

Name \_\_\_\_\_  
Period \_\_\_\_\_  
Date \_\_\_\_\_

### Chemical Equations Practice

Step 1: Write the formula equations for the following word equations.

Step 2: Label the reactants and products for each equation.

Step 3: Label each compound as solid, liquid, gas, or aqueous

Step 4: Identify how many atoms of each element are on the reactants side.

Step 5: Identify how many atoms of each element are on the products side.

You will need to use a separate piece of paper to perform the work.

Example:

1. potassium chloride (aq) + silver nitrate (aq) --> potassium nitrate (aq) + silver chloride (s)

Step 1:  $\text{KCl (aq)} + \text{AgNO}_3 \rightarrow \text{KNO}_3 + \text{AgCl}$

Step 2:      reactants                      products

Step 3: KCl – aqueous; AgNO<sub>3</sub> – aqueous; KNO<sub>3</sub> – aqueous; AgCl – solid

Step 4:

| <u>Reactants</u> | <u>Products</u> |
|------------------|-----------------|
| K: 1             | K: 1            |
| Cl: 1            | Cl: 1           |
| Ag: 1            | Ag: 1           |
| N: 1             | N: 1            |
| O: 3             | O: 3            |

2. aluminum hydroxide (s) + sodium nitrate (aq) --> aluminum nitrate (aq) + sodium hydroxide (aq)

3. iron metal (s) + copper(II) sulfate (aq) --> iron(II) sulfate (aq) + copper metal (s)

4. aluminum metal (s) + copper(II) chloride (aq) --> aluminum chloride (aq) + copper metal (s)

5. potassium bromide (aq) --> potassium metal (s) + bromine (l)

6. calcium carbonate (s) --> calcium oxide (s) + carbon dioxide gas (g)

7. zinc metal (s) + oxygen gas (g) --> zinc oxide (s)

8. chlorine gas (g) + sodium metal (s) --> sodium chloride (s)

9. aluminum sulfate (aq) + barium chloride (s) --> aluminum chloride (s) + barium sulfate (aq)

10. beryllium fluoride (g) + magnesium (s) --> magnesium fluoride (s) + beryllium (s)

Diatomic molecules: Bromine (Br<sub>2</sub>), Chlorine (Cl<sub>2</sub>), Oxygen (O<sub>2</sub>)