

Chemicals in Organisms
Section Review

2.1

The Big Idea!

Living things are made up of chemicals with characteristic structures and functions. 2.1-2.2

Concepts

- Organisms use the energy stored in carbohydrates as fuel for life activities.
- Some lipids provide long-term energy storage and heat insulation. Other lipids serve structural and control functions.
- Twenty small molecules called amino acids make up the many complex proteins with their diverse functions.
- Large molecules called nucleic acids store genetic information.

Words

carbohydrates lipids proteins nucleic acids

PART A

Match each term in Column B with its description in Column A. Write the letter of the correct term on the line provided.

COLUMN A

- _____ 1. group of chemicals that contains fats, waxes, and steroids
- _____ 2. carbohydrate that is one of the most abundant biological molecules on Earth
- _____ 3. molecules that form the protective covering that surrounds cells
- _____ 4. groups of chemicals, including sugars and starches, that provide energy to organisms
- _____ 5. group of proteins that help control chemical reactions
- _____ 6. molecules that link together to form proteins
- _____ 7. large, complex molecules that contain hereditary, or genetic information

COLUMN B

- a. phospholipids
- b. cellulose
- c. amino acids
- d. lipids
- e. nucleic acids
- f. proteins
- g. carbohydrates
- h. enzymes

PART B

1. Why are carbohydrates important to organisms?

2. Explain why a marathon runner would eat a large, starchy meal the night before a big race.

3. Why might some marine mammals have thick layers of fat beneath their skin?

4. What are some of the functions of waxes in organisms?

5. Why are enzymes important for digesting food?

6. Explain how only 20 amino acids can form the amazing variety of proteins found in living organisms.

PART C Complete the table.

Chemical	Group of Substances	Function
monosaccharide	1.	2.
3.	carbohydrates	provide longer-term energy storage
4.	5.	one of the most important biological molecules on Earth
6.	7.	store energy and provide insulation to animals
8.	lipid	repel water
collagen	protein	9.
10.	11.	defend the body against viruses and bacteria
hemoglobin	12.	13.
14.	nucleic acid	carries instructions to control cell activities
RNA	15.	16.