A&P Key Terms 02 Chemical Level of Organization

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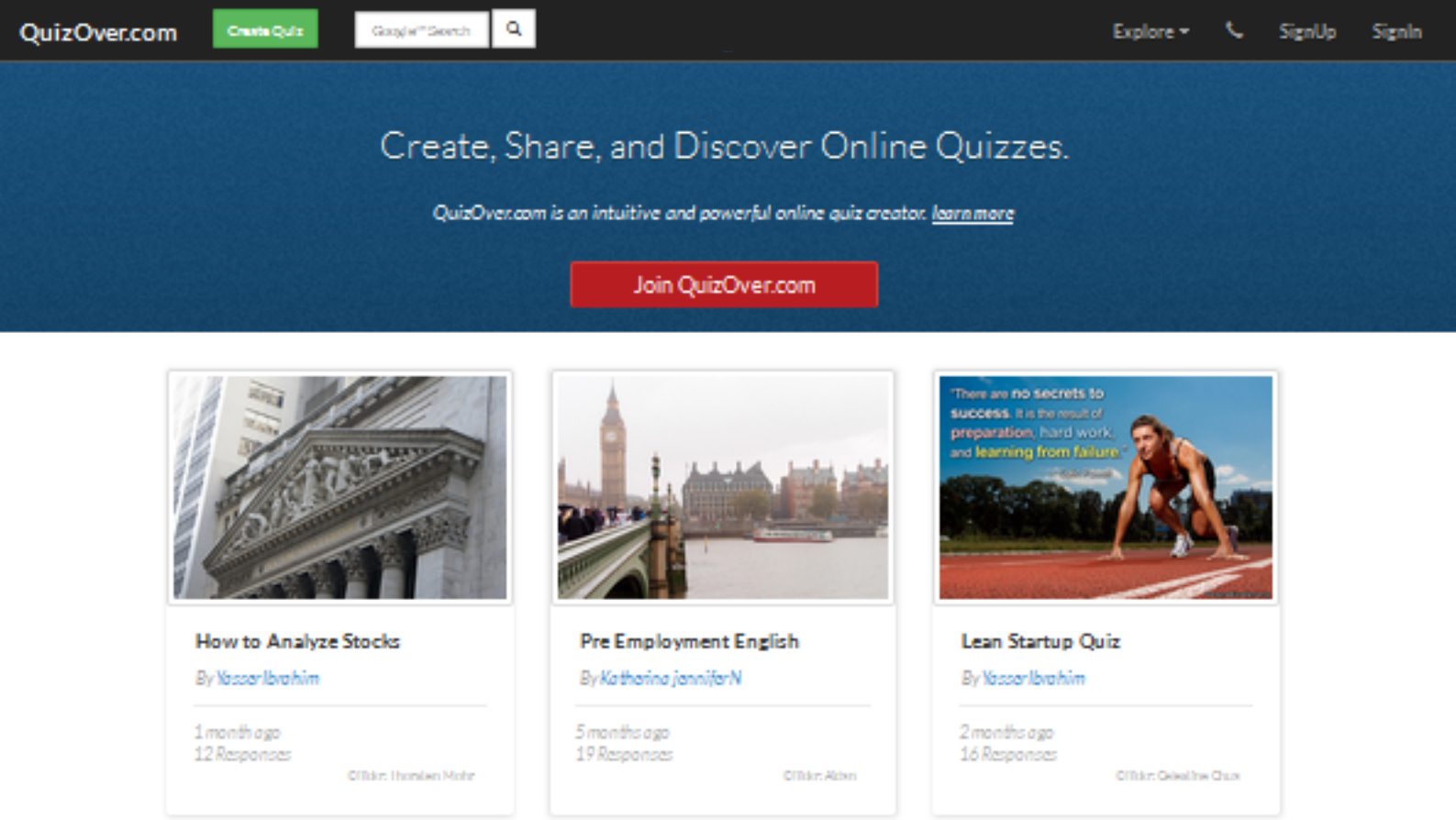

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4. Chapter: A&P Key Terms 02 Chemical Level of Organization

1. A&P Key Terms 02 Chemical Level of Organization Questions

acid	compound that releases hydrogen ions (H+) in solution
activation energy	amount of energy greater than the energy contained in the reactants, which must be overcome for a reaction to proceed
adenosine triphosphate (ATP)	nucleotide containing ribose and an adenine base that is essential in energy transfer
amino acid	building block of proteins; characterized by an amino and carboxyl functional groups and a variable side-chain
anion	atom with a negative charge
atom	smallest unit of an element that retains the unique properties of that element
atomic number	number of protons in the nucleus of an atom
base	compound that accepts hydrogen ions (H+) in solution
bond	electrical force linking atoms
buffer	solution containing a weak acid or a weak base that opposes wide fluctuations in the pH of body fluids
carbohydrate	class of organic compounds built from sugars, molecules containing carbon, hydrogen, and oxygen in a 1-2-1 ratio
catalyst	substance that increases the rate of a chemical reaction without itself being changed in the process
cation	atom with a positive charge
chemical energy	form of energy that is absorbed as chemical bonds form, stored as they are maintained, and released as they are broken
colloid	liquid mixture in which the solute particles consist of clumps of molecules large enough to scatter light
compound	substance composed of two or more different elements joined by chemical bonds
concentration	number of particles within a given space
covalent bond	chemical bond in which two atoms share electrons, thereby completing their valence shells

