

SBI4U BIOCHEMISTRY Unit Checklist

Name: _____

Mastery Checks may be attempted more than once and are not considered complete until $\geq 70\%$ is achieved.

Notes will be checked for completion & corrections.

Topic	Objective(s)	Key Concepts	Approx. # classes	Notes	Check Ins	Mastery Check <small>Inc. # of attempts</small>
1	Cells & Organelles: <i>Explain the role of various organelles in cellular processes</i>	- Eukaryotic vs. Prokaryotic - Comparing Plant & Animal Cells - Structure & Function of organelles	1		B E D P	□□□□
2	Atoms, Bonding & Polarity: <i>Understand various types of bonds between elements Identify molecules as polar, non-polar and their solubility Explain the unique properties of water</i>	- Atomic Structure - Isomers - Isotopes - Bonds: Ionic, Covalent, Intermolecular, Hydrogen - Electronegativity - Polar vs. Non-Polar, dipoles - Adhesion & cohesion	3		B E D P	□□□□
3	Functional Groups: <i>Identify common functional groups within biological molecules Explain how they contribute to function</i>	- Carboxyl - Carbonyl (aldehyde, ketone) - Hydroxyl - Amino - Phosphate - Sulfhydryl	2		B E D P	□□□□
4	Macromolecules: <i>Describe the structure of biochemical compounds (carbohydrates, proteins, lipids, nucleic acids) Explain their functions within cells</i>	- Monomers & Polymers - Structures, functions & uses - Bonds: glycosidic linkages ester linkages peptide bonds phosphodiester bond - Dehydration & Synthesis Reactions	6		B E D P	□□□□
5	Enzymes: <i>Explain chemical structures and mechanisms of various enzymes</i>	- Models: Induced Fit & Lock & Key - Factors Affecting Rate of Reaction (denaturing) - Cofactors - Competitive Inhibitors - Allosteric Regulation	6		B E D P	□□□□
6	Phospholipid Bilayer & Transport: <i>Describe the structure of cell membranes Explain the dynamics various forms of transport across membranes</i>	- Structure & Function - Cell Membrane: Fluid Mosaic Model - Passive vs. Active Transport - Facilitated Diffusion - Endocytosis vs. Exocytosis	3		B E D P	□□□□

Assessments

Assessment	Date
Macromolecule Quiz	Thurs. Sept. 20 th
Enzyme Quiz	Tues. Oct. 2 nd
Unit Test	Wed. Oct. 10th

Biochemistry Terms to Know







- | | | | |
|--------------------------|----------------------------------|--|------------------------------------|
| - Activation Energy | - Deoxyribose | - Integral Protein | - Positive |
| - Activator | - Dialysis | - Ionic Bond | - Primary |
| - Active Form | - Diffusion | - Isomer | - Product |
| - Active Site | - Dipole | - Isotonic | - Prokaryote |
| - Active Transport | - Disaccharide | - Isotope | - Protein |
| - Adenine | - Disulfide Bridge | - Ketone | - Protein Carrier |
| - Adhesion | - DNA | - Kinetic | - Protein Channel |
| - Aldehyde | - Dynamic | - Lipid | - Purine |
| - Allosteric Activator | - Electronegativity | - Lock & Key | - Pyrimidine |
| - Allosteric Inhibitor | - Endergonic | - Membrane | - Quaternary |
| - Allosteric Regulation | - Endocytosis | - Metabolism | - Reactant |
| - Allosteric Site | - Energy | - Monomer | - Receptor-Mediated
Endocytosis |
| - Amino | - Enzyme | - Monosaccharide | - Reduction |
| - Amino acid | - Enzyme-Substrate
Complex | - Na ⁺ /K ⁺ Pump | - Ribose |
| - Amphipathic | - Equilibrium | - Negative | - RNA |
| - Anabolic | - Ester Bond | - Nitrogenous Base | - Saturated |
| - Analytical | - Eukaryote | - Non-competitive
inhibition | - Secondary |
| - Antiport | - Exergonic | - Non-Polar | - Selectively Permeable |
| - Aquaporin | - Exocytosis | - Nucleic Acid | - Simple Diffusion |
| - ATP | - Facilitated Diffusion | - Nucleotide | - Solute |
| - Base Pair | - Feedback Inhibition | - Oligosaccharide | - Solvent |
| - Bioremediation | - First Law of
Thermodynamics | - Osmosis | - Steroid |
| - Bond Energy | - Fluid Mosaic Model | - Osmotic Concentration | - Substrate |
| - Carbohydrate | - Functional Group | - Oxidation | - Sulfhydryl |
| - Carbonyl | - Glycerol | - Passive Transport | - Symport |
| - Catabolic Reactions | - Glycolipid | - Pentose Sugar | - Temperature |
| - Catalyst | - Glycoprotein | - Peptide Bond | - Tertiary |
| - Cholesterol | - Glycosidic Linkage | - Peripheral Protein | - Thalidomide |
| - Coenzyme | - Guanine | - pH | - Therapeutic |
| - Cofactor | - Heat Capacity | - Phagocytosis | - Thymine |
| - Cohesion | - Hydrogen Bonds | - Pharmaceutical | - Transition State |
| - Competitive inhibition | - Hydrolysis | - Phosphate | - Triglyceride |
| - Concentration | - Hydrophilic | - Phosphate Group | - Unsaturated |
| - Concentration Gradient | - Hydrophobic | - Phosphodiester Bond | - Uracil |
| - Condensation | - Hydroxyl | - Phospholipid | - Vesicle |
| - Condensation Reaction | - Hypertonic | - Pinocytosis | - α – Helix |
| - Coupled Transport | - Hypotonic | - Polar | - |
| - Covalent Bond | - Inactive Form | - Polymer | |
| - Cytosine | - Induced Fit Model | - Polypeptide | |
| - Dehydration Synthesis | - Inhibitor | - Polysaccharide | |
| - Denature | | | |

Mastery Checks:

- Mastery Checks may be attempted more than once and are not considered complete until $\geq 70\%$ is achieved.
- $\geq 70\%$ or a minimum of **two** attempts on **all** mastery checks is required **before** a unit test
- Must be written during class or after school during supervised extra help times.
- Must be attempted as you progress through the topics – **DO NOT** let them accumulate until the end of the unit. You may run out of time!

Edsby Gradebook Symbols

-  Not yet $\geq 70\%$ but 2 attempts completed
-  Overdue / Late
-  Not Done
-  Incomplete (one attempt $< 70\%$)