

# MOLE QUIZ

Name: \_\_\_\_\_  
Period: \_\_\_\_\_

**Directions:** Answer each question in Dimensional Analysis form. Be sure to include ALL units.

1. Calculate the number of molecules in 8.29 grams of Copper (II) fluoride.
2. How many moles are in 91.08 g of diphosphorous trioxide?
3. A student needed 6.25 moles of Copper. How many grams should he weigh out?
4. How many atoms are in .00000975 g of Silver.
5. How many oxygen atoms are present in 5.00g of Calcium Nitrate?

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Name: Key!  
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Directions: Answer each question in Dimensional Analysis form. Be sure to include ALL units.

1. Calculate the number of molecules in 8.29 grams of Copper (II) fluoride.  $\text{CuF}_2$

4  $8.29 \text{ g} \cdot \frac{1 \text{ mol}}{101.5 \text{ g}} \cdot \frac{6.02 \times 10^{23} \text{ molecules}}{1 \text{ mol}} = 4.92 \times 10^{22} \text{ molecules}$

2. How many moles are in 91.08 g of diphosphorous trioxide?  $\text{P}_2\text{O}_3$

3  $91.08 \text{ g} \cdot \frac{1 \text{ mol}}{110 \text{ g}} = 0.828 \text{ mol}$

3. A student needed 6.25 moles of Copper. How many grams should he weigh out?  $\text{Cu}$

3  $6.25 \text{ mol} \cdot \frac{63.5 \text{ g}}{1 \text{ mol}} = 397 \text{ g}$

4. How many atoms are in .00000975 g of Silver.  $\text{Ag}$

4  $.00000975 \text{ g} \cdot \frac{1 \text{ mol}}{107.9 \text{ g}} \cdot \frac{6.02 \times 10^{23} \text{ atoms}}{1 \text{ mol}} = 5.414 \times 10^{16} \text{ atoms}$

5. How many oxygen atoms are present in 5.00g of Calcium Nitrate?  $\text{Ca}(\text{NO}_3)_2$

5  $5.00 \text{ g} \cdot \frac{1 \text{ mol}}{164.1 \text{ g}} \cdot \frac{6.02 \times 10^{23} \text{ molecules}}{1 \text{ mol}} \cdot \frac{6 \text{ atoms O}}{1 \text{ molecule}} = 1.10 \times 10^{23} \text{ atoms}$

15%