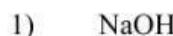


Name \_\_\_\_\_ Date \_\_\_\_\_ Per \_\_\_\_\_

**Mole to Grams, Grams to Moles Conversions Worksheet**

To find moles divide molar mass

To find grams multiply molar mass

*What are the molecular weights of the following compounds?***Each definition can be written as a set of two conversion factors. They are:****1 mole = molar mass(g) can be written as**

$$\left( \frac{1 \text{ mole}}{\text{molar mass (g)}} \right) \text{ OR } \left( \frac{\text{molar mass (g)}}{1 \text{ mole}} \right)$$

**Solve any 5 of the following:**1) **How many moles** are in 15 grams of lithium?2) **How many grams** are in 2.4 moles of sulfur?3) **How many moles** are in 22 grams of argon?4) **How many grams** are in 88.1 moles of magnesium?5) **How many moles** are in 2.3 grams of phosphorus?6) **How many grams** are in 11.9 moles of chromium?7) **How many moles** are in 9.8 grams of calcium?8) **How many grams** are in 238 moles of arsenic?

Solve any 5 of the following:

9) How many grams are in 4.5 moles of sodium fluoride, NaF?  
 (molar mass of NaF is  $23 + 19 = 42$  g/ mole)  
~~4.5 moles x 42 grams~~ = 189 grams NaF OR  $4.5 \text{ moles} \times 42 \text{ g} = 189 \text{ g}$   
 1 mole

10) How many moles are in 98.3 grams of aluminum hydroxide, Al(OH)<sub>3</sub>?  
 (molar mass of Al(OH)<sub>3</sub> is  $27 + (3 \times 16) + (3 \times 1) = 78$  g/ mole)  
~~98.3 grams x 1 mole~~ = 1.26 moles Al(OH)<sub>3</sub> OR  $(98.3 \text{ g} / 78 \text{ g}) = 1.26 \text{ moles}$   
 78 grams

11) How many grams are in 0.02 moles of beryllium iodide, BeI<sub>2</sub>?

12) How many moles are in 68 grams of copper (II) hydroxide, Cu(OH)<sub>2</sub>?

13) How many grams are in 3.3 moles of potassium sulfide, K<sub>2</sub>S?

14) How many moles are in  $1.2 \times 10^3$  grams of ammonia, NH<sub>3</sub>?

15) How many grams are in  $2.3 \times 10^{-4}$  moles of calcium phosphate, Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>?

16) How many moles are in  $3.4 \times 10^{-7}$  grams of silicon dioxide, SiO<sub>2</sub>?

17) How many grams are in 1.11 moles of manganese sulfate, Mn<sub>3</sub>(SO<sub>4</sub>)<sub>2</sub>?