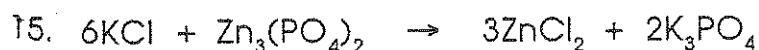
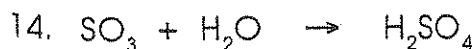
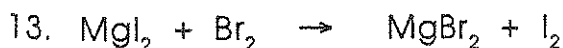
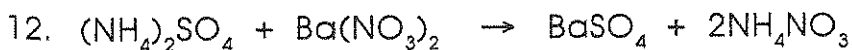
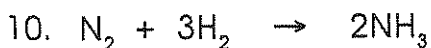
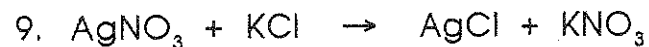
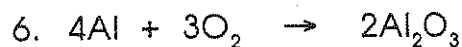
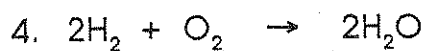
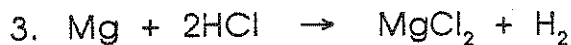


# CLASSIFYING CHEMICAL REACTIONS

Name \_\_\_\_\_

Classify the following reactions as synthesis, decomposition, single replacement or double replacement.



# WORD EQUATIONS

Name \_\_\_\_\_

Write and balance the following chemical equations.

1. Hydrogen plus oxygen yield water.

2. Nitrogen plus hydrogen yield ammonia.

3. Aluminum bromide plus chlorine yield aluminum chloride and bromine.

4. Hydrochloric acid plus sodium hydroxide yield sodium chloride plus water.

5. Iron plus lead (II) sulfate react forming iron (II) sulfate plus lead.

6. Potassium chlorate when heated produces potassium chloride plus oxygen gas.

7. Sulfuric acid decomposes to form sulfur trioxide gas plus water.

8. Sodium oxide combines with water to make sodium hydroxide.

9. Potassium iodide reacts with bromine forming potassium bromide plus iodine.

10. Sodium phosphate reacts with calcium nitrate to produce sodium nitrate plus calcium phosphate.

11. Zinc reacts with iron (III) chloride yielding zinc chloride plus iron precipitate.

12. Ammonium carbonate and magnesium sulfate react to yield ammonium sulfate plus magnesium carbonate.

13. Phosphoric acid plus calcium hydroxide react forming solid calcium phosphate plus water.

14. Aluminum plus oxygen gas form aluminum oxide under certain conditions.

15. Nitrogen gas plus oxygen gas react and form dinitrogen pentoxide.

## SCIENCE PUZZLERS, TWISTERS &amp; TEASERS

**Chemical Reactions****If Chemistry Were Cooking**

1. If chemistry were cooking, what kind of chemical reaction would each cooking experiment be?
  - a. Taking eggs & toast and a ham & cheese sandwich and making a grilled cheese sandwich and eggs and ham.  
\_\_\_\_\_
  - b. Picking raisins out of raisin bran cereal.  
\_\_\_\_\_
  - c. Making a sandwich with peanut butter and jelly.  
\_\_\_\_\_
  - d. Picking meatballs out of spaghetti sauce then putting them into a meatball sandwich.  
\_\_\_\_\_

**Be a Prefix Mathematician**

2. Use the values of the prefixes to solve the mathematical equations.
  - a.  $\text{mono} \times \text{di} + \text{tri} \times \text{deca} =$  \_\_\_\_\_
  - b.  $\text{di} + (\text{octa} / (\text{tri} - \text{mono} + \text{hexa})) =$  \_\_\_\_\_
  - c.  $\text{tetra} \times (\text{penta} + \text{nona} - \text{hepta}) =$  \_\_\_\_\_
  - d.  $\text{tri} + \text{tetra} + \text{di} + \text{mono} + \text{nona} =$  \_\_\_\_\_
  - e.  $(\text{octa} - \text{nona}) \times (\text{deca} - \text{hexa}) =$  \_\_\_\_\_
  - f.  $\text{penta} - (\text{di} + \text{tri}) =$  \_\_\_\_\_

