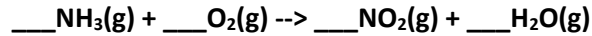
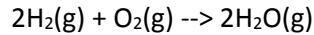


**Guided Notes: Gas Stoichiometry**

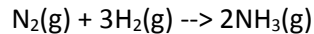
- When the reactants and products are solids (s), liquids (l) or aqueous (aq), the coefficients represent:
  - the number of \_\_\_\_\_
- When the reactants and products are gases (g) the coefficients represent:
  - the number of \_\_\_\_\_
  - volumes of \_\_\_\_\_ in \_\_\_\_\_

Practice:

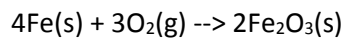
1. Determine the volume of hydrogen gas needed to react completely with 5.00 L of oxygen gas to form water vapor. Conditions for the gases are STP.



2. If 5.0 L of  $\text{N}_2$  reacts at STP, how many grams of  $\text{NH}_3$  are produced?



3. Calculate the volume of oxygen gas at 300. K and 1.5 atm that is required to completely react with 52.0 g of iron.



- a. Why did we use stoichiometry first in this problem?
- b. Why do we have to use the ideal gas law for this problem?
- c. Why couldn't we use the molar volume in this problem?
- d. When you aren't sure how to solve the problems, what will always work?