

Biology I – Unit 2 Study Guide

bio1u2sg (Biochemistry)

Study Objectives

1. Explain the importance of carbon bonding in biological molecules.
 - What is unique about carbon atoms?
 - Describe what functional groups are and how they change the nature of a molecule.
2. Summarize how large carbon molecules are synthesized and broken down.
 - Compare and contrast a monomer and polymer.
 - Compare and contrast condensation reaction and hydrolysis.
3. Distinguish between monosaccharide, disaccharide, and polysaccharide
 - What is a carbohydrate?
 - What role do carbohydrates play in living systems?
4. Explain the relationship between amino acids and protein structure.
 - What is a protein?
 - Why are proteins important macromolecules?
5. Describe how the induced fit model of enzyme action works.
 - Describe nature of enzymes and their importance in chemical reactions.
6. Compare the structure and function of each of the different types of lipids.
 - Define lipids.
 - What are:
 - i. Fatty Acids
 - ii. Triglycerides
 - iii. Phospholipids
 - iv. Waxes
 - v. Steroids

Vocabulary

organic monomer inorganic polymer lipid carbohydrate monosaccharide disaccharide polysaccharide
hormone fatty acid Protein amino acid enzyme catalyst substrate active site functional groups
macromolecule condensation reaction hydrolysis peptide bond triglyceride phospholipid wax steroid

Assignments

- Reading: Chapter 3 (pages 51-60)
- Crossword Puzzle (online for practice)
- Notebook: **10pts**
 - Case Study: “Harvest of Fear” A Nova/Frontline Special (www.pbs.org/wgbh/harvest/)
 - Notes for Study Objectives
 - Cmap on Vocabulary
 - My Daily Food Plan
- Lab Report: Measuring pH **10pts**
- Activity: Saponification (Exploration/Application)
- Lab Report: Catalysts of Life **10pts**
- Vocabulary Quiz **15pts**
- Test **20pts**

WebSources:

www.biology-online.org

www.hsph.harvard.edu/nutritionsource/

http://highered.mcgraw-hill.com/sites/0072919833/student_view0/chapter7/additional_case_studies.html