**Word Connections**

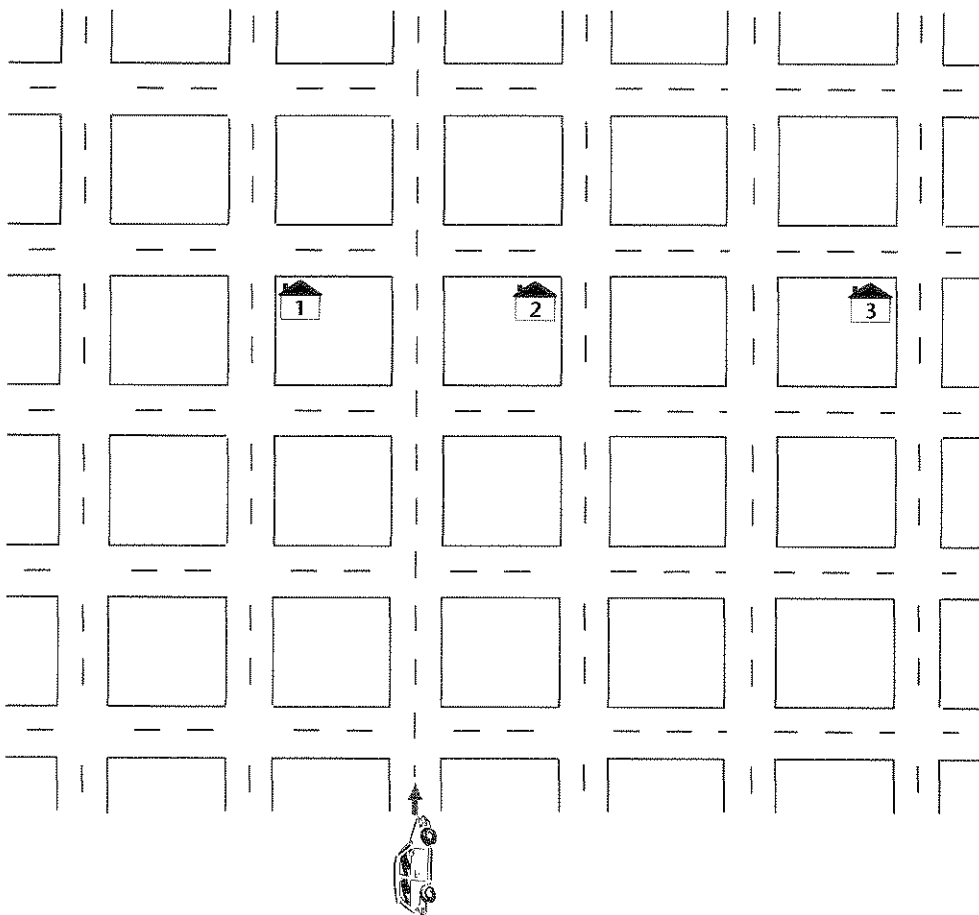
3. Each of the following sentences contains a hidden word from the chapter. These words can be found by looking at part of one word somewhere in the sentence and connecting it to the beginning of the next word(s). For example, the word *undo* could be hidden between the words *run, dogs*. Circle the hidden word in each example.
  - a. We're through, Jesco. Valentine's Day was the last straw.
  - b. Do you like websites that end in .com? Pound for pound, I think they're the best.

Chemical Reactions, continued

**Driving With Chemistry**

4. Your friends Tommy and Karen are throwing a party, but not everyone is invited—only those who can decipher their directions! Your car is shown at the bottom. Drive straight until you reach an intersection. Answer the next question by circling the appropriate word. Turn right or left according to what column your answer is in. Repeat until you have answered all six questions.

	Turn Right	Turn Left
a. If a reaction requires energy input to proceed, it is:	endothermic	exothermic
b. If a reaction releases energy as it proceeds it is:	endothermic	exothermic
c. If a chemical slows the rate of a reaction, it is a(n):	inhibitor	catalyst
d. If a chemical increases the rate of a reaction without being altered, it is a(n):	inhibitor	catalyst
e. In the reaction $4\text{Fe} + 3\text{O}_2 \longrightarrow 2\text{Fe}_2\text{O}_3$ , Fe is a:	product	reactant
f. In the reaction $4\text{Fe} + 3\text{O}_2 \longrightarrow 2\text{Fe}_2\text{O}_3$ , $\text{Fe}_2\text{O}_3$ is a:	product	reactant



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g. Which house did you arrive at? \_\_\_\_\_