

## Sticks & Stones HW

Read and outline (Cornel style) **Section 12.1** in your chemistry textbooks. **\*\*Your section outline must be at least ½ page and have 3-4 questions.\*\*** Then answer the following assessment questions:

1. What is stoichiometry?
2. What is a mole ratio?
3. Balance the following equations and determine the possible mole ratios:
  - a.  $\text{ZnO(s)} + \text{HCl(aq)} \rightarrow \text{ZnCl}_2\text{(aq)} + \text{H}_2\text{O}$
  - b. Butane ( $\text{C}_4\text{H}_{10}$ ) + oxygen  $\rightarrow$  carbon dioxide + water
4. Suppose you react iron (III) nitrate,  $\text{Fe(NO}_3)_3\text{(aq)}$ , with sodium sulfide,  $\text{Na}_2\text{S(aq)}$ :
  - a. Predict the products.
  - b. Write the **balanced** chemical equation.
  - c. What ratio of reactants would yield the maximum amount of product?
5. Suppose you react calcium chloride,  $\text{CaCl}_2\text{(aq)}$ , with sodium hydroxide,  $\text{NaOH(aq)}$ :
  - a. Predict the products.
  - b. Write the **balanced** chemical equation.
  - c. What ratio of reactants would yield the maximum amount of product?