# AP CHEMISTRY – SUMMER ASSIGNMENT 2017

***All handouts are available on the website found at:***

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Welcome to AP Chemistry! I look forward to a year filled with growth and fun in chemistry. Taking AP Chemistry is challenging, requires dedication, and is a great investment in your education to better prepare yourself for the future.

This summer assignment is designed to cover skills and background information you should have to be prepared to start the class next fall. Additionally, your ability to teach yourself and be resourceful will come into play. I have included online sites below to help you, but you can find your own resources too. Please feel free to email me for guidance as well. There will be a quiz over this material by the second week of class.

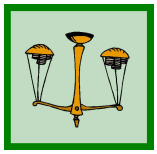
General Chemistry Sites:

http://chemteam.info/ChemTeamIndex.html
https://chemfiesta.org/
https://apstudent.collegeboard.org/apcourse/ap-chemistry
http://chemmybear.com/

Online Chemistry Book:
https://openstax.org/details/chemistry

Quizzes (multiple-choice and Free response):
http://www.adriandingleschemistrypages.com/apquiz.html

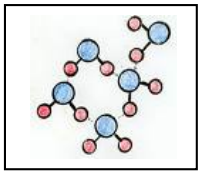
Study Cards:
http://www.chemmybear.com/stdycrds.html#APChem



You have been given a packet of 19 chemistry worksheets. You are required to complete only the problems listed below. However, I recommend that you complete additional problems for extra practice. In addition to the resources above, I have listed additional resources in each section below, and the AP Chem Student Study Guide may also be helpful to you.

## Section 1. Dimensional Analysis/Unit Conversions

**Assignment:** Worksheets (pg. 1, 2, 2a-b) Complete problems listed: *Unit Conversions* ***(#1,3,5)****, SI Units and Unit Conversion* ***(#1, 3 6),*** *Significant Figures Worksheet* ***(1a, 1f, 2c, 2d, 3d, 4b, 5e, 6f, 7c).***.



**Web Resources for extra help:**

Unit Conversions: http://misterguch.brinkster.net/unitconversions.html

Fun with Dimensional Analysis:
http://www.alysion.org/dimensional/fun.htm

Significant Figures Tutorial:
http://www.chem.sc.edu/faculty/morgan/resources/sigfigs/index.html

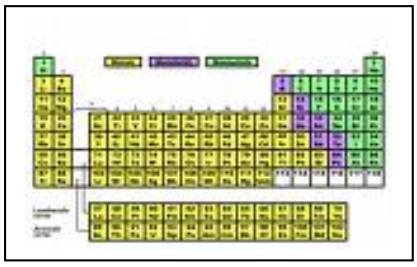
## Section 2. Calculations - Chemical Formulas/Molar Mass/Molecular Weight

**Assignment:** Worksheets (pgs. 3-7) Complete problems listed:: *Molar Mass Practice* ***(#1, 3, 5)****, Mole Calculation Practice* ***(#1, 3, 5)****, Moles, Molecules, and Grams* ***(#1, 3, 5, 6)****, Percent Composition* ***(#1, 3)***

**Web Resources for extra help:**

How to Calculate Molar Mass: http://misterguch.brinkster.net/molarmass.html
All About Mole Calculations: http://misterguch.brinkster.net/molecalculations.html

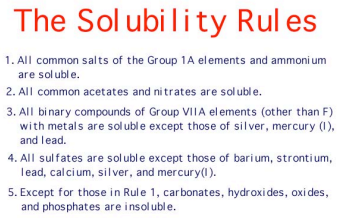
## Section 3. Chemical Equations



**Assignment:** Worksheets pg. 8-10. Complete problems listed: *Balancing Chemical Equations* ***(#1, 3, 5)****, Balancing Equations* ***(#1, 3, 5)****, Types of Reactions* ***(#1, 3, 5, 7)*** Put these three worksheets with the assigned problems completed, showing work, in the third section your binder.

**Web Resources for extra help:**

How Can I Balance An Equation: http://misterguch.brinkster.net/eqnbalance.html
Six Types of Chemical Reactions: http://misterguch.brinkster.net/6typesofchemicalrxn.html




## Section 4. Solubility Rules and Precipitation Reactions

**Assignment:** Worksheets (pgs. 11-12) Complete problems listed: *Using the Solubility Rules* ***(#1-2)****, Precipitation Reactions* ***(#3, 5).***

**Web Resources for extra help:**

Solubility Rules: http://www.files.chem.vt.edu/RVGS/ACT/notes/solubility_rules.html
Solubility Rules: http://eppe.tripod.com/soluble.htm
Precipitation Reactions: http://preparatorychemistry.com/Bishop_Precipitation_Equations.htm
http://www.occc.edu/kmbailey/Chem1115Tutorials/Metathesis_Reactions.htm

## Section 5. Naming Molecules and Ions

**Assignment:** Worksheets (pgs. 13-19) Complete problems listed: *Naming Ionic Compounds* ***(#1, 3, 5, 11, 13,15)****, Lots of Ionic Naming* ***(1, 3)****, Ionic Naming, Compound Names and Formulas* ***(1, 13)****, Naming Covalent Compounds****(2, 12)****, Naming Compounds and Molar Masses* ***(8)***

***Student Ion Flashcards:***

**I have included flashcards of the ions for you to print out on my website, fold over and practice memorizing. After several months of practicing these ions, you will have them memorized.**

| Common Polyatomic Ions | | | |
|---|---|---|---|
| $C_2H_3O_2^-$ | acetate | $OH^-$ | hydroxide |
| $NH_4^+$ | ammonium | $ClO^-$ | hypochlorite |
| $CO_3^{2-}$ | carbonate | $NO_3^-$ | nitrate |
| $ClO_3^-$ | chlorate | $NO_2^-$ | nitrite |
| $ClO_2^-$ | chlorite | $C_2O_4^{2-}$ | oxalate |
| $CrO_4^{2-}$ | chromate | $ClO_4^-$ | perchlorate |
| $CN^-$ | cyanide | $MnO_4^-$ | permanganate |
| $Cr_2O_7^{2-}$ | dichromate | $PO_4^{3-}$ | phosphate |
| $HCO_3^-$ | bicarbonate | $SO_4^{2-}$ | sulfate |
| $HSO_4^-$ | bisulfate | $SO_3^{2-}$ | sulfite |
| $HSO_3^-$ | bisulfite | | |

**Web Resources for extra help:**

How Do We Name Ionic Compounds:
http://misterguch.brinkster.net/ionic.html

Naming Covalent Compounds
http://misterguch.brinkster.net/covalentcompounds.html

Introduction to Ionic Compounds:
http://www.elmhurst.edu/~chm/vchembook/143Aioniccpds.html

Naming Ions, Cations, Anions:
http://www.800mainstreet.com/4/0004-008-Namingions.html

Polyatomic Ions: http://www.800mainstreet.com/4/0004-009-Polyatomicions.html

Predicting Formulas: http://www.800mainstreet.com/4/0004-0010-formula-ionic.html