

Advanced Chemistry Summer Assignment

As this class follows the AP curriculum it is important for you come to class the first day prepared to attack the gas laws, thermochemistry, atomic structure, and bonding (Chapters 5-9) in the fall trimester. It is important that you have mastered chapters 1 through 4 prior to your arrival. Please note that this is material that you have had before, simply asked in a different format and with a higher expectation of proficiency with your knowledge. If you are unable to master these four chapters (review of general chemistry: foundations, atoms, molecules, ions, stoichiometry, reactions and equations) It will be very difficult for you to keep up in this class. The first four chapters are the basis of most common chemistry problems.

We will move **quickly** through the material and attempt to complete some organic chemistry by the end of the year. Your lab work will be **independent** work and will require your analytical skills and chemistry knowledge to be successful. You will need to put in the extra time to read each chapter closely and keep up with the nightly problems. You will be quizzed regularly and lab reports are due once a week. Failure to keep the pace will result in falling behind and consequently earning a poor grade. It will be demanding and challenging and I hope fun in some respects for those that like to push the limits of understanding.

Due the first day will be the following packet of problems which will be your **first graded work**. Please complete the problems and **CLEARLY DRAW A BOX AROUND YOUR ANSWER**. Secondly you will be given a **test** on the material the second day of class which will incorporate all four chapters. To help with your mastery of the material, please do feel free to communicate with me via email over the summer: fisherm@gunnery.org

CHAPTER 1: Concepts of Chemistry

Basic Concepts: Chemistry and its Methods; Classifying Matter; Elements and Atoms; Compounds and Molecules; Physical Properties; Physical and Chemical Changes

STARTING ON

PAGE #43 PROBLEMS: 4, 6, 15, 18, 20, 22, 24, 34, 40, 59

CHAPTER 2: Atoms, Molecules, and Ions

Atoms, Molecules, and Ions: Atomic Structure, Number, and Mass, Isotopes, Atomic Weight, The Periodic Table, Molecules, Compounds, and Formulas, Ionic Compounds, Molecular Compounds, the Mole, Hydrated Compounds

STARTING ON

PAGE #100 PROBLEMS: 4, 10, 12, 24, 28, 36, 40, 42, 44, 48, 50, 54, 63, 74, 82, 95, 102

CHAPTER 3: Chemical Reactions

Intro to Chem Eq; balancing chem. Equations; chemical equilibrium; aqueous solutions; precipitation reactions; acids and bases; gas-forming reactions; redox reactions

STARTING ON

PAGE #152 PROBLEMS: 3, 7, 12, 20, 28, 33, 40, 41, 43, 48, 69

CHAPTER 4: Stoichiometry

Mass relationships, limiting reactant, percent yield, chemical equations and chemical analysis, pH, spectrophotometry

STARTING ON

PAGE #195 PROBLEMS: 10, 12, 14, 20, 26, 30, 34, 39, 44, 46, 49, 52, 54, 58, 67, 70, 76, 106, 133

Be patient, read carefully, keep trying, never give up and Good luck!

You can get a copy of the text in the bookstore

Or call the bookstore and have a copy mailed to your home

**TEXT: *Chemistry and Chemical Reactivity* 7th Edition by: Kotz, Treichel, Townsend
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