

# Reaction Terminology Vocabulary

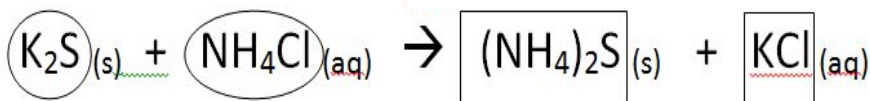
Name \_\_\_\_\_

LEVEL 2: All reactions show *REACTANTS* on the left of the arrow and *PRODUCTS* to the right of the arrow.

## REACTANTS → PRODUCTS

What you start with → the new substances that are formed

example:

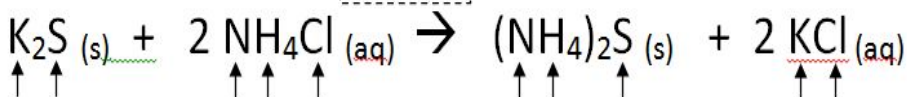


reactants are circled

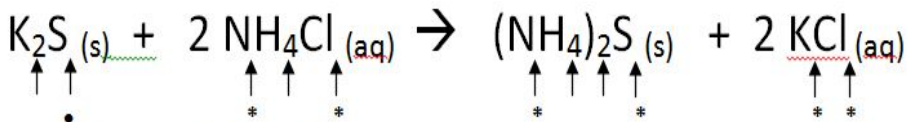
→ means  
yields to  
form or  
produces

products are in the square

LEVEL 3: The other vocabulary

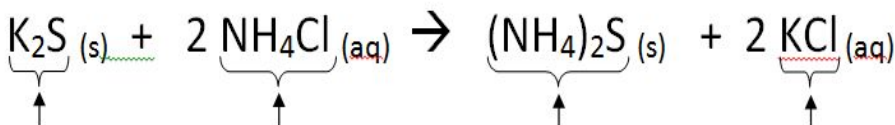


**CHEMICAL SYMBOL:** the abbreviation for an individual atom. Any letter or letter combinations found on the Periodic Table. NOTE: a chemical symbol always starts with a capital letter like K or S but can also be two letters like Na with the second letter always being lower case.

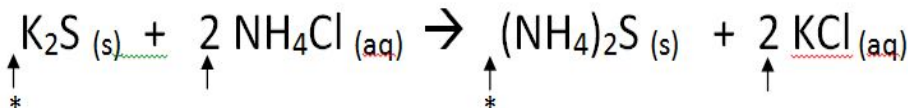


**SUBSCRIPT:** the small number behind a symbol that tell you how many of that atom are in the substance.

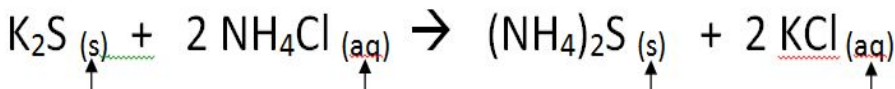
\* NOTE: if there is no subscript behind a symbol, the subscript is 1. Chemists never write ones.



**CHEMICAL FORMULA:** a combination of more than one symbol (KF, K<sub>2</sub>S) or multiple atoms of one symbol (O<sub>3</sub>, S<sub>8</sub>).



**COEFFICIENT:** a number in front of a chemical symbol or formula that tells how many of the substance are in the reaction. \* NOTE: if there is no coefficient in front of a symbol, the subscript is 1. Chemists never write ones.



**PHASE SYMBOLS:** tells what phase of matter the substance is in. s=solid, l=liquid, g=gas, aq=aqueous (which means dissolved in water). Phase symbols are always in parentheses and behind the substance.

## Reaction Terms Skillbuilder

Level 2: Write the general form of a chemical reaction using the terms: *product*, *reactant*.

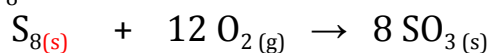
\_\_\_\_\_ → \_\_\_\_\_

Level 3: For each reaction below, do the following:

- circle ○ every reactant
- box □ every product
- diamond ◇ every coefficient that is not a '1'
- triangle △ every subscript that is not a '1'



Show that S<sub>8</sub> is a solid.

