

Unit 2 Map – Biochemistry

Biology: PreAP

Topic	Specific Learning Target	Questions on Test	Quiz Score %	Test Score %
1. Atomic and Molecular Structure	A. I can describe the structure of an atom and describe the location and charge of the three subatomic particles (i.e. protons, neutrons, and electrons).	7		
	B. I can describe the difference between an ionic and covalent bond.	4		
	C. I can identify the six main elements in living organisms. (i.e. carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulfur)	1		
2. Properties of Water	D. I can describe how the properties of oxygen and hydrogen make water a polar molecule.	4		
	E. I can explain how water's polarity allows it to form hydrogen bonds.	--		
	F. I can explain how water's polarity and hydrogen bonding give it the following unique properties: cohesion, surface tension, adhesion, capillary action, ability to serve as a solvent, low density as a solid, and a high specific heat/heat capacity.	3		
	G. I can identify the pH of water as neutral (7), explain the difference between an acidic and basic pH, and identify common examples of acids and bases.	1		
3. Macromolecules	H. I can identify an organic molecule as a molecule containing carbon.	1		
	I. I can describe how monomers of all four macromolecules are joined into polymers in the process of dehydration synthesis / polymerization. You will be able to describe how polymers are broken into monomers in the process of hydrolysis.	4		
	J. I can provide examples of the monomers and polymers for all four macromolecules.	3		
	K. I can describe the basic structure of the monomers and polymers for all four macromolecules.	See above		
	L. I can identify the functions of all four macromolecules in living organisms and explain how the structure of each macromolecule contributes to its function.	4		
4. Enzymes	M. I can identify the components of a chemical reaction define chemical reactions as the breaking of chemical bonds in reactants and forming of new chemical bonds to create products.	2		
	N. I can describe the mechanism of enzyme function by discussing how substrates fit into enzymes' active sites	4		
	O. I can describe the role of catalysts/enzymes in lowering the activation energy for a reaction and therefore increasing the speed of that reaction.	4		

KEY TERMS:

Atom	Proton (+)	Electron (-)	Neutron (0)	Ionic	Covalent	Polar
Molecule	van der Waals	Hydrogen bond	Adhesion	Cohesion	Capillary action	Surface tension
Solvent	Solute	pH	Acid	Base	Organic	Monomer
Polymer	Dehydration syn.	Hydrolysis	Carbohydrate	Lipid	Protein	Nucleic Acid
Enzyme	Substrate	Active Site	Reactant	Product	Catalyst	Polymerization

★ If your test score is higher than your quiz score, AND you submit this form after your unit test (completed), your quiz score will be replaced by your test score

★ Only original test scores can replace quiz scores