

Name: \_\_\_\_\_

## Unit 2 – Chemical Basis for Life

1. What must be present for a compound to be organic? \_\_\_\_\_
2. A **polar / nonpolar** bond occurs when electrons are unevenly shared.
3. What are the three important properties of water that support life on Earth?
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
4. Why is carbon able to form large, complex molecules? \_\_\_\_\_
5. Dehydration synthesis \_\_\_\_\_ a bond by \_\_\_\_\_ water. Hydrolysis \_\_\_\_\_ a bond by \_\_\_\_\_ water to the bond.
6. Describe the relationship between monomers and polymers.
  
7. Carbohydrates have a \_\_\_\_:\_\_\_\_:\_\_\_\_ ratio of the elements C:H:O. Carbohydrates provide \_\_\_\_\_ for the cell.
8. What are the two monomers of lipids? \_\_\_\_\_
9. Lipids make up the cell \_\_\_\_\_.
10. Amino acids are the monomer of \_\_\_\_\_. Amino acids are made up of the following three parts:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
11. Nucleotides are the monomer of \_\_\_\_\_. The three parts of a nucleotide are:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
12. What are the two properties of enzymes that allow them to act as biological catalysts?
  
13. List some things that affect the function of an enzyme?

Macromolecule	Elements	Monomer and polymer	Roles
	CHO	Monosaccharide/polysaccharide	
Lipids			Long-term energy source; cell membrane
Nucleic acids	CHOPN		
	CHOSN		Structure and enzymes