

Molar Conversions from Grams to Moles and Vice Versa

Please record your answers to these practice problems in your Interactive Notebook on page 6 or 7.

Steps to Solve:

Step 1: Find the Gram Formula Mass of the Compound

Step 2: Set up a conversion factor using the Gram Formula Mass

Step 3: Use your conversion factor to convert from the "given" to the "desired"

1. Calculate the number of moles of NaNO_3 in 191.25 grams of NaNO_3 .
2. How many grams of HCl do you have if there are 3 moles of HCl ?
3. How many grams of H_2SO_4 do you have if there are 2 moles of H_2SO_4 ?
4. What is the mass of 4 moles of Li ?
5. How many moles of Fe_2O_3 are contained in 92.2 g of pure Fe_2O_3 ?
6. Find the number of moles in 0.370 g of boron.
7. Find the number of moles in 26.7 g of hydrogen peroxide (H_2O_2).
8. Calculate the number of moles in 75.0 g of dinitrogen trioxide (N_2O_3).
9. Calculate the mass in grams of 0.160 mol of H_2O_2 .

Challenge Questions!

10. Items made from aluminum, such as aircraft parts and cookware, resist corrosion because the aluminum reacts with oxygen in the air. This reaction forms a coating of aluminum oxide (Al_2O_3). The tough, resistant coating prevents any further corrosion. What is the mass, in grams of 9.45 mol of aluminum oxide?
11. Calculate the mass, in grams, of 2.50 mol of iron (II) hydroxide. (HINT: Criss-cross iron (II) hydroxide before you find the gram formula mass.)