London dispersion force the intermolecular attraction resulting from the uneven distribution of electrons and the creation of temporary dipoles (207)

M

magic numbers the numbers (2, 8, 20, 28, 50, 82, and 126) that represent the number of particles in an extra stable atomic nucleus that has completed shells of protons and neutrons (683)

magnetic quantum number the quantum number that corresponds to the alignment of the angular momentum component with a magnetic field (108)

main-group element an element in the *s*-block or *p*-block of the periodic table (146)

malleability the ability of a substance to be hammered or beaten into a sheet (196)

mass a measure of the amount of matter in an object (6)

mass defect the difference between the mass of an atom and the sum of the masses of the atom's protons, neutrons, and electrons (681)

mass number the sum of the numbers of protons and neutrons that make up the nucleus of an atom (78)

matter anything that has mass and takes up space (6)

melting the change of state in which a solid becomes a liquid by adding energy as heat or changing pressure (338)

melting point the temperature and pressure at which a solid becomes a liquid (338)

metabolism the sum of all chemical processes that occur in an organism (766)

metal an element that is shiny and that conducts heat and electricity well (18)

metallic bond a bond formed by the attraction between positively charged metal ions and the electrons around them (195)

metalloid an element that has properties of both metals and nonmetals; sometimes referred to as a semiconductor (19)

millimeters of mercury a unit of pressure (364)

miscible describes two or more liquids that can dissolve into each other in various proportions (412)

mixture a combination of two or more substances that are not chemically combined (11)

model a pattern, plan, representation, or description designed to show the structure or workings of an object, system, or concept (31)

moderator a material that slows the velocity of neutrons so that they may be absorbed by the nuclei (698)

molal boiling-point constant a quantity calculated to represent the boiling-point elevation of a 1-molal solution of a nonvolatile, nonelectrolyte solution (450)

molal freezing-point constant a quantity calculated to represent the freezing-point depression of a 1-molal solution of a nonvolatile, nonelectrolyte solute (448)

molality the concentration of a solution expressed in moles of solute per kilogram of solvent (422)

molar enthalpy of formation the amount of energy as heat resulting from the formation of 1 mol of a substance at constant pressure (537)

molar enthalpy of fusion the amount of energy as heat required to change 1 mol of a substance from solid to liquid at constant temperature and pressure (346)

molar enthalpy of vaporization the amount of energy as heat required to evaporate 1 mol of a liquid at constant pressure and temperature (345)

molar mass the mass in grams of 1 mol of a substance (83)

molarity a concentration unit of a solution expressed as moles of solute dissolved per liter of solution (418)

mole the SI base unit used to measure the amount of a substance whose number of particles is the same as the number of atoms of carbon in exactly 12 g of carbon-12 (83)

mole ratio a conversion factor that relates the amounts in moles of any two substances involved in a chemical reaction (300)

molecular compound a chemical compound whose simplest units are molecules (178)

molecular formula a chemical formula that shows the number and kinds of atoms in a molecule, but not the arrangement of the atoms (178)

molecule the smallest unit of a substance that keeps all of the physical and chemical properties of that substance; it can consist of one atom or two or more atoms bonded together (178)

monatomic ion an ion formed from a single atom (220)

monomer a simple molecule that can combine with other like or unlike molecules to make a polymer (737)

monoprotic acid an acid that can donate only one proton to a base (479)

monosaccharide a simple sugar that is the basic subunit of a carbohydrate (751)

multiple bond a bond in which the atoms share more than one pair of electrons, such as a double bond or a triple bond (187)

N

natural gas a mixture of gaseous hydrocarbons located under the surface of Earth, often near petroleum deposits; used as a fuel (723)

net ionic equation an equation that includes only those compounds and ions that undergo a chemical change in a reaction in an aqueous solution (439)

neutralization the reaction of the ions that characterize acids (hydronium ions) and the ions that characterize bases (hydroxide ions) to form water molecules and a salt (489)

newton the SI unit for force; the force that will increase the speed of a 1 kg mass by 1 m/s each second that the force is applied (abbreviation, N) (362)