Lanthanide series a group of fourteen elements following lanthanum on the periodic table, in which the 4*f* orbitals are being filled

Lattice a three – dimensional system of points designating the positions of the centers of the components of a solid (atoms, ions, or molecules)

Law of chemical equilibrium a general description of the equilibrium condition; it defines the equilibrium expression

Law of conservation of energy energy can be converted from one form to another but can be neither created nor destroyed

Law of conservation of mass mass is neither created not destroyed

Law of constant composition a given compound always contains elements in exactly the same proportion by mass

Law of mass action (also called the law of chemical equilibrium) a general description of the equilibrium condition; it defines the equilibrium expression

Law of multiple proportions a law stating that when two elements form a series of compounds, the ratios of the masses of the second element that combine with one gram of the first element can always be reduced to small whole numbers

Lead storage battery a battery (used in cars) in which the anode is lead, the cathode is lead coated with lead dioxide, and the electrolyte is a sulfuric acid solution

LeChatelier's principle if a change is imposed on a system at equilibrium, the position of the equilibrium will shift in a direction that tends to reduce the effect of that change

Lewis structure a diagram of a molecule showing how the valence electrons are arranged among the atoms in the molecule

Limiting reactant (limiting reagent) the reactant that is completely consumed when a reaction is run to completion

Line spectrum a spectrum showing only certain discrete wavelengths

Linear accelerator a type of particle accelerator in which a changing electrical field is used to accelerate a beam of charged particles along a linear path

Lipids water – insoluble substances that can be extracted from cells by nonpolar

organic solvents

Liquid one of the three states of matter; has a fixed volume but takes the shape of the container

London dispersion forces the relatively weak forces, which exists among noble gas atoms and nonpolar molecules, that involve an accidental dipole that induces a momentary dipole in a neighbor

Lone pair an electron pair that is localized on a given atom; an electron pair not involved in bonding