Chapter 11 Quest Review

1. In a chemical reaction, how would you represent heat being present? What about a catalyst?
2. Show how the various states of matter would be represented in a chemical reaction.
3. What are your reactants in a chemical equation? Products?
4. What are subscripts, and how do they differ from coefficients?
5. Show what the product would be if:
   1. Be reacts with gaseous F
   2. Sodium reacts with phosphate
   3. Strontium reacts with hydroxide
   4. Hydrogen and oxygen gas react together
6. How would you represent elements like F, H, O and Cl if they were by themselves? Why would they be represented this way?
7. Name and describe the five major types of chemical reactions you will see.
8. Balance the following equations:
   1. I2 + NaF 🡪 NaI + F2
   2. C6H6 + O2 🡪 CO2 + H2O
   3. Zinc (I) Phosphate reacts with copper sulfate to produce copper phosphate and zinc (I) sulfate.
   4. Iron with a positive 3 charge reacts with Copper (I) oxide.
   5. Iron (III) oxide forms iron and oxygen.
9. For the reactions described in #8, what type of reactions are they?
10. Predict the products and balance the following:
    1. Ag2SO4 + Pb(NO3)2 🡪
    2. Copper (II) Phosphate decomposes
    3. Lead (II) chloride reacts with Aluminum
    4. C5H7 combusts
11. For the following double replacement reactions, predict the products, balance and predict the state of matter of the products.
    1. Mg(NO3)2(aq) + LiOH(aq) 🡪
    2. FeSO4(aq) + Na2S(aq) 🡪
    3. Aqueous solutions of Calcium chloride and sodium phosphate are mixed
    4. Aqueous solutions of Silver (I) chloride and Potassium iodide are mixed
12. For the reactions you described in #11, write the complete and net ionic equations.