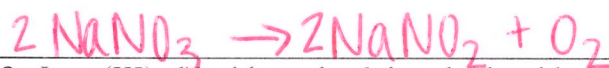
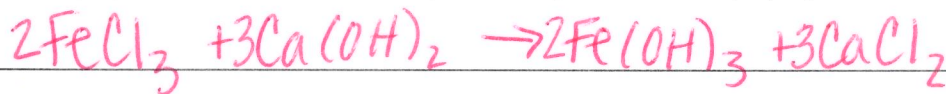


Unit 11: Types of Chem. Rxns Test Review-K**Part 1:** Write the chemical equation from the word equation AND balance.

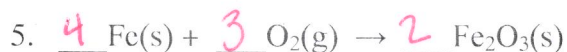
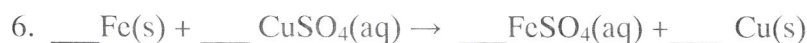
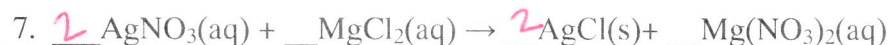
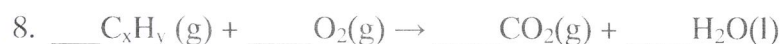
1. The decomposition of sodium nitrate forms sodium nitrite and oxygen.



2. Iron (III) chloride and calcium hydroxide produce iron (III) hydroxide and calcium chloride.

**Part 2:** Use the following reaction.

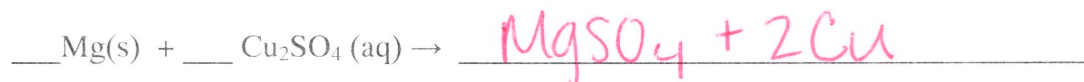
3. In the parenthesis, list the states of matter for each compound in the above reaction.

4. What is the precipitate in the above reaction? BaCrO₄**Part 3:** List the type of reaction (Synthesis, Decomposition, Single Replacement, Double Replacement, or Combustion) in the blanks below. And then balance the equations.Synthesissingledoublecombustiondecomp.singlesingle**Part 4:** Activity Series12. For which type of reaction (synthesis, decomposition, single replacement, double replacement etc.) should an activity series be used? single

13. Circle which element is more active in each set of elements listed.

Na or KMg or CuAu or LiZn or BaAl or FeCo or Cr14. Nonmetal activity increases (up, down) and to the (right, left).

15. Circle which element is more active in each set of elements listed.

Cl or IS or FBr or IF or ClCl or BrCl or F16. Will the following reaction occur based on metal activity? Yes or **No** AND balance. If so, predict the products

Part 5: Law of Conservation of Mass

17. What is the Law of Conservation of Mass? matter is neither created nor destroyed

18. $2\text{KClO}_3(\text{s}) \rightarrow 2\text{KCl}(\text{s}) + 3\text{O}_2(\text{g})$ How many grams of oxygen are produced from the decomposition of potassium chlorate? 30

150 grams 120 grams ? grams

$150 = 120 + x$

19. How does a balanced chemical equation show the law of conservation of mass?
both sides equal, so nothing is lost or gained

20. When applying the Law of Conservation of Mass, the total mass of the reactants must equal the total mass of the products in a chemical equation.

Part 6: Oxidation numbers and Oxidation Reduction Reactions.

List the oxidation numbers above each of the following compounds:

$\overset{+2}{\text{Na}}_2\overset{+2}{\text{S}}_2\overset{-2}{\text{O}}_3$

$\overset{+4}{\text{C}}\overset{-2}{\text{O}}_3$

$\overset{0}{\text{N}}_2$

$\overset{+5}{\text{N}}_2\overset{-2}{\text{O}}_5$

For each of the following:

1. Assign oxidation numbers.
2. Identify the substances oxidized/reduced
3. Identify oxidizing agent and reducing agent.

25. $\text{Mn}^{4+} + 2\text{F}^- \rightarrow \text{Mn}^{2+} + \text{F}_2$

a. Oxidized: F b. Reduced: Mn

c. Oxidizing Agent: Mn d. Reducing agent: F

26. $\text{Zn} + 2\text{HBr} \rightarrow \text{ZnBr}_2 + \text{H}_2$

a. Oxidized: Zn b. Reduced: H

c. Oxidizing Agent: H d. Reducing agent: Zn

Identify as oxidation or reduction.

27. $\text{Cr}^{3+} \rightarrow 3\text{e}^- + \text{Cr}^{6+}$ oxidation

28. $5\text{e}^- + \text{Mn}^{7+} \rightarrow \text{Mn}^{2+}$ reduction

29. $\text{NO}_2 + \text{H}_2\text{O} \rightarrow 1\text{e}^- + 2\text{H}^+ + \text{NO}_3^-$ oxidation

Write the oxidation and reduction half reactions from the following:

$2\text{FeBr}_3 + 3\text{Cl}_2 \rightarrow 2\text{FeCl}_3 + 3\text{Br}_2$ OK RIG

30. Oxidation half reaction: $2\text{Br}^- \rightarrow 3\text{Br}_2 + 6\text{e}^-$

31. Reduction half reaction: $3\text{Cl}_2 + 6\text{e}^- \rightarrow 2\text{Cl}_3^-$

Part 7: Net ionic equations:

32. $\text{AgNO}_3(\text{aq})$ + $\text{MgI}_2(\text{aq}) \rightarrow$

Ionic equation: _____

Net ionic equation: _____