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| *Gas volume and limiting reagent*  CλeMis+ry: http://genest.weebly.com  Stop in for help every day at lunch and Tues &Thurs after school! |  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_  Period\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. What does STP stand for?
2. At STP what is the pressure? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. At STP what is the temperature? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Describe all gases at STP, by filling in the blanks:

\_\_\_\_\_\_\_\_\_\_ moles of gas at STP = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ liters of gas

1. Suppose 8.61 g of indium was allowed to react with 8.61 liters of HCl gas to produce indium chloride and hydrogen gas.
   1. What is the balanced equation?
   2. Which reactant is limiting? (Show both calculations.)
   3. Using the limiting reactant, solve for how many liters of hydrogen gas will form at Standard Temperature and Pressure.
2. Determine the volume in liters of carbon dioxide that should be produced in the reaction between 100. g of carbon and 100. liters of O2. (Use the same three steps as in the previous problem above).
3. Suppose 2.00 L of nitrogen gas and 5.00 L of hydrogen gas are mixed and reacted to form ammonia (NH3). Calculate the volume in liters of ammonia produced when this reaction runs to completion.
4. Uranium (III) sulfide can react with fluorine to form uranium hexafluoride gas and S8. Write a balanced reaction and then find how many liters at STP of UF6 will form if you have 333.3 grams uranium (III) sulfide and 0.9 liters fluorine.