Moles Worksheet

1) Define “mole”.

2) How many moles are present in 34 grams of $Cu(OH)_2$?

3) How many moles are present in 2.45×10^{23} molecules of CH_4?

4) How many grams are there in 3.4×10^{24} molecules of NH_3?

5) How much does 4.2 moles of $Ca(NO_3)_2$ weigh?

6) What is the molar mass of 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, “u” or “grams/mole”?

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Moles Worksheet (Solutions)

1) Define “mole”.
6.02 x 10^{23} of anything, usually atoms or molecules.

2) How many moles are present in 34 grams of $Cu(OH)_2$?
0.35 moles

3) How many moles are present in 2.45 x 10^{23} molecules of CH_4?
0.41 moles

4) How many grams are there in 3.4 x 10^{24} molecules of NH_3?
96 grams

5) How much does 4.2 moles of $Ca(NO_3)_2$ weigh?
689 grams

6) What is the molar mass of 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.

