

Welcome to AP Chemistry! To keep chemistry concepts fresh and to prepare you for class, please complete the following prior to the 1st day of class. Come prepared to ask questions about anything you do not understand.

### Part 1

Read the first 3 chapters of *Chemistry: The Central Science 14th Edition* by Brown, LeMay, Bursten, Murphy, Woodward, and Stoltzfus © 2015. I can share a copy of the PDF with you, if needed. If you want access to question answers, you'll need to purchase the book.

### Part 2

Answer the following problems. Show all work for full credit and be sure to include units where appropriate. Bring the completed problem set to our first class.

- Chapter 1: 1.13, 1.35, 1.45, 1.47, 1.59
- Chapter 2: 2.11, 2.27, 2.35, 2.39, 2.47, 2.65, 2.79
- Chapter 3: 3.5, 3.15, 3.21, 3.27, 3.35, 3.47, 3.51, 3.67, 3.81, 3.108

### Part 3

Memorize common cations, anions, and the provided list of common polyatomic ions.

#### Cations (1+)

ammonium ( $\text{NH}_4^+$ )

hydronium ( $\text{H}_3\text{O}^+$ )

#### Anions (1-)

acetate ( $\text{C}_2\text{H}_3\text{O}_2^-$ )

bromate ( $\text{BrO}_3^-$ )

cyanide ( $\text{CN}^-$ )

dihydrogen phosphate ( $\text{H}_2\text{PO}_4^-$ )

hydrogen carbonate or bicarbonate ( $\text{HCO}_3^-$ )

hydrogen sulfite or bisulfate ( $\text{HSO}_3^-$ )

hydroxide ( $\text{OH}^-$ )

iodate ( $\text{IO}_3^-$ )

nitrate ( $\text{NO}_3^-$ )

nitrite ( $\text{NO}_2^-$ )

perchlorate ( $\text{ClO}_4^-$ )

chlorate ( $\text{ClO}_3^-$ )

chlorite ( $\text{ClO}_2^-$ )

hypochlorite ( $\text{ClO}^-$ )

permanganate ( $\text{MnO}_4^-$ )

thiocyanate ( $\text{SCN}^-$ )

#### Anions (2-)

carbonate ( $\text{CO}_3^{2-}$ )

chromate ( $\text{CrO}_4^{2-}$ )

dichromate ( $\text{Cr}_2\text{O}_7^{2-}$ )

hydrogen phosphate ( $\text{HPO}_4^{2-}$ )

peroxide ( $\text{O}_2^{2-}$ )

oxalate ( $\text{C}_2\text{O}_4^{2-}$ )  
sulfate ( $\text{SO}_4^{2-}$ )  
sulfite ( $\text{SO}_3^{2-}$ )  
thiosulfate ( $\text{S}_2\text{O}_3^{2-}$ )

**Anions (3-)**

phosphate ( $\text{PO}_4^{3-}$ )  
phosphite ( $\text{PO}_3^{3-}$ )

All this material is a review from Chemistry. We will quickly cover this material within the first two weeks of school, so please work on this during the summer. This assignment will count as your first daily grade. The information and skills will be on the Unit 1 Test.