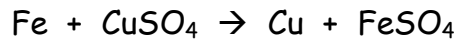


In this lab, iron and copper (II) sulfate react according to the following  
BALANCED equation.



Data:

mass of copper (II) sulfate	
mass of iron filings	
mass of filter paper and Cu	
mass of filter paper	
mass of Cu	

color of decanted liquid \_\_\_\_\_

Conclusions:

1. Calculate the number of moles of iron used in the reaction. **SHOW ALL WORK!**
  
  
  
  
  
  
  
  
  
  
2. Calculate the number of moles of copper (II) sulfate used in the reaction.  
**SHOW ALL WORK!**

3. Using your answer to number 1 and the balanced equation, calculate the theoretical yield of copper produced in this lab. **SHOW ALL WORK!**
4. Using your answer to number 2 and the balanced equation, calculate the theoretical yield of copper produced in this lab. **SHOW ALL WORK!**
5. Based on your answers to numbers 3 and 4, which reactant is your limiting reactant? \_\_\_\_\_ Which reactant is your excess reactant? \_\_\_\_\_ What is the theoretical yield of copper produced in this lab? \_\_\_\_\_
6. In this experiment, when the copper (II) sulfate dissolved, the water turned a \_\_\_\_\_ color. After the reaction was over, was the decanted liquid colorless or did some of the color remain? \_\_\_\_\_ Would that indicate that all of the copper (II) sulfate was used up in the experiment or that some of the copper (II) sulfate was unused? \_\_\_\_\_ Based on these observations, which reactant is your limiting reactant? \_\_\_\_\_ Which reactant is your excess reactant? \_\_\_\_\_
7. Use your answer to number 5 and the actual amount of copper produced in the experiment from your data table to calculate the % yield of copper in the experiment.