

Name _____
Lab (circle) _____ Tu Th

Bio10 Assignment 1 (20 pts)

1. Which 4 of the naturally occurring elements are the most abundant in living cells? Give the name and chemical symbol for each of these elements.
 - a.
 - b.
 - c.
 - d.
2. Diagram the carbon and oxygen atoms in a molecule of carbon dioxide showing how each atom completes its outer shell (or the electron configuration). What type of bond is formed?
3. Explain why, if you pour very carefully, you can actually “stack” water slightly above the rim of a cup.
4. Complete the following table comparing large biological molecules.

Biological Macromolecule	Functions	Components (monomers)	Examples
Lipids			
Carbohydrates			
Nucleic acids			
Proteins			

5. Name 3 differences between DNA and RNA.
 - a.
 - b.
 - c.
6. Describe the aerobic and nonaerobic components of cell respiration. In what part of the cell does each reaction take place?

7. Which stage of cell respiration produces the most ATP?

8. How does an enzyme affect the activation energy of a chemical reaction?

9. Why is it misleading to say that animals perform cell respiration while plants perform photosynthesis?

10. A glucose-fed yeast cell is moved from an aerobic environment to an anaerobic one. For the cell to continue to make ATP at the same rate, approximately how much glucose must it consume in the anaerobic environment compared to the aerobic environment?