

**Ch3/ PowerPoint Study-3 Stoichiometry – Introduction Name:**

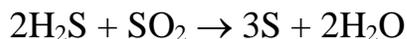
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*Answer these questions as you are watching the videos. They are due in class.*

*These questions are not just for you to answer but also to prepare you for the exam.*

*Make sure you understand what you are writing and not just copy from the text book. **Show all work.***

How many grams of sulfur can be produced from 2 mols of sulfur oxide? The equation is given below:



- a) Is the equation balanced?            Yes/No
- b) Do you need the grams of sulfur dioxide?            Yes/No
- c) What is the mol ratio of sulfur dioxide to sulfur?            \_\_\_\_\_
- d) How many mols of sulfur will be formed from 2 mols of sulfur dioxide? \_\_\_\_\_
- e) How many grams of sulfur are formed from the 2 mols of sulfur oxide? Set up dimensional analysis format for full stoichiometric setup.

Complete the following sentence with the information above.

2 mols of sulfur dioxide, will produce \_\_\_\_\_ mol of sulfur, which is \_\_\_\_\_ g of sulfur (theoretical yield).

**A Second Scenario:** Using the equation given above, try another problem.

How many grams of water will be formed when 3.00 g of sulfur are formed?

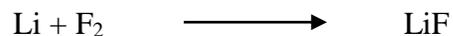
- f) How many mols are in 3.00 g of sulfur?
- g) What is the mol ratio of sulfur to water?            \_\_\_\_\_
- h) How many grams of water are produced? Do the dimensional analysis format for full stoichiometric setup.

Complete the following sentence with the information above.

3.00 g sulfur, which is \_\_\_\_\_ mol of sulfur, will produce \_\_\_\_\_ g of water (theoretical yield)

**Stoichiometric Calculation – This is what a question looks like in the exam.**  
*Do these problems using the dimensional analysis full setup instead of step by step.*

Lithium is reacted with fluorine to form lithium fluoride as in the equation below.



- 1) How much lithium fluoride is made when 15.0 g of fluorine is used?  
(Strategy: a) check if the equation is balanced. If not, then balance it.  
b) convert 15 g  $\text{F}_2 \rightarrow \text{mol } \text{F}_2 \rightarrow \text{mol ratio of LiF} \rightarrow \text{g of LiF}$ )
  
- 2) How much lithium is required to react with 23.2 g of fluorine? (follow the same strategy as above)