Lab 8: Limiting Reagent Lab

Introduction:
(Write 10 facts from Chapter 12.)

Materials:

Graham Cracker
Chocolate Bar
Marshmallow
Bunsen Burner
Wood Splint

Procedure:

1. Complete the **data and the questions** at the end of the lab handout. You must show your work. Check the answers with me. Until you get the right answers for all four, you cannot move to the next step. Once I check your answers, one person can write the WORK and the answers in your lab notebook in BLACK INK!!
2. Ask me for 2 graham crackers, 1 marshmallow, and ½ a chocolate bar.
3. Stick the marshmallow on the wood splint and hold over the Bunsen burner until it is melty. DO NOT BURN IT OR DO ANYTHING ELSE IMMATURE, OR WE WILL NOT DO ANYTHING FUN OR TASTY AGAIN!!
4. Assemble your s'more and enjoy!!
5. Clean up: Throw away your stuff and wipe the counter off.

Data: (Copy the question below and show your work and answer for the data.)

Complete the following problem. It takes 1 marshmallow, 2 graham crackers, and ½ a chocolate bar to make a s'more. If you have 148 marshmallows, 251 graham crackers, and 53 chocolate bars, what is the limiting reagent? How many s'mores could you make? Check your answer with me before you move to the questions. Once I check your answer, then one person can write the WORK and the answer as your DATA.

Questions: (Write the questions and answer them.)

1. In the reaction below, 0.136 mol of iron are allowed to react with 0.271 mol of sulfur. How many moles of FeS can be formed?

$$\mathbf{2Fe + 3S \rightarrow Fe_2S_3}$$

2. What is the limiting reagent and excess reagent from question #1?

3. How many liters of C_3H_3N can be made when 0.514 mol of C_3H_6 react with 0.72 mol of NO?

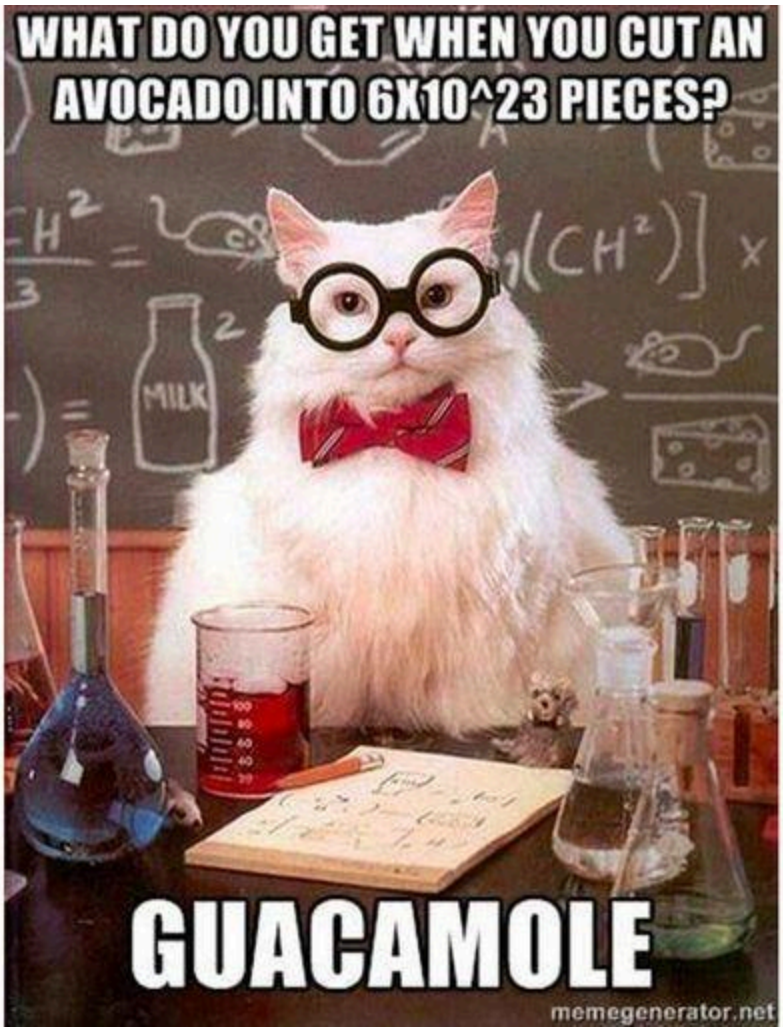
$$\mathbf{4\ C_3H_6 + 6\ NO \rightarrow 4\ C_3H_3N + 6\ H_2O + N_2}$$

4. What is the limiting reagent and excess reagent from question #2?

5. Calculate the percent yield for an experiment in which 3.64×10^{23} molecules of phosphorus reacts with excess chlorine gas to produce 111.0 g of phosphorus trichloride.

$$\mathbf{P_4 + 6\ Cl_2 \rightarrow 4\ PCl_3}$$

Conclusion:
(Write 3 sentences about any mistakes you made, anything that you learned, how the lab relates to real life, or times that conversions or calculating amounts may be necessary in real life.)


WHAT DO YOU GET WHEN YOU CUT AN AVOCADO INTO 6X10^23 PIECES?
MILK
GUACAMOLE
memegenerator.net