

Unit 5 Review - Accelerated Chemistry

Name Key Pd: _____

Names and formulas Review: You must be able to correctly write the formulas of compounds to write chemical reactions.

	<u>Name</u>	<u>Formula</u>	<u>Ionic or Covalent?</u>
1.	disulfur trioxide	<u>S_2O_3</u>	<u>Covalent</u>
2.	ammonium sulfide	<u>$(NH_4)_2S$</u>	<u>Ionic</u>
3.	iron (III) sulfate	<u>$Fe_2(SO_4)_3$</u>	<u>Ionic</u>
4.	tetraphosphorus decaoxide	<u>P_4O_{10}</u>	<u>Covalent</u>

5. Define chemical reaction:

one or more substances are changed into new substances

6. Define reactant. Which side of a chemical equation (left or right) has the reactants?

*starting substances
left side*

7. Define product. Which side of a chemical equation has the products?

*ending substances
right side*

8. a. What is a subscript?

little #'s that tell you how many atoms of each element you have

b. How do you determine the subscripts needed for an ionic compound?

balance the charges

c. How do you determine the subscripts needed for a molecular compound?

use the prefixes in the name

9. Define coefficient including where they go and why they are necessary.

big numbers used in front of the formula to balance the equation so you have the same # of atoms of each element on the reactant + product side

10. We balance chemical equations because mass cannot be created or destroyed according to the law of conservation of mass.

11. What are the five indicators of a chemical change?

a. Color change

b. odor change

c. change in temp.

d. production of gas

e. formation of precipitate (solid)

12. Types of Reactions: There are 5 basic types of reactions beginning chemistry students need to know. Describe each of the type of reactions below, completing the table.

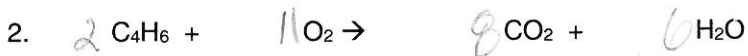
Type of reaction	Description of reaction
<i>synthesis</i>	<i>combining to form 1 product</i>
<i>decomposition</i>	<i>breaking down 1 reactant</i>
<i>combustion</i>	<i>O₂ as a reactant</i>
<i>single replacement</i>	<i>element + compound forms new element + compound</i>
<i>double replacement</i>	<i>2 compounds form 2 new compounds</i>



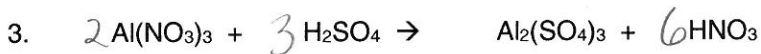
Balance the following reactions. Indicate the type of reaction.



Synthesis



Combustion



DR



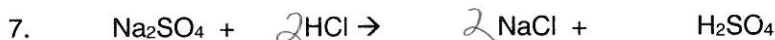
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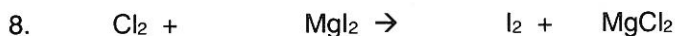
decomposition



Combustion

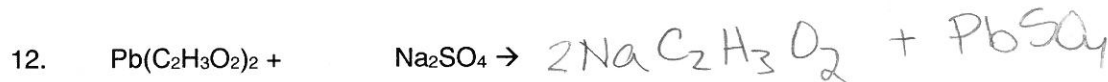
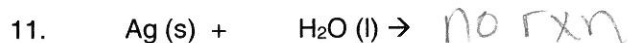
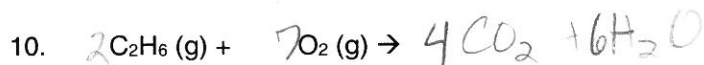
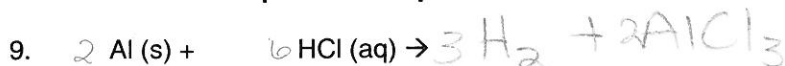


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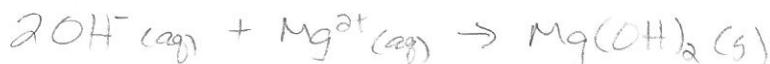
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Complete and balance the following reactions. If a single displacement (replacement) reaction will not happen, write no reaction in place of the products.

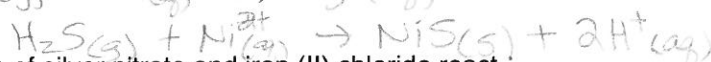
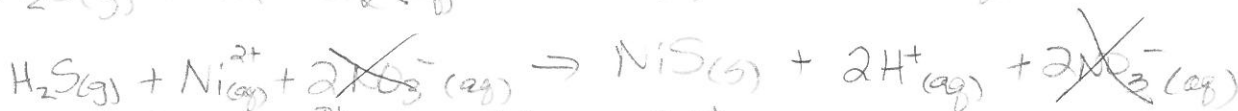


Write balanced molecular, complete ionic, and net ionic equations for the following reactions. You may need to predict the products. Include states of matter in your answers.

13. Solutions of sodium hydroxide and magnesium chloride react to form aqueous sodium chloride and solid magnesium hydroxide. $2 \text{NaOH (aq)} + \text{MgCl}_2 \text{ (aq)} \rightarrow 2 \text{NaCl (aq)} + \text{Mg(OH)}_2 \text{ (s)}$



14. Hydrogen sulfide gas reacts with a solution of nickel (II) nitrate.



15. Solutions of silver nitrate and iron (II) chloride react.

