Name: $\qquad$
$\qquad$
For questions 1 and 2 balance the equation

1. $\mathrm{Na}_{2} \mathrm{CO}_{3}+$
$\mathrm{HCl} \rightarrow$
$\mathrm{NaCl}+$
$\mathrm{H}_{2} \mathrm{CO}_{3}$

For question2, predict the $2^{\text {nd }}$ product, and then balance the equation.
2. $\mathrm{H}_{2} \mathrm{SO}_{4}+$
$\mathrm{Ba}(\mathbf{O H})_{2} \rightarrow$
$\mathrm{BaSO}_{4}+$
$\qquad$
For question 3, predict both products, and then balance the equation.
3. $\mathbf{C a C l}_{2}+$
$\mathrm{H}_{2} \mathrm{O} \rightarrow$ $\qquad$ $+$

Write the balanced equation for the reaction between solutions of silver nitrate and copper(II) sulfate. Then balance the equation.
4. $\qquad$ $+$ $\qquad$ $\rightarrow$ ___ + $+$ $\qquad$

Summing Up: Complete the following and balance the equation:

1. $\qquad$ $\mathrm{CaCO}_{3}+$ $\qquad$ $\mathrm{HCl} \rightarrow$ $\qquad$ $+$ $\qquad$
Teacher Initials:
2. $\qquad$ $\mathrm{Ba}\left(\mathrm{C}_{2} \mathrm{H}_{3} \mathrm{O}_{2}\right)_{2}+$ $\qquad$ $\mathrm{K}_{2} \mathrm{SO}_{4} \rightarrow$ $\qquad$ $+$ $\qquad$
$\qquad$

## Reaction Types 2 Worksheet

## Single Replacement:

1. Predict if the following reactions will occur (Hint: Use your activity series!).

- If the reaction occurs, predict the products of the reaction and write the balanced chemical equation.
- If no reaction occurs, write "No Reaction" after the arrow.
a. $\qquad$ $M g+$ $\qquad$ $\mathrm{Pb}\left(\mathrm{NO}_{3}\right)_{2} \rightarrow$
b. $\qquad$ $\mathrm{Ni}+$ $\qquad$ $\mathrm{Al}_{2}\left(\mathrm{SO}_{4}\right)_{3} \rightarrow$

2. Write a balanced equation for the reaction of solid copper (II) wire with a solution of silver nitrate.

## Double Replacement:

3. Predict the products of the following reactions and balance the equations:
a. $\qquad$ $\mathrm{NaOH}+$ $\qquad$ $\mathrm{H}_{2} \mathrm{SO}_{4} \rightarrow$
b. $\qquad$ $\mathrm{Sr}\left(\mathrm{NO}_{3}\right)_{2}+$ $\qquad$ $\mathrm{Na}_{2} \mathrm{SO}_{3} \rightarrow$
4. Write a balanced reaction for the reaction between solutions of potassium iodide and lead(II) nitrate.
5. Write a balanced reaction for the reaction between solutions of magnesium hydroxide and hydrochloric acid $(\mathrm{HCl})$.

## Synthesis and Decomposition:

6. Write a balanced equation for the reaction between carbon and sulfur $\left(S_{8}\right)$ to form carbon disulfide.
7. Write a balanced equation for the synthesis reaction between lithium metal and liquid bromine.
8. Write a balanced equation for the decomposition of water into its elements.

## Combustion:

9. Write a balanced equation for the combustion of ethanol $\left(\mathrm{C}_{2} \mathrm{H}_{5} \mathrm{OH}\right)$ in air.
10. Write a balanced equation for the reaction of butane $\left(\mathrm{C}_{4} \mathrm{H}_{10}\right)$ with pure oxygen.

## Balance each reaction and state the reaction type(s).

1. $\mathrm{NaOH}+\mathrm{KNO}_{3} \rightarrow \quad \mathrm{NaNO}_{3}+\mathrm{KOH}$
2. $\mathrm{Fe}+\quad \mathrm{NaBr} \rightarrow \quad \mathrm{FeBr}_{3}+\quad \mathrm{Na}$
3. $\mathrm{CaSO}_{4}+\quad \mathrm{Mg}(\mathrm{OH})_{2} \rightarrow \quad \mathrm{Ca}(\mathrm{OH})_{2}+\mathrm{MgSO}_{4}$
4. $\mathrm{NH}_{4} \mathrm{OH}+\mathrm{HBr} \rightarrow \quad \mathrm{H}_{2} \mathrm{O}+\quad \mathrm{NH}_{4} \mathrm{Br}$
5. $\mathrm{Pb}+\mathrm{O}_{2} \rightarrow \quad \mathrm{PbO}_{2}$
6. $\mathrm{Na}_{2} \mathrm{CO}_{3} \rightarrow \quad \mathrm{Na}_{2} \mathrm{O}+\mathrm{CO}_{2}$
7. $\mathrm{Cr}(\mathrm{s})+\quad \mathrm{SnCl}_{4}(\mathrm{aq}) \rightarrow \quad \mathrm{Sn}(\mathrm{s})+\quad \mathrm{CrCl}_{2}(\mathrm{aq})$
8. $\quad \mathrm{RbCl}(\mathrm{aq})+\quad \mathrm{MgSO}_{4}(\mathrm{aq}) \rightarrow \quad \mathrm{Rb}_{2} \mathrm{SO}_{4}(\mathrm{aq})+\quad \mathrm{MgCl}_{2}(\mathrm{aq})$
