

Name: _____

Date: _____

Chemical Reactions Practice Test**I CAN...**

- Label the atoms and draw Lewis diagrams
- Get information from the periodic table
- Determine charges and names of ions, and write in ionic notation
- Identify, name and write formulas for ionic compounds, including multivalent and polyatomic ions
- Identify, name and write formulas for covalent compounds
- Explain the difference between ionic and covalent compounds
- Write word and skeleton equations, including states
- Explain the law of conservation of mass
- Balance chemical equations
- Match acid formulas with their names
- Differentiate between acids and bases using their physical and chemical properties
- Determine if something is acidic, basic or neutral using pH or hydrogen ion concentration
- Predict the products of neutralization reaction (NOT carbonate bases)
- Explain ways to make a reaction rate increase or decrease
- Define exothermic and endothermic

1. Fill in this chart:

	Chlorine	Magnesium	Nitrogen
Class of Element (metal, non-metal, semi-metal)			
Atomic Number			
Atomic Mass			
Lewis Diagram			
Ionic Notation			
Ion Name			

2. Write the formulas for these compounds:

a. sodium chloride

e. calcium hydroxide

b. tetraphosphorus decoxide

f. dinitrogen trioxide

c. ammonium sulfate

g. lead(II) phosphate

d. potassium nitrate

h. sulfur trioxide

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3. Name the following compounds:

a. CO₂

e. SnSO₄

b. ZnCl₂

f. AgNO₃

c. BF₃

g. ICl

d. FeO

h. KClO₃

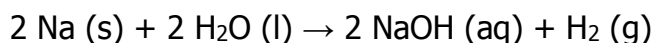
4. How are ionic and covalent compounds different...

a. In how they form?

b. In what they contain?

c. In how they are named?

5. Use the equation below to answer the questions.



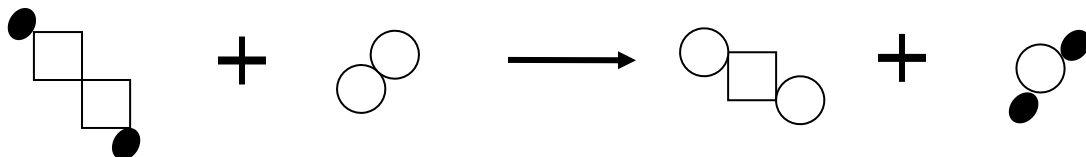
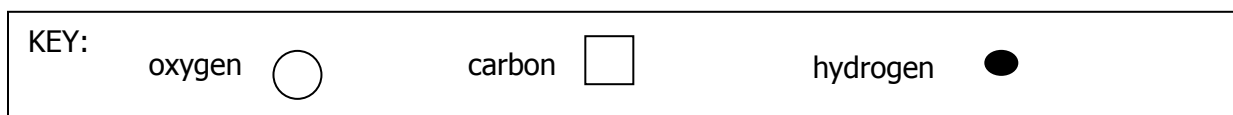
a. Circle the compound that does not have a coefficient.

b. Draw a triangle around the subscript in water.

c. Draw a rectangle around the products.

d. Put a star above the compound that is dissolved in water.

6. Below is a representation of a chemical reaction.



a. Write a word equation for this reaction.

b. Write a skeleton equation for this reaction.

c. The way this reaction is drawn above, it does not follow the law of conservation of mass. Explain why not, then write the reaction so that mass is conserved.

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7. A clear liquid has spilled on the lab bench, and you are not sure if it is an acid, a base or something else. You test it and find the following:
- It turns blue litmus red, and has no effect on red litmus.
 - It has a sour smell.
- a. Identify whether the liquid is an acid, a base or something else and how you know.
- b. What would you do to clean up this spill? Be specific!!
8. Solution A has a pH of 12.5. Solution B has a pH of 3.2.
- a. Which solution is sulfuric acid? Which is sodium hydroxide?
- b. Circle the formula that represents sulfuric acid:
 H_2S H_2SO_3 H_2SO_4
- c. If these solutions are mixed together, write the balanced chemical reaction for the neutralization reaction.
- d. When the solutions are mixed together, the products feel warm. Is this an exothermic or endothermic reaction?
9. You are reacting solid magnesium (Mg) with hydrochloric acid in the lab. Explain **two** ways you can make this reaction occur at a faster rate.