HONOR’S CHEMISTRY Mr. Christopherson

**Unit 1: Introduction to Chemistry**

 Day 1 – ½ day of school

 Day 2 – Safety Contract & safety features of room

Day 3 - Safety Is an Attitude

Day 4 – Pure vs. Applied Science

Day 5 – Alchemist’s Dream (Hollow Penny Lab Activity)

Day 6 – Quiz: Safety & Glassware Identification

Day 7 – Scientific Method

Day 8 – Pure Science vs. Technology

Day 9 – Checkbook Activity (scientific method)

Day 10 – Copper Chloride Lab

Day 11 – Scientific Notation & Graphs

Day 12 – Acids and Bases

Day 13 – Review Day

Day 14 – Test “Introduction to Chemistry”

**Unit 2: Matter and Energy**

 Day 1 – Composition and Properties of Matter

 Day 2 – How Do We Classify Matter?

 Day 3 – Energy

 Day 4 – Energy (Heat vs. Temperature)

 Day 5 – Classifying Matter

 Day 6 – Temperature Scales and Energy

 Day 7 – Percentage Composition

 Day 8 – Methods of Separation

 Day 9 – Density

 Day 10 – Density Lab

 Day 11 – Flow Diagram(s)

 Day 12 – Atoms, Mass, and the Mole

 Day 13 – Calorimetry

 Day 14 – Work day – Calorimetry

 Day 15 – Calorimetry 2

 Day 16 – Challenge Problems

 Day 17 – Buried In Ice Article

 Day 18 – Matter

 Day 19 – Review Day

 Day 20 – Test “Matter and Energy”

 Day 21 – Floating Golf Ball

 Day 22 – Lab “Density of a Golf Ball”

**Try to ADD Qualitative Analysis Lab in Unit 2**

**Unit 3: Atomic Structure**

 Day 1 – Begin Atomic Structure (history)

 Day 2 – Atomic Structure Developed

 Day 3 – Models of the Atom

 Day 4 – KABOOM – Video

 Day 5 – Develop Electron Configuration

 Day 6 – Electron Configuration

 Day 7 – Light

 Day 8 – Light Demonstrations

 Day 9 – Halloween Fun Day

 Day 10 – Emission Spectra

 Day 11 – Review Day

 Day 12 – Review Day

 Day 13 – Test “Atomic Structure”

**Unit 4: Periodic Table and Trends**

 Day 1 – Alien’s Activity

 Day 2 – Periodicity Packet

 Day 3 – Periodicity / Post-Test

 Day 4 – Lecture “Periodic Trends”

 Day 5 – Organization of the Periodic Table

 Day 6 – Summarize Periodic Trends

 Day 7 – Quiz: Periodicity

**Unit 5: Chemical Equations and Formulas**

Day 1 – Element Brochure

 Day 2 – Criss-Cross Rule

 Day 3 – Nomenclature

 Day 4 – Nomenclature continued

 Day 5 – Nomenclature

 Day 6 – Lab “Bonding”

 Day 7 – Element Project / brochure due

 Day 8 – Quiz: Nomenclature

 Day 9 – Mole Island Concept

 Day 10 – Bonding - Lewis Dot

 Day 11 – Molecular Models Activity

Day 12 – Formula of a Hydrate (pre-lab)

Day 13 – Lab “Formula of a Hydrate”

Day 14 – Balance Equations

Day 15 – Classify Equations

Day 16 – Practice Problems

 Day 17 – Review Day – Chemical Equations

 Day 18 – Test “Chemical Equations and Formulas”

**Final Exam**

 Day 1 – Review Day

 Day 2 – Review Day

 Day 3 – Final Exams

 Day 4 – Final Exams

 Day 5 – Final Exams

**Unit 6: Stoichiometry** Second Semester

 Day 1 – Stoichiometry

 Day 2 – Mole Island Calculations

 Day 3 – Limiting Reactants

 Day 4 – Limiting Reactants

 Day 5 – Percent Yield and Energy

 Day 6 – Review Day

 Day 7 – Quiz “Stoichiometry”

 Day 8 – Stoichiometry Lab (NaHCO3 + HCl)

