**Dougherty Valley HS** **AP Chemistry**

**Honors Chemistry: A Reminder of Topics Covered**

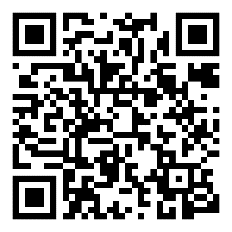
**A BLUFFER’S GUIDE**

*Inspired by Paul Groves*

*You will be provided with a “Bluffer’s Guide” for each chapter we cover in AP Chemistry this year. It is a quick recap of some of the important things from each chapter. It isn’t practical to make one of these to recap an entire year of Honors Chemistry, but hopefully this helps jog your memory of some of the things you should remember from Honors Chemistry!*

**Honors Chemistry Tab on Class Website**

<https://mychemistryclass.net/honorschem.html>



1. Dimensional analysis allows us to convert numbers from one unit to another.
2. Significant figures allow us to show the level of certainty we have in our measurements
   * + or - 🡪 round based on fewest   
      decimal places
   * x or / 🡪 round based on fewest   
      # of significant figures
3. Chemical changes = change to formula  
   Physical changes = no change in formula  
   All phase changes = physical changes
4. Atomic # = # protons & # e- if neutral   
   Mass # = # protons + # neutrons
5. Electron configurations represent locations of e- in an atom.   
   2 electrons per orbital, always  
   s orbital – 1 in a set
6. Calorimetry:  
   Qsubstance 1 = - Qsubstance 2Tfinal substance 1 = Tfinal substance 2

Temp is in CELSIUS not Kelvins for this topic!

1 kJ = 1000 J 1 calorie = 4.184 J

1. Standard State = the form of the element that has ∆Hf°=0 and ∆Gf° = 0
   * Pure gas at 1atm pressure
   * Pure solid or liquid in most stable at 1atm and temp of interest (usually 25°C)
   * Substances with a 1M solution
2. Formation Reactions – the reaction of elements in their standard state to form one mole of a pure compound
   * Can have fractions as coefficients because making 1mol of the product.
   * C(s, graphite) + ½ O2(g) 🡪 CO(g)
3. Enthalpy change:  
   ∆𝑯° = 𝜮𝒏∆𝑯𝒇°(products) − 𝜮𝒏∆𝑯𝒇°(reactants)
4. Bond Energy:  
   **ΣH(Bonds Broken) – ΣH(Bonds Formed)**  
     
   *“takes to break” and “free to form”  
    + -   
    endothermic exothermic*
5. Hess’s Law
6. Relationship between modifying the chemical equation and the ∆Hrxn value
   * Multiplying a reaction by a number  
     = multiply ∆Hrxn by the same number
   * Reversing a reaction to go backwards  
     = flip the algebraic sign on ∆Hrxn
7. Example Hess’s Law Problem:

**R-0**