Advanced (Honors) Biology
Mrs. Senegar-Mitchell

Name_____

CHAPTER 2 - Introduction: The Chemical Basis of Life
Chapter Reading Guide

1. Describe the levels of organization from an actin molecule to a complex insect flight muscle.

2. Define a compound and explain how compounds in living organisms are different from compounds in nonbiological materials.

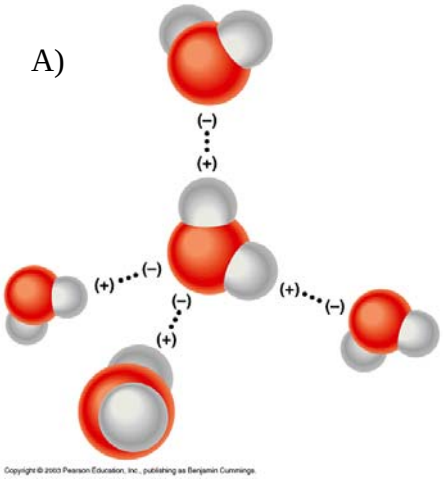
3. Define the atomic number and mass number of an atom.

4. Define an isotope and explain what makes some isotopes radioactive. Explain why radioactive isotopes are important to biologists.

5. Explain how the electron configuration of an atom influences its chemical behavior. (***Remember: structure vs. function***)

6. Distinguish among nonpolar covalent, polar covalent, and ionic bonds, noting their relative strengths and functions and the methods by which they are diagrammed.

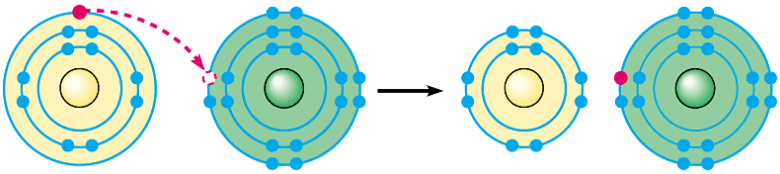
A)



B)

Reading guide based on the text, *BIOLOGY: Concepts and Connections, 4th edition*. Images used with permission from Pearson Education.

Name_____



7. Describe the special properties of water that make it vital to living systems. Explain how these properties are related to hydrogen bonding.

8. Explain how acids and bases directly or indirectly affect the hydrogen ion concentration of a solution. Also discuss basis for the pH scale.

9. Explain how the function of buffers is greatly determined by their structure.

10. Describe the causes of acid precipitation and explain how it adversely affects the fitness of the environment.