

Mole Conversions Worksheet

Chemistry Worksheet Regular

Name: _____

Date: _____ p: _____

Mass to Mole to Atoms Worksheet

A) What are the molecular weights of the following compounds? (all masses must be to nearest hundredth)

1) Methane

5) Mn_2Se_7

2) Phosphoric Acid

6) Nickel(III)Nitrate

3) H_2O

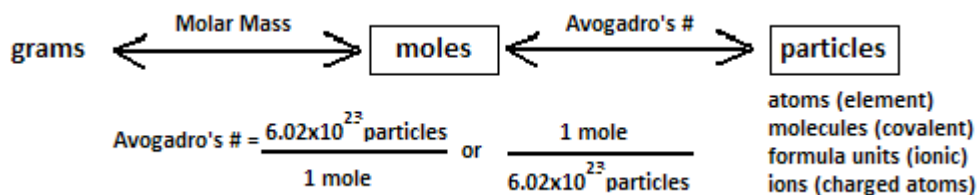
7) $(\text{NH}_4)_2\text{SO}_4$

4) $\text{V}_3(\text{PO}_3)_4$

8) HydroCyanic Acid

B) Directions: Show ALL of your work. Make sure to include units!!!!

Mole-Particle Conversions (use Avogadro's number for your conversions)



1. How many moles of magnesium are in 3.01×10^{22} atoms of magnesium?

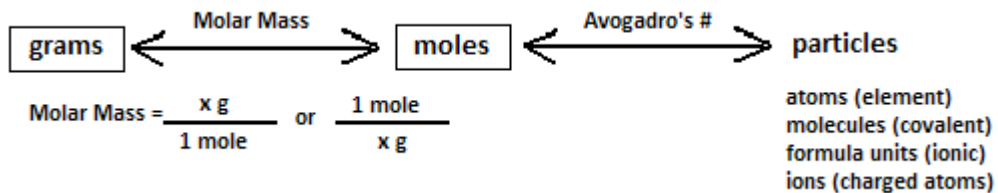
2. How many molecules are there in 4.00 moles of glucose, $\text{C}_6\text{H}_{12}\text{O}_6$?

3. How many moles are 1.20×10^{25} formula units of calcium iodide?

4. How many formula units are in 12.5 moles of calcium phosphate?

5. How many moles are in 5.02×10^{23} atoms of chlorine gas?

C) Mole-Mass-Particle Conversions (use the molar mass from the periodic table for your conversions)

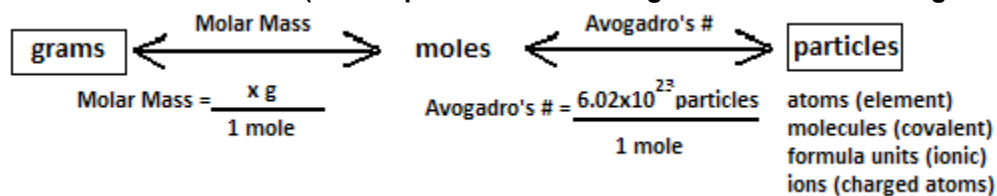


1. How many moles are in 28 grams of CO_2 ?
2. What is the mass of 5 moles of Fe_2O_3 ?

3. Find the number of moles of argon in 452 g of argon.

4. How many grams are in 3.45 moles of CO₂?

Gram to Particle Conversions (two step conversions using molar mass and Avogadro's number)



1. How many oxygen molecules are in 3.36 g of oxygen (O₂) ?

2. Find the mass in grams of 2.00×10^{23} molecules of F₂.

3. Determine the number of molecules of 14.00 g of nitrogen dioxide (NO₂).

4. Find the mass, in grams, of 1.00×10^{23} molecules of N₂.

5. How many moles of hydrogen is in 32.01 grams of water?

6. How many atoms of Lithium is in 8.01 grams of Lithium?

7. How many atoms of Chlorine is in 2.02 moles of Lithium Chloride?

8. How many moles are in 2.02 grams of Sulfur?

9. How many grams of Hydrochloric acid is in 3.23 moles of Hydrochloric Acid?

10. How many grams of bromine gas is in 2.03×10^{32} atoms of Bromine gas?