decomposition reaction	type of catabolic reaction in which one or more bonds within a larger molecule are broken, resulting in the release of smaller molecules or atoms
denaturation	change in the structure of a molecule through physical or chemical means
deoxyribonucleic acid (DNA)	deoxyribose-containing nucleotide that stores genetic information
disaccharide	pair of carbohydrate monomers bonded by dehydration synthesis via a glycosidic bond
disulfide bond	covalent bond formed within a polypeptide between sulfide groups of sulfur-containing amino acids, for example, cysteine
electron shell	area of space a given distance from an atom's nucleus in which electrons are grouped
electron	subatomic particle having a negative charge and nearly no mass; found orbiting the atom's nucleus
element	substance that cannot be created or broken down by ordinary chemical means
enzyme	protein or RNA that catalyzes chemical reactions
exchange reaction	type of chemical reaction in which bonds are both formed and broken, resulting in the transfer of components
functional group	group of atoms linked by strong covalent bonds that tends to behave as a distinct unit in chemical reactions with other atoms
hydrogen bond	dipole-dipole bond in which a hydrogen atom covalently bonded to an electronegative atom is weakly attracted to a second electronegative atom
inorganic compound	substance that does not contain both carbon and hydrogen
ionic bond	attraction between an anion and a cation
ion	atom with an overall positive or negative charge
isotope	one of the variations of an element in which the number of neutrons differ from each other
kinetic energy	energy that matter possesses because of its motion

lipid	class of nonpolar organic compounds built from hydrocarbons and distinguished by the fact that they are not soluble in water
macromolecule	large molecule formed by covalent bonding
mass number	sum of the number of protons and neutrons in the nucleus of an atom
matter	physical substance; that which occupies space and has mass
molecule	two or more atoms covalently bonded together
monosaccharide	monomer of carbohydrate; also known as a simple sugar
neutron	heavy subatomic particle having no electrical charge and found in the atom's nucleus
nucleotide	class of organic compounds composed of one or more phosphate groups, a pentose sugar, and a base
organic compound	substance that contains both carbon and hydrogen
pH	negative logarithm of the hydrogen ion (H+) concentration of a solution
peptide bond	covalent bond formed by dehydration synthesis between two amino acids
periodic table of the elements	arrangement of the elements in a table according to their atomic number; elements having similar properties because of their electron arrangements compose columns in the table, while elements having the same number of valence shells compose rows in the table
phospholipid	a lipid compound in which a phosphate group is combined with a diglyceride
phosphorylation	addition of one or more phosphate groups to an organic compound
polar molecule	molecule with regions that have opposite charges resulting from uneven numbers of electrons in the nuclei of the atoms participating in the covalent bond
polysaccharide	compound consisting of more than two carbohydrate monomers bonded by dehydration synthesis via glycosidic bonds

potential energy	stored energy matter possesses because of the positioning or structure of its components
product	one or more substances produced by a chemical reaction
prostaglandin	lipid compound derived from fatty acid chains and important in regulating several body processes
protein	class of organic compounds that are composed of many amino acids linked together by peptide bonds
proton	heavy subatomic particle having a positive charge and found in the atom's nucleus
purine	nitrogen-containing base with a double ring structure; adenine and guanine
pyrimidine	nitrogen-containing base with a single ring structure; cytosine, thiamine, and uracil
radioactive isotope	unstable, heavy isotope that gives off subatomic particles, or electromagnetic energy, as it decays; also called radioisotopes
reactant	one or more substances that enter into the reaction
ribonucleic acid (RNA)	ribose-containing nucleotide that helps manifest the genetic code as protein
solution	homogeneous liquid mixture in which a solute is dissolved into molecules within a solvent
steroid (also, sterol)	lipid compound composed of four hydrocarbon rings bonded to a variety of other atoms and molecules
substrate	reactant in an enzymatic reaction
suspension	liquid mixture in which particles distributed in the liquid settle out over time
synthesis reaction	type of anabolic reaction in which two or more atoms or molecules bond, resulting in the formation of a larger molecule
triglyceride	lipid compound composed of a glycerol molecule bonded with three fatty acid chains
valence shell	outermost electron shell of an atom