**Unit 7: Gas Laws**

 Day 1 – Video “Crisis In the Atmosphere”

 Day 2 – Greenhouse Effect / Ozone Depletion

 Day 3 – Kinetic Molecular Theory

 Day 4 – Manometers & Barometers

 Day 5 – Combined Gas Law

 Day 6 – Ideal Gas Law

 Day 7 – Graham’s Law of Diffusion

 Day 8 – Density of Gases

 Day 9 – Quiz “Gas Laws”

 Day 10 – Dalton’s Law of Partial Pressures

 Day 11 – Gas Stoichiometry

 Day 12 – Lab “Mg + HCl”

 Day 13 – Post-lab “Mg + HCl” & Review Day

 Day 14 – Review Day

 Day 15 – Test “Gas Laws 2”

 Day 16 – Properties of Nitrogen (liquid)

 Day 17 – Post Test

 Day 18 – Quiz “Gas Laws 3”

**Unit 8: Solutions**

 Day 1 – Lab “Ions in Solution”

 Day 2 – Post-lab

 Day 3 – H2Overview video

 Day 4 – Solvents

 Day 5 – Electrolytes

 Day 6 – Dilution of Solutions

 Day 7 – Molarity of Solutions

 Day 8 – Molarity and Stoichiometry

 Day 9 – Soap Article

 Day 10 – Lab “Soap”

 Day 11 – PowerPoint

 Day 12 – Solubility Curve & Tyndall Effect demonstration

 Day 13 – Colligative Properties

 Day 14 – Review Day

 Day 15 – Review Day

 Day 16 – Test: Solutions

**Add Spectrophotometer Lab in Solutions Unit**

**Unit 9: Acids, Bases and Salts**

 Day 1 – Video” The Proton In Chemistry

 Day 2 – Post Test “Solutions”

 Day 3 – PowerPoint “Acids and Bases”

 Day 4 – pH Calculations

 Day 5 – pH & pOH Calculations

 Day 6 – Textbook problem day (acids and bases)

 Day 7 – Electrolytes and Dissociation

 Day 8 – Quiz ‘pH”

 Day 9 – Titration

 Day 10 – Amino Acids

 Day 11 – Indicators

 Day 12 – Indicators & Buffers

 Day 13 – Lab “Neutralization”

 Day 14 – Review Day

 Day 15 – Test “Acids and Bases”

**Unit 10: Nuclear Chemistry**

 Day 1 – Video “Back to Chernobyl”

 Day 2 – Video “Back to Chernobyl”

 Day 3 – PowerPoint “Nuclear”

 Day 4 – Nuclear Radiation

 Day 5 – Fission and Fusion

 Day 6 – Review Nuclear Concepts (Half-Life)

 Day 7 – Review Day

 Day 8 – Quiz “Nuclear”

**Unit 11: Organic Chemistry**

 Day 1 – Organic Nomenclature (alkanes, alkenes, alkynes)

 Day 2 – Isomers (structural & geometric)

 Day 3 – Organic Nomenclature

 Day 4 – Functional Groups

 Day 5 – Work Day (organic packet)

 Day 6 – Work Day (organic packet)

 Day 7 – PowerPoint “Organic”

 Day 8 – Organic Nomenclature

 Day 9 – Ester’s lab (sniff)

 Day 10 – Quiz “Organic Nomenclature”

 Day 11 – Lab “Reactions of Copper” (technique lab)

 Day 12 – Lab “ Reactions of Copper”

 Day 13 -16 Video “Organic Chemistry” (Standard Deviants)

 ALTERNATIVE

 Day 13 – Synthesis of Aspirin

 Day 14 – Synthesis of Aspirin

 Day 15 – Synthesis of Esters – oil of wintergreen

 Day 16 – Functional Groups

 Day 17 – Organic Mechanisms

 Day 18 – Test: “Organic Chemistry”

**FINAL EXAM**

 Day 1 – Lab Clean-up Day & Inventory

 Day 2 – Review Day (work day on packet)

 Day 3 – Review Day (work on packet)

 Day 4 – Question Day (go over type and# of questions on final)

 Day 5 – Final Exams

 Day 6 – Final Exams

 Day 7 – Final Exams