

**SECTION 3-3 REVIEW**

**MOLECULES OF LIFE**

**VOCABULARY REVIEW** Distinguish between the terms in each of the following pairs of terms.

1. monosaccharide, polysaccharide \_\_\_\_\_  
\_\_\_\_\_
2. hydrophilic, hydrophobic \_\_\_\_\_  
\_\_\_\_\_
3. nucleotide, nucleic acid \_\_\_\_\_  
\_\_\_\_\_

**MULTIPLE CHOICE** Write the correct letter in the blank.

- \_\_\_\_\_ 1. Glycogen, starch, and cellulose are  
 a. monosaccharides.    b. disaccharides.    c. polysaccharides.    d. simple sugars.
- \_\_\_\_\_ 2. The different shapes and functions of different proteins are determined by  
 a. the R groups of the amino acids they contain.    c. the carboxyl groups of the amino acids they contain.  
 b. the amino groups of the amino acids they contain.    d. whether or not they contain any amino acids.
- \_\_\_\_\_ 3. Most enzymes  
 a. are changed by the reactions they catalyze.    c. strengthen the chemical bonds in their substrate.  
 b. increase the activation energy of the reactions they catalyze.    d. are sensitive to changes in temperature or pH.
- \_\_\_\_\_ 4. The large numbers of carbon-hydrogen bonds in lipids  
 a. make lipids polar.    c. allow lipids to dissolve in water.  
 b. store more energy than the carbon-oxygen bonds in other organic compounds.    d. are found in the carboxyl group at the end of the lipid.
- \_\_\_\_\_ 5. The most important function of nucleic acids is  
 a. catalyzing chemical reactions.    c. storing energy.  
 b. forming a barrier between the inside and outside of a cell.    d. storing information related to heredity and protein synthesis.

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**SHORT ANSWER** Answer the questions in the space provided.

1. What are the storage and quick-energy forms of carbohydrates found in animals, and how are these forms structurally related to each other? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. How many different kinds of monomers are there in starch? \_\_\_\_\_  
 How many different kinds of monomers are there in proteins? \_\_\_\_\_  
 How many different kinds of monomers are there in nucleic acids? \_\_\_\_\_
3. What compound composes most of the cell membrane? \_\_\_\_\_  
 How is this compound suited to the function of the membrane? \_\_\_\_\_  
 \_\_\_\_\_
4. Steroids are made up of what type of molecule? \_\_\_\_\_  
 Give two examples of steroids. \_\_\_\_\_
5. **Critical Thinking** Insects that live on land have a coating of wax on the outer surface of their body. What function might the wax serve for these animals? \_\_\_\_\_  
 \_\_\_\_\_

**STRUCTURES AND FUNCTIONS** Label each part of the figure in the spaces provided.

The diagram below shows the interaction of an enzyme and its substrate during a chemical reaction.

