

Anatomy & Physiology

Unit 2: Biochemistry

⌘ Be able describe basic chemical structures and relationships: this includes subatomic particles (mass, location, function), determining if an element is reactive/inert, and most likely bond it will form.

⌘ Given any two elements found in the body, determine how they will bond together and demonstrate that bond by drawing Lewis Dot Structures as atoms and ions.

⌘ Be able describe the law of conservation of matter and how balancing an equation is evidence to support this law.

⌘ Be able to identify multiple chemical reactions that occur in the body, either by looking at an equation, an example on a piece of paper and/or a practical demo in class.

⌘ Be able to diagram or interpret a free-energy diagram to determine the type of reaction that is occurring.

⌘ Be able to determine the factor that is increasing/decreasing the rate of reaction in the body, either by looking at an example on a piece of paper and/or a practical demon in class.

⌘ Be able to identify the properties of water that are essential to life, either through a description or a practical demo in class.

⌘ Be able to complete an acid-base titration and calculate the unknown molarity.

⌘ Be able to explain how the body uses buffers to mitigate large swings of pH.

⌘ Be able to identify and describe the structural and functional components of carbohydrates, proteins and lipids.

Key Terms:

Protons

Electrons

Neutrons

Nucleus

Orbital

Law of Conservation of Matter

Ion

Valence Electron

Cation

Anion

Electronegativity

Ionic Bonding

Covalent Bonding

Non-Polar Covalent Bonding

Polar Covalent Bonding

Atom

Molecule

Compound

Atomic Number

Atomic Symbol

Atomic Mass

Reactive Atom

Inert Atom

Acid-Base Reaction

Catabolic Reaction

Combustion Reaction

Condensation Reaction

Decomposition Reaction

Double Replacement Reaction

Endothermic Reaction

Exothermic Reaction

Hydrolytic Reaction
Single Replacement Reaction
Synthesis Reaction
Hydroxide Ion
Free Energy Diagrams
Potential Energy
Heat of the Reaction
Activated Complex
Reactants
Products
Enzyme
Endothermic
Exothermic
Inorganic
Organic
Rate of Reaction
Concentration
Surface Area
Temperature
Available Space for Rxn
Acid
Base
Neutral
Hydrogen Ion
Hydrocarbon
Single Bond
Double Bond
Universal Solvent
Polarity
Hydrogen Bonds
Cohesion
Adhesion
Capillary Action
Specific Heat
pH Scale
Buffer
Carbohydrates
Amylose
Amylase
A-glycosidic bond
B-glycosidic bond
Polysaccharide
Disachharide
Sucrose

Glucose
Galactose
Lactose
Maltose
Fructose
Sucrase
Lactase
Glycogen
Cellulose
Symmetry Test for Polarity
Lewis Dots
Bohr Model
Definition of Peptide Bond
Amino Group
Carboxylic Group
R-Group
Amino Acid
Primary Structure
Secondary Structure
Tertiary Structure
Quaternary Structure
Structural Proteins
Examples of Structural Proteins
Functional Proteins
Examples of Functional Proteins
Essential Amino Acid
Non-Essential Amino Acid
Complete Protein
Incomplete Protein
Lipids
Cholesterol
Phospholipis
Triglyceride
Monounsaturated Fat
Polyunsaturated Fat
Saturated Fat
Glycerol
Fatty Acids
Transfat
Titration
Equivalence Point