

## Moles Worksheet

- 1) Define "mole".
- 2) How many moles are present in 34 grams of  $\text{Cu}(\text{OH})_2$ ?
- 3) How many moles are present in  $2.45 \times 10^{23}$  molecules of  $\text{CH}_4$ ?
- 4) How many grams are there in  $3.4 \times 10^{24}$  molecules of  $\text{NH}_3$ ?
- 5) How much does 4.2 moles of  $\text{Ca}(\text{NO}_3)_2$  weigh?
- 6) What is the molar mass of  $\text{MgO}$ ?
- 7) How are the terms "molar mass" and "atomic mass" different from one another?
- 8) Which is a better unit for expressing molar mass, "amu" or "grams/mole"?

## Moles Worksheet (Solutions)

- 1) Define "mole".  
 **$6.02 \times 10^{23}$  of anything, usually atoms or molecules.**
- 2) How many moles are present in 34 grams of  $\text{Cu}(\text{OH})_2$ ?  
**0.35 moles**
- 3) How many moles are present in  $2.45 \times 10^{23}$  molecules of  $\text{CH}_4$ ?  
**0.41 moles**
- 4) How many grams are there in  $3.4 \times 10^{24}$  molecules of  $\text{NH}_3$ ?  
**96 grams**
- 5) How much does 4.2 moles of  $\text{Ca}(\text{NO}_3)_2$  weigh?  
**689 grams**
- 6) What is the molar mass of  $\text{MgO}$ ?  
**40.3 grams/mole**
- 7) How are the terms "molar mass" and "atomic mass" different from one another?  
**"Molar mass" is used to describe the mass of one mole of a chemical compound, while "atomic mass" is used to describe the mass of one mole of an element or the mass of one atom of an element.**
- 8) Which is a better unit for expressing molar mass, "amu" or "grams/mole"?  
**"Grams/mole" is better, because any macroscopic amount of a substance is better expressed in grams than amu.**