

SBI4U BIOCHEMISTRY Unit Checklist

Name: _____

Topic	Objective(s)	Key Concepts	Approx. # Hours Not including making notes	Video Lessons & Notes	Activities Check answers & Uploaded to OneNote	Mastery Checks Thatquiz.org Min 75%
1	Atoms, Bonding & Polarity: - Understand types of bonds between elements - Identify molecules as polar, non-polar and their solubility - Explain the unique properties of water	- Atomic Structure - Isomers - Isotopes - Bonds: Ionic, Covalent, Intermolecular, Hydrogen - Electronegativity - Polar vs. Non-Polar, dipoles - Adhesion & cohesion	3.5 hrs online	<input type="checkbox"/> <input type="checkbox"/> 2 videos	<input type="checkbox"/>	<input type="checkbox"/> Got It!
2	Functional Groups: - Identify common functional groups within biological molecules - Explain how they contribute to function	- Carboxyl - Carbonyl (aldehyde, ketone) - Hydroxyl - Amino - Phosphate - Sulfhydryl	1 hr online	<input type="checkbox"/> 1 video	<input type="checkbox"/>	
3	Macromolecules: - Describe the structure of biochemical compounds (carbohydrates, proteins, lipids, nucleic acids) - Explain their functions within cells	- Monomers & Polymers - Structures, functions & uses - Bonds: glycosidic linkages ester linkages peptide bonds phosphodiester bond - Dehydration & Synthesis Reactions	7.5 hrs online	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 videos	<input type="checkbox"/>	<input type="checkbox"/> Got It!
4	Enzymes: - Explain chemical structures and mechanisms of various enzymes	- Models: Induced Fit & Lock & Key - Factors Affecting Rate of Reaction (denaturing) - Cofactors - Competitive Inhibitors - Allosteric Regulation	5 hrs online	<input type="checkbox"/> <input type="checkbox"/> 2 videos	<input type="checkbox"/>	<input type="checkbox"/> Got It!
5	Phospholipid Bilayer & Transport: - Describe the structure of cell membranes - Explain the dynamics various forms of transport across membranes	- Structure & Function - Cell Membrane: Fluid Mosaic Model - Passive vs. Active Transport - Facilitated Diffusion - Endocytosis vs. Exocytosis	7 hrs online	<input type="checkbox"/> <input type="checkbox"/> 2 videos	<input type="checkbox"/>	<input type="checkbox"/> Got It!

Quizzes & Tests	Date
Topic 1-2: Atoms, bonding, polarity & functional groups Quiz	Tuesday April 27 th
Topic 3: Macromolecule Quiz	Friday April 30 th
Topic 4: Enzymes Quiz	
Unit Test	

Biochemistry Terms to Know



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

Mastery Checks:

- May be attempted more than once
⇒ Extra practice from the class website must be completed & shown in OneNote to reset the quiz
- Mastery is considered $\geq 75\%$