

GLOSSARY

A

acid any substance that increases the concentration of hydrogen (H^+) ions when added to a water solution (41)

activation energy amount of energy required for a chemical reaction to start and to continue on its own (36)

alkaline referring to bases (42)

aqueous solution a solution in which water is the solvent (40)

atom the simplest particle of an element that retains all the properties of that element (32)

atomic number the number of protons in an atom (32)

B

base any substance that increases the concentration of hydroxide (OH^-) ions when added to a water solution (42)

bond attachment between atoms in a compound (33)

buffer chemical that neutralizes small amounts of acids or bases added to a solution (42)

C

catalyst a chemical that reduces the amount of activation energy needed for a reaction but is not a reactant (36)

chemical bond a chemical attachment between atoms (33)

chemical reaction the process of breaking chemical bonds, forming new bonds, or both (33)

compound a pure substance that is made up of atoms from two or more elements (33)

concentration a measurement of the amount of solute dissolved in a fixed amount of solvent (40)

covalent bond a bond that forms when two atoms share one or more pairs of electrons (33)

GLOSSARY

D

dissociation the separating of a molecule into simpler molecules, atoms, radicals, or ions (41)

E

electron a particle with a negative electric charge that orbits the nucleus of an atom (32)

element a substance that ordinarily cannot be broken down chemically to form simpler kinds of matter (31)

energy level the various levels at which electrons orbit an atomic nucleus (32)

exergonic reaction a chemical reaction that involves a net release of free energy (36)

F

free energy the energy in a system that is available for work (35)

H

hydronium ion the name given to the H_3O^+ ion (41)

hydroxide ion the name given to the OH^- ion (41)

I

ion an atom or molecule with an electrical charge (34)

ionic bond a bond formed by electrical attraction between two oppositely charged ions (34)

M

mass a fundamental property of an object generally regarded as equivalent to the amount of matter in the object (31)

matter anything that occupies space and has mass (31)

molecule a chemical structure composed of one or more atoms (34)

GLOSSARY

N

neutron a subatomic particle with no electric charge (32)

nucleus in an atom, the core of protons and neutrons; in a eukaryotic cell, the organelle that contains most of the DNA and directs most of the cell's activities (32)

O

oxidation reaction a chemical reaction in which a reactant loses one or more electrons, becoming more positive in charge (37)

P

pH scale a numeric range that quantifies the relative concentrations of hydronium ions and hydroxide ions in a solution (42)

product a compound formed by a chemical reaction (36)

proton a subatomic particle with a positive charge (32)

R

reactant a compound or atom involved in a chemical reaction (36)

redox reaction a reduction-oxidation reaction in which electrons are transferred between atoms (37)

reduction reaction a chemical reaction in which a reactant gains one or more electrons, becoming more negative in charge (37)

S

saturated solution a solution in which no more solute can dissolve (40)

solute a substance dissolved in a solution (40)

solution a mixture in which one or more substances are uniformly dissolved in another substance (40)

solvent in a solution, the substance in which a solute is dissolved (40)

state the form matter takes, most commonly a solid, liquid or gas (35)