Preparing for your AP Chemistry Midterm

# Test Information

Date: Friday, January 30th, 2015

Time: 1st and 2nd period (***Begins at 7:30 am sharp***)

Test Time: 90 minutes

**Section I**: 30 Multiple Choice Questions (45 minutes)

\*Section I will be collected before Section II begins.

**Section II**: 2 Long Free Response Questions and 2 Short Free Response Questions (45 minutes)

\*Long FR should take about 15 minutes each

\*Short FR should take about 7 minutes each

\*You may use a scientific calculator and your AP Chemistry reference tables for the whole exam.

\*You will not receive extra time on this exam, so ***DO NOT BE LATE***.

# Topics on Exam

1. Matter and Measurement
   1. Elements and Compounds
2. Atomic Concepts
   1. Electron configurations
   2. Electron behavior (energy associated with electron transitions)
3. Periodic Table
   1. Ionization energy trend
   2. Groups vs Periods (properties)
   3. Shielding Effect
4. Bonding
   1. Molecular structure/shape
   2. Lewis dot diagrams
   3. Polarity, dipole moment
   4. Nomenclature (Naming compounds)
   5. Sigma and pi bonds
   6. Bond lengths (multiple bonds)
   7. Hybridization
5. Stoichiometry
   1. Titration: M1V1 = M2V2, M= mol/L
   2. Balancing equations
   3. Writing reactants and products for precipitation reactions (net ionic equations)
   4. Writing half reactions for redox reactions
   5. Mole ratios
   6. Calculating moles
   7. Percent composition and empirical formulas
   8. Dilution
   9. Determining limiting reagent
6. Gases
   1. Partial Pressure
   2. Gas Laws (real vs ideal)
   3. Ideal gas law, PV=nRT
7. Thermochemistry & solids and Liquids
   1. Calorimetry, q= mc(delta T)
   2. Solubility (like dissolves like)
   3. Vapor pressure of liquids
   4. Heat of formation
   5. Hess’s Law

# Tips for Studying

* **Daily Studying**
  + Focus on 2 or 3 topics each day for a few hours (I suggest a minimum of 2 hours a day)
  + Prioritize topics that are most prevalent on this exam.
  + Review and Redo old exam and quiz questions.
  + Read the textbook sections to relearn/remember concepts.
  + Use the following online resources for supplemental reviewing:
    - Short Videos by topic: <http://www.bozemanscience.com/ap-chemistry/>
    - Predicting reactions guide: <http://www.chemmybear.com/preactions.html>
    - AP practice questions by topic: <http://www.sciencegeek.net/APchemistry/APtaters/directory.shtml>
* **Day before the exam**
  + Attend the **review session from 12-2 pm on Thursday** (with $5 for pizza if you want any)
  + Review polyatomic ions, solubility rules, and common ions (element oxidation states).
  + Before you go to bed, make sure you are prepared for school the next day with your complete reference tables, a pencil, an eraser, and a scientific calculator (you can borrow one from me if necessary).
  + Get a good night’s sleep. Seriously.