

Name: \_\_\_\_\_ Exam Date: \_\_\_\_\_

# 30S Chemistry Final Exam Organizer

The following organizer will assist you with your final exam preparation. The notes, *Study Guide*, *Science Notebooks* and text questions you have completed over the past semester will be helpful tools for you to use with your text as you review. I encourage you to refer to the multiple choice quizzes and tests linked to <http://vcichemistry.weebly.com/> often during your review. See Mr. Bertram to arrange access to your Test Folder for review.

## Chemistry Skills

1. Laboratory Safety
2. Laboratory Equipment and Its Use

## Organic Chemistry

1. Vocabulary
2. The Importance of Organic Chemistry
3. Saturated Hydrocarbons – Continuous Chain Alkanes
  - Names
  - Chemical Formulas
  - Structural and Condensed Structural Formulas
4. Saturated Hydrocarbons – Branched-Chain Alkanes
  - Names
  - Chemical Formulas
  - Structural and Condensed Structural Formulas
  - Structural Isomers
5. Saturated Hydrocarbons – Rings
  - Names
  - Chemical Formulas
  - Structural and Condensed Structural Formulas
6. Unsaturated Hydrocarbons – Alkenes
  - Names
  - Chemical Formulas
  - Structural and Condensed Structural Formulas
  - Isomerism
  - Hydrogenation

7. Unsaturated Hydrocarbons – Alkynes
  - Names
  - Chemical Formulas
  - Structural and Condensed Structural Formulas
8. Unsaturated Hydrocarbons – Aromatic Hydrocarbons
  - Names
  - Chemical Formulas
  - Structural and Condensed Structural Formulas
9. Natural Gas and Petroleum
10. Aromatic Hydrocarbons
11. Substituted Hydrocarbons and Derivatives
  - Alcohols, Esters, Amines, Carbonyl Compounds
  - Polymers

## **Physical Properties and Changes**

1. Vocabulary
2. Elements and Compounds
  - Properties of Matter
  - Changes in Matter
  - Mixtures
3. Physical States
  - Solids
  - Liquids
  - Gases
4. Physical and Chemical Changes
5. Changes of State
  - Particle Motion
  - Freezing/Melting
  - Vaporization/Condensation
  - Sublimation/Solidification
6. The Kinetic Molecular Theory
7. Dalton's Law of Partial Pressure
8. Graham's Law of Effusion

## **Chemical Reactions**

1. Chemical Reactions and Equations
  - Vocabulary
  - Physical/Chemical Properties/Reactions
  - The Periodic Table
  - Atoms and Ions
  - Compounds

- Polyatomic Ions
  - Writing Formulas and Names for Binary and Tertiary Compounds
  - The Law of Conservation of Mass
  - Translating and Balancing Chemical Equations
  - Classifying Chemical Reactions
2. Mole Calculations
- Vocabulary
  - Mass of Atoms and Molecules
  - The Mole
  - Atomic Number, Atomic Mass, Molecular Mass, Molar Mass.
  - Avagadro's Number
  - Mole-Mole Conversions
  - Mole-Mass Conversions
  - Solving Problems With Moles
  - Molar Mass/Gram Formula Mass
  - Gas Density
3. Stoichiometry
- Vocabulary
  - Finding Information From Balanced Equations
  - Mole-Mole Problems with Given Reactants and Products
  - Mass-Mass Problems with Given Reactants and Products
  - Representative Particle Problems with Given Reactants and Products
  - Volume Problems with Given Reactants and Products
  - Identifying Limiting Reagents and Excess Reagents
  - Percent Yield

## Solutions

1. Vocabulary
2. What are Solutions?
  - Characteristics of Solutions
  - Solvation in Aqueous Solutions
  - Solubility
  - Factors That Affect Solubility
3. Solution Concentration
  - Expressing Concentration
  - Using Percent to Describe Concentration
  - Solution Preparation
4. Colligative Properties of Solutions
  - Vapour Pressure Lowering
  - Boiling Point Elevation
  - Freezing Point Depression