

Follow along as you view the video, “Stoichiometry: Excess Reactant & Amount of Product Formed” on edpuzzle.com and fill in the blanks as you go. (Also available at (<http://youtu.be/jbFGSUi1GLQ>))

- Amount of Excess Reactant & Amount of Product
 - Determining amount of excess reactant remaining
 - Use _____ starting with _____ to determine _____
 - Subtract _____ to find _____
 - Determining amount of product formed
 - Use _____ starting with _____ to determine _____
 - Mole-Based Problem
 - In previous lesson, when 2.3 mol N₂ and 7.6 mol H₂ reacted according to the reaction N₂ (g) + 3 H₂ (g) → 2 NH₃ (g), N₂ was the limiting reactant. How much of the excess reactant (H₂) remained? How much NH₃ is produced?
 - Determine mol H₂ used by 2.3 mol N₂ then subtract:

$$\text{mol H}_2 \text{ used} = 2.3 \text{ mol N}_2 \times$$

 mol H₂ remaining =
 - Next determine mol NH₃ formed from 2.3 mol N₂:

$$\text{mol NH}_3 = 2.3 \text{ mol N}_2 \times$$
 - Mass-Based Problem
 - In the last lesson, when 20.0 g N₂ and 10.0 g H₂ reacted by the same reaction, N₂ was the limiting reactant. How much H₂ remains? How many grams of NH₃ are formed?
 - Since we already know the _____

$$\text{mass H}_2 \text{ used} = \frac{0.714 \text{ mol N}_2}{}$$

mass H₂ remaining =

$$\text{mass NH}_3 = \frac{0.714 \text{ mol N}_2}{}$$

○ Your Turn

- In the last lesson, when 84.9 g FeS reacted with 64.9 g O₂ by the reaction

$4 \text{ FeS(s)} + 7 \text{ O}_2\text{(g)} \rightarrow 2 \text{ Fe}_2\text{O}_3\text{(s)} + 4 \text{ SO}_2\text{(g)}$, FeS was limiting. How many grams of O₂ remain, and how many grams of Fe₂O₃ are formed?

- Read §12.3 pp. 364-369 for additional sample problems