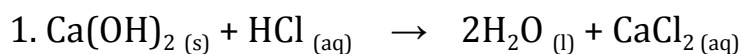


Write 2 **chemical symbols**: S, O (comes from Periodic Table)

Write 1 **chemical formula**: SO<sub>3</sub> (or S<sub>8</sub> or O<sub>2</sub>)

Write one **element** formula (if there is one): S<sub>8</sub> (or O<sub>2</sub>)

Write one **compound** formula (if there is one): SO<sub>3</sub>

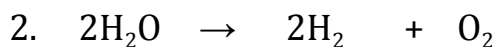


Write 2 chemical symbols:

Write 1 chemical formula:

Write 1 element formula (if there is one):

Write 1 compound formula (if there is one):

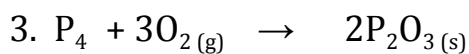


Show that the reactant is a liquid and everything else is a gas.

Write 2 chemical symbols:

Write 1 chemical formula:

Write 1 element formula (if there is one):



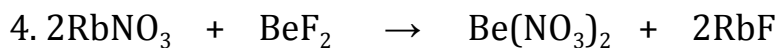
Show  $P_4$  is a solid.

Write 2 chemical symbols:

Write 1 chemical formula:

Write 1 element formula (if there is one):

Write 1 compound formula (if there is one):



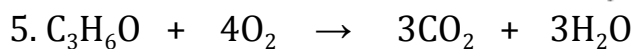
Show that all formulas are dissolved in water.

Write 2 chemical symbols:

Write 1 chemical formula:

Write 1 element formula (if there is one):

Write 1 compound formula (if there is one):



Show that the products are gases.

Write 2 chemical symbols:

Write 1 chemical formula:

Write 1 element formula (if there is one):

Write 1 compound formula (if there is one):

Write out the full word for the phase symbol abbreviations: USE CORRECT SPELLING!!!

(s) :	(l) :
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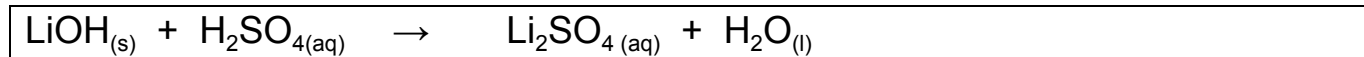
(g) :	(aq) :
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What does aq mean? \_\_\_\_\_

Level 4: Complete the problems on the **Writing Equations from Words** below.

*For each of the following problems, write complete chemical equations to describe the chemical process taking place. Important note: remember to include all phase symbols. The reactions DO NOT need to be balanced which means you do not have to figure out the coefficients.*

Example: When solid lithium hydroxide (LiOH) pellets are added to aqueous sulfuric acid (H<sub>2</sub>SO<sub>4</sub>), aqueous lithium sulfate (Li<sub>2</sub>SO<sub>4</sub>) and liquid water (H<sub>2</sub>O) are formed.



- 1) If a solid copper (Cu) coil is placed into aqueous silver nitrate (AgNO<sub>3</sub>), solid silver (Ag) crystals and aqueous copper nitrate (CuNO<sub>3</sub>) are generated.

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- 2) When solid glucose (C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>) is burned in oxygen (O<sub>2</sub>) gas, gaseous carbon dioxide (CO<sub>2</sub>) and gaseous water (H<sub>2</sub>O) are formed.

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- 3) When powdered iron metal (Fe) is reacted with oxygen (O<sub>2</sub>), iron oxide is produced. Solid iron oxide is a compound of iron and oxygen in a 2:3 ratio. HINT: the ratio tells you about the subscripts in the formula.

- 4) Lithium nitride is a compound of lithium and nitrogen in a 3:1 ratio. Aqueous lithium nitride reacts with solid magnesium fluoride (MgF<sub>2</sub>) to produce aqueous lithium fluoride (LiF) and aqueous magnesium nitride (Mg<sub>3</sub>N<sub>2</sub>).