

## Welcome to AP Chemistry!

You will be part of the first AP Chemistry class at Concordia Prep. I have wanted this class to happen for years and it is finally here. A formal syllabus will come later but I wanted to give you a couple of items to work on over the summer. This work has two functions. One, it gives you a working vocabulary (elements and polyatomic ions). Secondly, it reviews some basic concepts from chemistry.

As you work through these tasks, notice that there are a couple of items that we will do differently than our former chemistry class. (This will be tough for me too.)

- The number for the mole is slightly different.
- The way we calculate molar masses is different. (not rounding to the whole number)

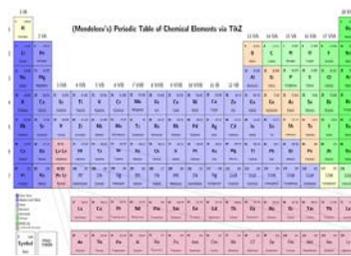
So, have a “moletastic” summer and I look forward to seeing you in “Moltember”!

### AP Chemistry Summer Assignments

**Task 1:** There will be a quiz on the second day of school.

Memorize the element symbols for elements 1-56 and Pt, Au, Hg, Pb, and U.

- Making flashcards is helpful.
- There are many quiz games available to help you with this. Search for some.
- The periodic table on the exam only gives you the symbol and NOT the name.



(Mendeleev's) Periodic Table of Chemical Elements via TQZ

This Photo by Unknown Author

**Task 2:**

Memorize the ionic charge for the basic ions.

- Most of these you can easily determine from the periodic table and don't need to be memorized. Think valence electrons.
- Include  $\text{Zn}^{2+}$ ,  $\text{Ag}^{1+}$ ,  $\text{Cu}$  ( $1^+$ ,  $2^+$ ),  $\text{Fe}$  ( $2^+$ ,  $3^+$ ),  $\text{Pb}$  ( $2^+$ ,  $4^+$ ),  $\text{Sn}$  ( $2^+$ ,  $4^+$ ),

**Task 3:** There will be a quiz on the 3<sup>rd</sup> day of school.

Memorize the names, symbols, and charges of the following (on a later page) polyatomic ions.

- Use trends to help you with this.
- Oxyanions are polyatomic ions containing oxygen and end with -ate or -ite
  - -ate is the most common
  - -ite is the same charge with one less oxygen
- There are also the following prefixes.
  - Per- is one more oxygen than the -ate (Think: PERfect is OVERachieving)
  - Hypo- is one fewer oxygen than -ite.
  - Hydrogen can be added to make a new ion with one less charge per hydrogen added.

## Task 4

Read chapters 1,2,3. These chapters will review concepts from chemistry.

Answer worksheet one and two. I am hoping that these will be oncampus (as soon as they make the AP chemistry tab). I also printed them since I don't know when the tab will be created. The first week of the year we will review any topic from these units that we need to. Take note of topics that you need work on.

## Extra Credit:

This will be posted oncampus. It is totally optional. Check it out! (Once again, I decided to print it since I don't know when I'll get on campus.)

## Polyatomic Ions

<b>+1</b>	<b>-1</b>	<b>-2</b>	<b>-3</b>
Ammonium	Acetate, Bromate bromite Chlorate Chlorite Cyanide Hydrogen carbonate Hydrogen sulfate Hydroxide hypobromite Hypochlorite Iodate Nitrate Nitrite perbromate Permanganate Perchlorate Thiocyanate	Carbonate Chromate Dichromate Dihydrogen phosphate Hydrogen phosphate Oxalate Peroxide Sulfate Sulfite Thiosulfate	Phosphate Phosphite Arsenate