

Chemistry – The Mole

Mass and the Mole

So where did we get the Avogadro number?

Carbon-12 is the standard - let's just use this mass and figure out how many atoms are in 12 grams of carbon

Molar Mass: The mass in grams of one mole of any substance

Example:

What is the mass of 1 mole of carbon atoms?

What is the mass of 1 mole of mercury atoms?

What is the mass of 1 mole of Helium atoms?

Note that these are all ratios of their masses compare to carbon on the Periodic table.

Extending this logic:

What is the mass of 1 mole of water molecules?

Working with mass:

Determine the mass of 2.5 moles of mercury atoms

What is the mass of 7.3 moles of Helium atoms

What would be the mass in grams of 13.2 moles of xenon atoms

9.5 grams of Helium would contain how many moles of Helium atoms?

6.25 grams of water would contain how many moles of water?

Using mass and number of Particles

Watch this

How many atoms are in 48.0 grams of carbon?

Try this

1.6×10^{24} atoms of Lead would have what mass?

What is the mass of 4.5×10^{22} calcium atoms?