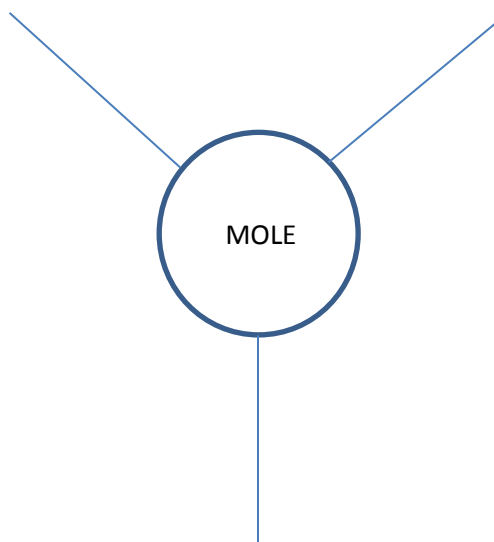


Success 24/7: Combined Mole Practice Problems

Mole Road Map



1. How many oxygen molecules are in 3.36 L of oxygen gas at STP?

2. Find the mass in grams of 2.00×10^{23} formula units of Na_2CO_3 .

3. Determine the volume in liters occupied by 14 g of nitrogen gas at STP.

4. Aspartame is an artificial sweetener that is 160 times sweeter than sucrose (table sugar) when dissolved in water. It is marketed by G.D. Searle as *Nutra Sweet*. The molecular formula of aspartame is $C_{14}H_{18}N_2O_5$.

a) Calculate the molar mass of aspartame.

b) How many molecules are in 10.1 g of aspartame?

c) What is the mass in grams of 1.56 moles of aspartame?

d) How many molecules are in 5 **mg** of aspartame?

e) How many atoms of nitrogen are in 1.2 grams of aspartame?