

Study Guide
Macromolecules, Chemical Reactions, & Enzymes
2.3-2.5

Fill in the following chart for all four macromolecules:

	Carbohydrates	Proteins	Lipids	Nucleic Acids
Functions				
Monomer				
Polymers				
Examples				

Answer each of the following questions:

1. What are the 3 carbon-based molecules structures?
2. Monosaccharide are the monomers that make up which macromolecule?
3. Phospholipids make up what part of the cell?
4. There are 20 amino acids that can make up proteins. Amino acids are made up of four parts. Of the four parts which one is the changes amongst all amino acids?
5. Amino acids are linked together by (covalent bond) called _____.
6. When the amino acids of a protein are incorrect, what does it do to the proteins?
7. What is one function of a protein?
8. What is the difference between DNA and RNA?
9. _____ is the process that changes one set of chemicals into another set of chemicals by breaking & forming chemical bonds
10. In an equation, which are the reactants and which are the products?
11. Chemicals that are made in a reaction are called _____.
12. What is the energy called that is needed to start up a reaction?

13. Catalysts _____ reactions by lowering the amount of activation energy needed to start the reaction
14. Biological catalysts that speed up reactions in living things are called _____.
15. What is one thing that enzymes do when they are introduced into a chemical reaction?
16. T or F . Most enzymes are proteins.
17. What is one thing that must be kept constant in order for an enzyme to work properly?
18. What is the reactant that binds to an enzyme called?
19. _____ is specific place where substrate and enzyme bind
20. In a lock and key, which represent the enzyme and which represents the substrate?
21. Are enzymes used up during a chemical reaction?

Identify if the following statements are referring to:

Carbohydrates

Lipids

Nucleic Acids

Proteins

Enzymes

1. The monomer is a nucleotide.
2. The monomer is a glycerol and a fatty acid called triglycerol.
3. Waxes, oils, and cholesterol
4. The shape determines its function
5. The monomer is monosaccharides
6. DNA and RNA
7. Found in the cell walls of plants as cellulose
8. They make up enzymes
9. Immediate or main source of energy for all living things
10. Make up bones and muscles
11. Stores and transmits genetic information
12. Help speed up a chemical reaction
13. Make up the cell membrane
14. The monomer is amino acids
15. Glucose and Fructose
16. Energy that is stored
17. Hemoglobin and Keratin
18. Lower activation energy
19. Contain peptide bonds
20. Instructions for making proteins