

Mole HW #1 name: _____

1. Describe the relationship between Avogadro's number & 1 mole of any substance.
 2. How many oxygen atoms are in a representative particle of each of these?
 - A. Aluminum hydroxide, a base - $\text{Al}(\text{OH})_3$
 - B. acetylsalicylic acid, aspirin - $\text{HC}_8\text{H}_7\text{O}_4$
 - C. ozone, a disinfectant and part of the air - O_3
 - D. nitroglycerine, explosive - $\text{C}_3\text{H}_5(\text{NO}_3)_3$
 - E. Barium bromate monohydrate, a hydrated ionic salt - $\text{Ba}(\text{BrO}_3)_2 \cdot \text{H}_2\text{O}$
 3. How many moles in each of these? (show the math)
 - A. 1.50×10^{23} molecules NH_3 (ammonia)
 - B. 1 billion (1×10^9) molecules O_2 (oxygen) (USE 3 SF)
 - C. 6.02×10^{22} molecules of Br_2 (bromine)
 - D. 4.81×10^{24} atoms of Li (lithium)
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Mole HW #2 name: _____

Write the formula of each of these four compounds correctly, then calculate the MOLAR MASS with the full process. Write big!

Ammonium Phosphate, Lithium Dichromate, Barium Hydrogen Sulfate, and Gold I Thiosulfate

Mole HW #3 name: _____

1. You find a jar with 209 gm. of sodium hypochlorite. How many formula units did you find?
 2. You have 625.0 g oxygen difluoride gas at STP. How many g are just oxygen, and how many gms are just fluorine? [round to nearest whole number of grams] (% comp)
 3. You have 244 g of tantalum bromide. How many grams are tantalum, how many are bromine? [round to nearest whole number of grams]
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Mole HW #4 name: _____

1. You have a balloon containing 302 liters of nitrogen gas at STP. What does the gas weigh?
2. You love to snack on sucrose laden products like other normal teenager. There are 185 grams of $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ sucrose in a cake that you just ate. Of that, how many grams were just carbon?
3. Write the EMPIRICAL FORMULAS for each of these compounds:

C_6H_{12} $\text{C}_{10}\text{H}_{22}$ C_5H_{12} $\text{C}_{10}\text{H}_{24}$ $\text{C}_{10}\text{H}_{18}$ C_2H_6
 C_3H_6 C_3H_8 $\text{C}_6\text{H}_{12}\text{O}_6$ $\text{C}_{22}\text{H}_{44}$