

SECTION

2.3

CARBON-BASED MOLECULES

Study Guide

KEY CONCEPT

Carbon-based molecules are the foundation of life.

VOCABULARY

| | | |
|--------------|------------|--------------|
| monomer | lipid | amino acid |
| polymer | fatty acid | nucleic acid |
| carbohydrate | protein | |

MAIN IDEA: Carbon atoms have unique bonding properties.

1. Why is carbon often called the building block of life?

2. What ability allows carbon atoms to form a large number of molecules?

3. In the space below, sketch the three basic structures of carbon-based molecules: straight chain, branched chain, and ring.

Section 2.3 STUDY GUIDE CONTINUED

MAIN IDEA: Four main types of carbon-based molecules are found in living things.

Complete the table with functions and examples of each type of carbon-based molecule.

| Molecule Type | Functions | Examples |
|---------------|-----------|----------|
| Carbohydrate | 4. | 5. |
| Lipid | 6. | 7. |
| Protein | 8. | 9. |
| Nucleic acid | 10. | 11. |

12. What determines a protein's structure and function?

13. What are nucleic acids made of?

Vocabulary Check

14. The prefix *mono-* means "one," and the prefix *poly-* means "many." How are these meanings related to the terms *monomer* and *polymer*?
