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