

**Mole Conversion Worksheet (show work on separate sheet of paper)**

**Name:** \_\_\_\_\_

**Period:** \_\_\_\_\_

**There are three mole equalities. They are:**

$$1 \text{ mol} = 6.02 \times 10^{23} \text{ particles}$$

$$1 \text{ mol} = \text{molar mass (periodic table)}$$

$$1 \text{ mol} = 22.4 \text{ L for a gas at STP}$$

**Each equality can be written as a set of two conversion factors. They are:**

**Mole-Particle Conversions**

1. How many moles of magnesium is  $3.01 \times 10^{22}$  atoms of magnesium?
2. How many molecules are there in 4.00 moles of glucose,  $\text{C}_6\text{H}_{12}\text{O}_6$ ?
3. How many moles are  $1.20 \times 10^{25}$  atoms of phosphorous?
4. How many atoms are in 0.750 moles of zinc?
5. How many molecules are in 0.400 moles of  $\text{N}_2\text{O}_5$ ?

**Mole-Mass Conversions**

6. How many moles in 28 grams of  $\text{CO}_2$  ?
7. What is the mass of 5 moles of  $\text{Fe}_2\text{O}_3$  ?
8. Find the number of moles of argon in 452 g of argon.
9. Find the grams in  $1.26 \times 10^{-4}$  mol of  $\text{HC}_2\text{H}_3\text{O}_2$ .
10. Find the mass in 2.6 mol of lithium bromide.