**Chemical Reactions Review Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* + 1. Identify the reaction type and balance the equation for each of the following:

a) Li + AlCl3 🡪 LiCl + Al

b) C2H6 + O2 🡪 CO2 + H2O

c) NH4OH + H3PO4 🡪 (NH4)3PO4 + H2O

d) Rb + P 🡪 Rb3P

e) CH4 + O2 🡪 CO2 + H2O

f) Al(OH)3 + H2SO4 🡪 Al2(SO4)3 + H2O

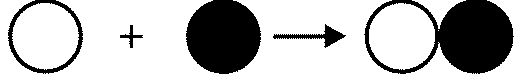
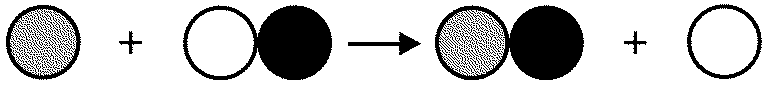
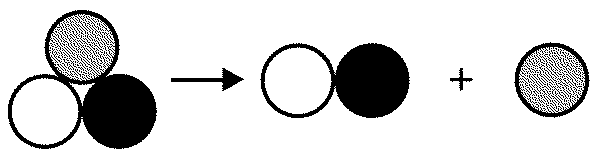
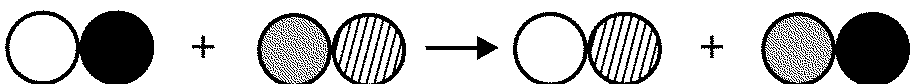
g) Na + Cl2 🡪 NaCl

h) Rb2S 🡪 Rb + S8

2. Substances that speed up reactions without being permanently changed are called: \_\_\_\_\_\_\_\_\_\_\_

3. In the equation below, label the subscripts and coefficients.

N2(g) + 3H2(g) 🡪 2NH3(g)

1. In the reaction from question 6, which substances are the reactants?
2. In the reaction from question 6, which substances are the products?
3. In the equation from question 6, list the each element and how many of each element are present on the reactant side.
4. In the equation from question 6, name each substance and tell the state of matter for each substance.
5. For each of the following figures, tell whether the reaction is synthesis, decomposition, single displacement, or double displacement:
   1. 
   2. 
   3. 
   4. 
6. How are synthesis and decomposition reactions related?
7. What is a precipitate?
8. Define and provide an example of each:
   1. Exothermic
   2. Endothermic
9. Identify the precipitate in this reaction: Pb(NO3)2(aq) + 2KI (aq) PbI2(s) + 2KNO3(aq)
10. Write balanced chemical equations for each of the following word equations:
    1. Solid zinc added to copper (II) sulfate dissolved in water produces zinc sulfate, dissolved in water, and solid copper. (remember to write the equation AND balance it!)

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* 1. Aqueous (dissolved in water) iron (III) chloride added to aqueous potassium hydroxide produces aqueous potassium chloride and solid iron (III) hydroxide

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* 1. Aqueous sodium carbonate added to aqueous calcium hydroxide produces aqueous sodium hydroxide and solid calcium carbonate.

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1. Predict the products for these synthesis reactions. You must write the entire equation and balance it properly.

Na + Cl2

Ca + Cl2 

1. Predict the products for these single displacement reactions. (remember to use your activity series to determine if each reaction will happen or not) You must write the entire balanced equation.

Zn + Cu(SO4)2 

Ag + Zn(SO4)2 

1. Predict the products for the following double displacement reactions. Remember to use your solubility table to determine which of the products is the precipitate. You MUST indicate which is the precipitate by including (s) to indicate which is a solid. Remember to balance each equation!

AlCl3+ NH4OH 

FeBr2 + (NH4)2CO3 

1. Predict the products for the following decomposition reactions. Write the balanced equation for each reaction.

NaCl

AlCl3

21. Predict the products of the following combustion reaction. Write the balanced equation for this reaction.

C2H2(g) + O2(g)