7 Parts of the Atom  
Worksheet #6 Parts of the Atom  
Class Notes 8 Radioactive Decay  
Worksheet #7 Radiation  
Class Notes 9 Isotopes  
Lab #12 Isotope Lab

## Periodic Table

Class Notes 1 Periodic Table  
Lab #13 Periodic Table Puzzle Lab  
Lab #14 Periodic Trends Lab  
Class Notes 2 Trends  
Lab #15 Metal Nonmetal Lab  
Lab #16 Periodic Table Wet Lab  
Lab #17 Metal Reactivity Lab  
Lab #18 Flame Test Lab  
Worksheet #8 Logic Puzzles  
Lab #19 Planet Xenon

## Bonding

Class Note 4 Bonding  
Lab #20 Ionic and Covalent  
Compounds  
Worksheet # 9 Atom Inventory  
Worksheet # 10 Types of Formulas  
Lab # 21 Formula Lab  
Worksheet # 11 Writing Formulas  
Lab # 22 Percent Composition of a  
Hydrate  
Lab # 23 The Unknown Lab

## Chemical Reactions

Class Notes 1 Balancing reactions  
Worksheet # 12 Balancing reactions  
Class Notes 5 - Classifying Reactions  
Worksheet # 13 Types of Reactions

## Moles and Stoichiometry

Class Notes 1 Moles  
Worksheet #14 Moles  
Class Notes 3 Stoichiometry  
Worksheet # 15 Stoichiometry  
Lab # 24 Burning Magnesium  
Lab # 25 Limiting Reagents Lab  
Class Notes 7 Limiting Reagents

## Solution Chemistry

Class Notes 1 Solution Chemistry  
Worksheet # 16 Molarity  
Lab # 26  $\text{KNO}_3$  Lab  
Lab # 27 Dissolved Oxygen Lab  
Lab # 28 PPM Lab  
Lab # 29 Ice Cream Lab  
Lab # 30 Colligative Property Lab  
Lab # 31 Reaction Rates Lab

## Temperature and Gases

Class Notes 1 Phase Changes  
Lab #31 Charles Law  
Worksheet # 17 Charles Law  
Class Notes 2 - Temperature and Gases  
Lab # 32 Pressure and Volume Lab  
Worksheet # 18 Boyle's Law  
Worksheet #19 Ideal Gas Law  
Lab # 34 Ammonia Fountain Lab  
Lab # 35 Carbon Dioxide Lab  
Lab # 36 Hindenburg Lab

## Properties of Acids and Bases

Lab # 37 Property of Acids Lab  
Lab # 38 Property of Bases Lab  
Lab # 39 Titration Lab  
Class Notes 5 Acids and Bases  
Lab # 40 Acid Base Lab Practical

## Chemistry in Your World

Lab # 41 Boiling Point of Alkanes Lab  
Lab # 42 Esterification Lab  
Lab # 43 Polymer Lab  
Lab # 44 Hamburger Lab  
Lab # 45 Penny Transformation Lab  
Lab # 46 Analysis of Sunscreen Lab  
Lab # 47 Surfactant Lab  
Lab # 48 Final Qualitative Assessment  
Lab Practical