

## Section 1D - Review

\*\*\*Remember your diatomic elements! Remember what they are and what that means. Remember to apply it when writing chemical equations!\*\*\*

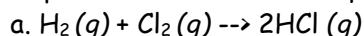
1) What does it mean to be a diatomic element?

Some elements, when they are alone (not in a compound), have to pair up. In these cases, when you write the formula for the element, it has to be  $X_2$ .

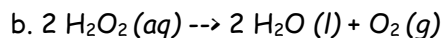
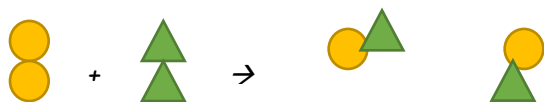
2) List the diatomic elements.



3) Represent each chemical equation by drawing particulate-level models of the reactants and products.



Type of Reaction: **synthesis**



Type of Reaction: **decomposition**



4) Write chemical equations that represent these word equations:

a. Baking soda ( $NaHCO_3$ ) reacts with hydrochloric acid ( $HCl$ ) to produce sodium chloride, water, and carbon dioxide.

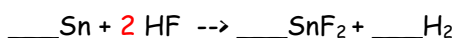


b. During respiration, one molecule of glucose ( $C_6H_{12}O_6$ ) reacts with six molecules of oxygen gas to produce six molecules of carbon dioxide and six molecules of water.



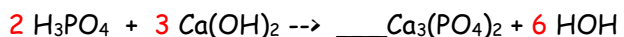
5) Balance the following equations:

a. The preparation of tin(II) fluoride, a component of some toothpastes (called *stannous fluoride* in some ingredient lists):



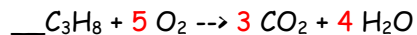
Type of Reaction: **single replacement**

b. The neutralization of hydrogen phosphate by calcium hydroxide:



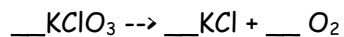
Type of Reaction: **double replacement**

c. Burning of propane:



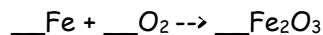
Type of Reaction: **combustion**

d. Heating potassium chlorate:



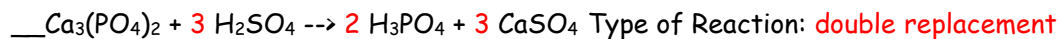
Type of Reaction: **decomposition**

e. Rusting (oxidation) of iron metal:



Type of Reaction: **synthesis**

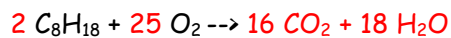
f. Preparing phosphoric acid (used in making soft drinks, detergents, and other products) from calcium phosphate and sulfuric acid:



Type of Reaction: **double replacement**

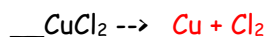
6) Complete the equations by predicting the products and balancing the equations. Then, identify the type of reaction.

a. burning on octane,  $\text{C}_8\text{H}_{18}$ , a component in gasoline.



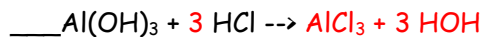
Type of Reaction: **combustion**

b. The breakdown of copper chloride:



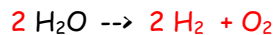
Type of Reaction: **decomposition**

c. The reaction of an antacid with stomach acid (hydrochloric acid):



Type of Reaction: **double replacement**

d. The breakdown of water:



Type of Reaction: **decomposition**