

Questions to be completed and submitted to work towards credit earned in Chemistry 112.
Please email a picture or scanned copy of your work to Mrs. Arsenault.

Material covered May 4 - 8

1. How many molecules are in 16.79 L of $\text{H}_2\text{O}_{(g)}$ at STP?
2. What is the volume occupied by 6.84×10^{24} atoms of $\text{Ar}_{(g)}$ at STP?
3. How many atoms are in 56.8 L of $\text{Ne}_{(g)}$ at STP?
4. What is the molar mass of a gas with a density of 1.25g/L at STP?
5. What is the volume occupied by 89.4 g of $\text{C}_4\text{H}_{10(g)}$ at STP?
6. What is the volume occupied by 7.59×10^{22} molecules of F_2 at STP?
7. What is the mass of 20.0 L of $\text{O}_{2(g)}$ at STP?
8. What is the volume occupied by 7.49 g of $\text{N}_{2(g)}$ at STP?
9. What is the mass of 23.45 L of $\text{C}_3\text{H}_{8(g)}$ at STP?
10. What is the density in g/L of a gas at STP with a molar mass of 70.90 g/mol?
11. Avogadro's hypothesis states that equal volumes of gases at the same temperature and pressure contain equal numbers of particles. Why is this?
12. What are the temperature and pressure at STP?