**Molar Mass**

Sum of the atomic masses of the elements present in a compound – watch the subscript number

**“Magic 7”**

These elements may not occur alone; outside of compounds, they are diatomic (in pairs)

H, N, O, F, Cl, Br, I

**Mass – Moles**

#g / molar mass = moles

#mols x molar mass = grams

**Stoichiometry**

1. Write the equation
   * 1. Word
     2. Skeleton (Unbalanced)
2. Balance the equation
3. Convert g “have” to mol “have”
4. Change mol “have” to mol “want”

mol “have” x (eq. want/eq. have)

1. Convert mol “want” to g “want”

**Percent Yield**

1. Determine “theoretical yield” (stoichiometry)
2. Calculate: actual/theoretical
3. Multiply x 100
4. Answer = %

**Limiting Reactant/Reagent**

Calculate the mol amount of a product formed from each given reactant = limiting agent produces least amount of desired product

**Empirical Formula**

1. Convert % to mass
2. Convert mass (g) to mol
3. Divide by smallest mol amount
4. Multiply until “whole”

**Molecular Formula**

1. Determine empirical formula
2. Calculate Empirical Formula Mass (EFM)
3. Divide compound mass by EFM
   1. Multiply until “whole”
4. Multiply empirical formula by factor

