Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

H. Chemistry

Ch. 6 Study Guide

1. List 5 visual signals that a chemical reaction has occurred.
2. Give 2 examples of *physical* changes that might also give one of these same visual signals.
3. Why is it important that equations be balanced?
4. Use the following word descriptions to write balanced chemical equations showing the formulas of reactants and products. Make sure you include the physical states of reactants and products.
   1. Solid iron metal reacts with oxygen in the atmosphere to form rust (iron (III) oxide).
   2. Solid magnesium metal reacts with aqueous hydrochloric acid to produce hydrogen gas and an aqueous solution of magnesium chloride.
   3. Solid silver oxide decomposes upon heating to produce solid silver metal and oxygen gas.
   4. Aqueous sodium hydroxide reacts with aqueous nitric acid to produce aqueous sodium nitrate and water.
5. Balance these equations:
6. \_\_\_\_\_Ca(OH)2(s) + \_\_\_\_\_HCl(aq) ---> \_\_\_\_CaCl2(aq) + \_\_\_\_\_H2O(l)
7. \_\_\_\_\_FeCl3(aq) + \_\_\_\_\_(NH4)2S(aq) ---> \_\_\_\_\_Fe2S3(s) + \_\_\_\_\_NH4Cl(aq)
8. \_\_\_\_\_KNO3 (s) ---> \_\_\_\_\_KNO2 (s) + \_\_\_\_\_O2(g)
9. \_\_\_\_\_Ag2O(s) ---> \_\_\_\_\_Ag(s) + \_\_\_\_\_O2(g)
10. \_\_\_\_\_C4H10(g) + \_\_\_\_\_O2(g) ---> \_\_\_\_\_CO2(g) + \_\_\_\_\_H2O(g)
11. \_\_\_\_\_Br2(aq) + \_\_\_\_\_KI(aq) ---> \_\_\_\_\_I2(aq) + \_\_\_\_\_KBr(aq)
12. \_\_\_\_\_AsCl3(aq) + \_\_\_\_\_H2S (aq) ---> \_\_\_\_\_As2S3 (s) + \_\_\_\_\_HCl
13. \_\_\_\_\_C5H12O (l) + \_\_\_\_\_O2(g) --> \_\_\_\_\_\_CO2(g) + \_\_\_\_\_H2O (g)
14. \_\_\_\_\_Al(s) + \_\_\_\_\_H2SO4 (aq) ---> \_\_\_\_\_Al2(SO4)3(aq) + \_\_\_\_\_H2(g)
15. \_\_\_\_\_Fe(s) + \_\_\_\_\_Cl2(g) ---> \_\_\_\_\_FeCl3(s)