PCB BIO 4 ASSIGNMENT SHEET 4: SEPTEMBER 14-18, 2009
Reading, Preparation, Study Questions, Practice Essays, Labs.

ASSIGNMENT	DESCRIPTION
Monday	There is a large exam Tuesday September 23 on Chapters 2 and 3. You need to study before the exam if you want to be able to do your best on the test (that rhymed). What are some ways that you can get some great studying done? Start studying: 2.1 Define matter, an element, and a trace element. 2.2 Explain how and why iron, iodine, and fluoride are added to the human diet. 2.3 Define a compound and explain how compounds in living organisms are different from compounds in nonbiological materials. 2.4 Describe the structure of an atom. 2.4 Define the atomic number and mass number of an atom. 2.4 Define an isotope and explain what makes some isotopes radioactive. 2.5 Explain why radioactive isotopes are important to biologists. 2.6 Explain how the electron configuration of an atom influences its chemical behavior. 2.7–2.10 Distinguish among nonpolar covalent bonds, polar covalent bonds, ionic bonds, and hydrogen bonds, noting their relative strengths and how and where they form.
Tuesday	2.11–2.14 Describe the special properties of water that make it vital to living systems. Explain how these properties are related to hydrogen bonding. 2.11 Define and distinguish between cohesion and surface tension. 2.12 Define and distinguish between heat and temperature. 2.14 Define a solute, a solvent, and a solution. 2.15 Explain how acids and bases directly or indirectly affect the hydrogen ion concentration of a solution. 2.15 Explain the basis for the pH scale. 2.15 Explain how buffers work. 2.16 Describe the causes of acid precipitation, and explain how it adversely affects the fitness of the environment. Chemical Reactions 2.17 Define a chemical reaction, and distinguish between the reactants and products.
Wednesday	3.1 Explain why carbon is unparalleled in its ability to form large, diverse molecules. 3.1 Define organic compounds, hydrocarbons, a carbon skeleton, and an isomer. 3.2 Describe the properties of and distinguish among the five functional groups of organic molecules. 3.3 List the four classes of macromolecules, explain the relationship between monomers and polymers, and compare the processes of dehydration synthesis and hydrolysis. Carbohydrates 3.4–3.7 Describe the structures, functions, properties, and types of carbohydrate molecules.

Thursday	Get ready for the test. Lipids 3.8–3.10 Describe the structures, functions, properties, and types of lipid molecules. 3.10 Describe the health risks associated with the use of anabolic steroids. Proteins 3.11–3.14 Describe the structures, functions, properties, and types of proteins. 3.15 Describe the major achievements of Linus Pauling. Nucleic Acids 3.16 Compare the structures and functions of DNA and RNA.
Friday	Make sure that you know how to produce the molecular structure of glucose, a steroid nucleus and hydrogen bonding between water molecules. Also, be able to recognize and classify all of the molecules we have learned about. The test is on Tuesday in class.