

AP Chemistry Assignments for the Summer

We will be using an online book so I will have an access code for you as soon as it becomes available. Please e-mail me with your email as soon as possible so that I can give you the code as soon as I have it.

Welcome to AP Chemistry. AP Chemistry is a class that assumes you have mastered some basic skills in chemistry. In order to begin the year at the pace needed to complete the AP curriculum, I have prepared these summer assignments for you to complete. You should do them in a spiral notebook (1-2subject). I have, in many cases, used problems that have answers in the back of the textbook. I want you to show all work, with units for problems. I am not looking for them all to be correct, just that you have attempted them all in good faith. Online search engines can help you solve problems and you may e-mail me at santasutt@comcast.net with specific problems and I will e-mail you the solutions or some very strong hints. AP Chemistry is a very challenging class, but you can be successful if you are willing to do the work. I do not expect you to understand everything in these 3 chapters—they go into much more depth than Honors Chemistry. I will be lecturing on them in September, but I want you to have a strong base. I am always willing to answer questions, so try to do this before the last week in August!

Ms. Santagate

Complete the following assignments and **memorize** the polyamic ions, the solubility rules, metric prefixes and base units and the common acids and bases. Flash cards will help you to do this. Many websites will create the flashcards for you to print and glue to an index card.

Proficiency in Metric System

Within the first week you will get a metric proficiency quiz. You must get a 90% on that before you can move on. Within the first 3 weeks you will be tested on chapters 1-3. I expect them to be, for the most part, review.

The metric quiz will look hauntingly similar to this:

Convert the following:

- | | |
|---------------------------------------|--------------------------------------|
| 1. 0.0006mg = _____ng | 6. 4.1×10^{-5} kL = _____cL |
| 2. 4mol = _____ μ mol | 7. 2,000,000pm = _____m |
| 3. 4.5×10^{20} ng = _____Mg | 8. 80.0hmol = _____mol |
| 4. 1.5×10^{-1} dg = _____dag | 9. 2000mL = _____dL |
| 5. 0.00071moles = _____micromoles | 10. 5cm = _____mm |

Knowing that 2.54cm = 1inch

Use dimensional analysis to tell how many millimeters are in a football field (100yards).

You should also memorize your **solubility rules**:

1. Salts of (NH₄⁺) ammonium and Group I are always soluble.
2. All Cl⁻, Br⁻, I⁻, are soluble except Ag⁺, Hg₂²⁺, and Pb₂⁺ which are insoluble.
3. ClO₃⁻, NO₃⁻, CH₃COO⁻ are soluble.
4. SO₄²⁻ are soluble except with; Sr₂⁺, Ba₂⁺, Hg₂⁺, and Pb₂⁺ which are insoluble
5. S₂⁻ are insoluble except NH₄⁺, group I cations, Ca₂⁺, Sr₂⁺, and Ba₂⁺ which are soluble.
6. OH⁻ are insoluble except NH₄⁺, group I cations, Ca₂⁺, Sr₂⁺, and Ba₂⁺ which are soluble.
7. CO₃²⁻ are insoluble except NH₄⁺ and group I cations which are soluble.
8. PO₄³⁻ are insoluble except NH₄⁺ and group I cations which are soluble.

Written Homework:

For each chapter take notes. Notes should be dated and have a title at the beginning of each topic. (ex: Notes Ch 1.1) Always start your notes on the right side of the page. You may continue notes onto the back of the page. Your notes should be neat, clear and complete. How to take notes on the book:

-minimum of 10 key facts per section. Clearly number them

-write down vocabulary that you think will help you understand and remember.

-you may want to try Cornell style notes. Here is a link to show you how:

<http://coe.jmu.edu/LearningToolbox/cornellnotes.html>

-make a list of equations, constants, diagrams etc. on the left page or left margin if you do Cornell style notes to summarize the equations you will use for homework.

Chapter 1 & 2

Chapter 1:

Read the chapter and review the sections of the chapter that are needed.

Problems: 1.1-1.8, 1.10, 1.15-1.16, 1.24, 1.26, 1.28, 1.34, 1.38, 1.42, 1.46, 1.50, 1.54, 1.60, 1.64, 1.65, 1.70-1.72, 1.77, 1.79, 1.80, 1.82

Chapter 2:

Read the chapter and review the sections of the chapter that are needed.

Problems: 2.1, 2.2, 2.4, 2.6, 2.8, 2.10, 2.12, 2.14, 2.16, 2.18, 2.20, 2.22, 2.24, 2.28, 2.31, 2.39, 2.40, 2.45, 2.48, 2.50, 2.54, 2.58, 2.60, 2.68, 2.78, 2.80, 2.82, 2.90, 2.91, 2.96

Chapter 3

Read the chapter and review the sections of the chapter that are needed.

Problems: 3.1-3.8, 3.10, 3.12, 3.14, 3.18, 3.20, 3.22, 3.24, 3.30, 3.32, 3.34, 3.42, 3.44, 3.46, 3.48, 3.50, 3.54, 3.56, 3.60, 3.62, 3.64, 3.72, 3.76

Additionally, please go to the College Board web site for the AP courses, AP Central at:

<http://apcentral.collegeboard.com> and read the course description for AP Chem.