**Homework:**

HW #1: Due:

Complete p. 234-236 #2, 9, 11, 15, 17, 21, 29, 33, 34, 35. [Optional Challenge Problems- #45, 46, 48, 49]

HW #2: Due:

 See Handout

HW #2: Balancing and Types of Reactions

Directions: Write, balance and determine the type of reaction for each chemical equation. Types include: synthesis, decomposition, single-replacement, double-replacement, and combustion.

1. Cu(s) + O2(g) 🡪 CuO(s)
2. H2O(l) 🡪 H2(g) + O2(g)
3. Fe(s) + H2O(g) 🡪 H2(g) + Fe3O4(s)
4. AsCl3(aq) + H2S(aq) 🡪 As2S3(s) + HCl(aq)
5. Fe2O3(s) + H2(g) 🡪 Fe(s) + H2O(l)
6. CaCO3(aq) 🡪 CaO(s) + CO2(g)
7. Fe(s) + S8(s) 🡪 FeS(s)
8. H2S(aq) + KOH(aq) 🡪 H2O(l) + K2S(aq)
9. NaCl(l) 🡪 Na(l) + Cl2(g)
10. Al(s) + H2SO4(aq) 🡪 H2(g) + Al2(SO4)3(aq)
11. H3PO4(aq) + NH4OH(aq) 🡪 H2O(l) + (NH4)3PO4(aq)
12. C3H8(g) + O2(g) 🡪 CO2(g) + H2O(g)
13. Al(s) + O2(g) 🡪 Al2O3(s)
14. CH4(g) + O2(g) 🡪 CO2(g) + H2O(g)
15. K2SO4(aq) + BaCl2(aq) 🡪 KCl(aq) + BaSO4(s)
16. C5H12(g) + O2(g) 🡪 CO2(g) + H2O(g)
17. V2O5(s) + Ca(s) 🡪 CaO(s) + V(s)
18. C7H6O3(l) + O2(g) 🡪 CO2(g) + H2O(l)
19. BN(s) + F2(g) 🡪 BF3(s) + N2(g)
20. C12H26(l) + O2(g) 🡪 Co2(g) + H2O(l)
21. A solution of lead (II) nitrate is mixed with a solution of sodium iodide to produce a solution of sodium nitrate and solid lead (II) iodide.
22. Solid zinc (II) sulfide reacts with oxygen in the air to produce zinc (II) oxide and solid sulfur (S8).
23. Liquid butane (C4H10) is ignited in air to produce carbon dioxide and water.
24. Copper metal is placed in a solution of silver (I) nitrate to produce solid silver and a solution of copper (II) nitrate.
25. A solution of aluminum sulfate is mixed with a solution of calcium hydroxide to produce a calcium sulfate solution and solid aluminum hydroxide.

Challenge Problems:

Determine the type of reaction, predict the products of the reaction and write and balance the equation.

1. Zinc metal is place in sulfuric acid solution.
2. Aluminum powder is placed in a container filled with chlorine gas.
3. Sucrose under goes cellular respiration.