

Main-group (representative) elements elements in the groups labeled 1,2,3,4,5,6,7, and 8 on the periodic table. The group number gives the sum of the valence s and p electrons

Mass the quantity of matter in an object

Mass number the total number of protons and neutrons in the atomic nucleus of an atom

Mass percent the percent by mass of a component of a mixture or of a given element in a compound

Matter the material of the universe

Metal an element that gives up electrons relatively easily and is typically lustrous, malleable, and a good conductor of heat and electricity

Metalloid an element that has both metallic and nonmetallic properties

Metallurgy the process of separating a metal from its ore and preparing it for use

Millimeters of mercury (mm of Hg) a unit of measurement for pressure, also called a torr; $760 \text{ mm Hg} = 760 \text{ torr} = 101,325 \text{ Pa} = 1 \text{ standard atmosphere}$

Mixture a material of variable that contains two or more substances

Model (theory) a set of assumptions put forth to explain the observed behavior of matter. The models of chemistry usually involve assumptions about the behavior of individual atoms or molecules

Moderator a substance used in a nuclear reactor to slow down the neutrons

Molar heat of fusion the energy required to vaporize 1 mol of a liquid

Molar heat of vaporization the energy required to vaporize 1 mol of a liquid

Molar mass the mass in grams of one mole of a compound

Molar volume the volume of one mole of an ideal gas; equal to 22.42 liters at standard temperature and pressure

Molarity moles of solute per volume of solution in liters

Mole (mol) the number equal to the number of carbon atoms in exactly 12

grams of pure ^{12}C ; Avogadro's number.
One mole represents 6.022×10^{23} units

Mole ratio (stoichiometry) the ratio of moles of one substance to moles of another substance in a balanced chemical equation

Molecular equation an equation representing a reaction in solution and showing the reactants and products in undissociated form, whether they are strong or weak electrolytes

Molecular formula the exact formula of a molecule, giving the types of atoms and the number of each type

Molecular solid a solid composed of small molecules

Molecular structure the three – dimensional arrangement of atoms in a molecule

Molecular weight (molar mass) the mass in grams of one mole of a substance

Molecule a bonded collection of two or more atoms of the same element or different elements

Monoprotic acid an acid with one acidic proton