

Name

Period

Date

SECTION
4.1

CHEMICAL ENERGY AND ATP

Study Guide

KEY CONCEPT

All cells need chemical energy.

VOCABULARY

ATP

ADP

chemosynthesis

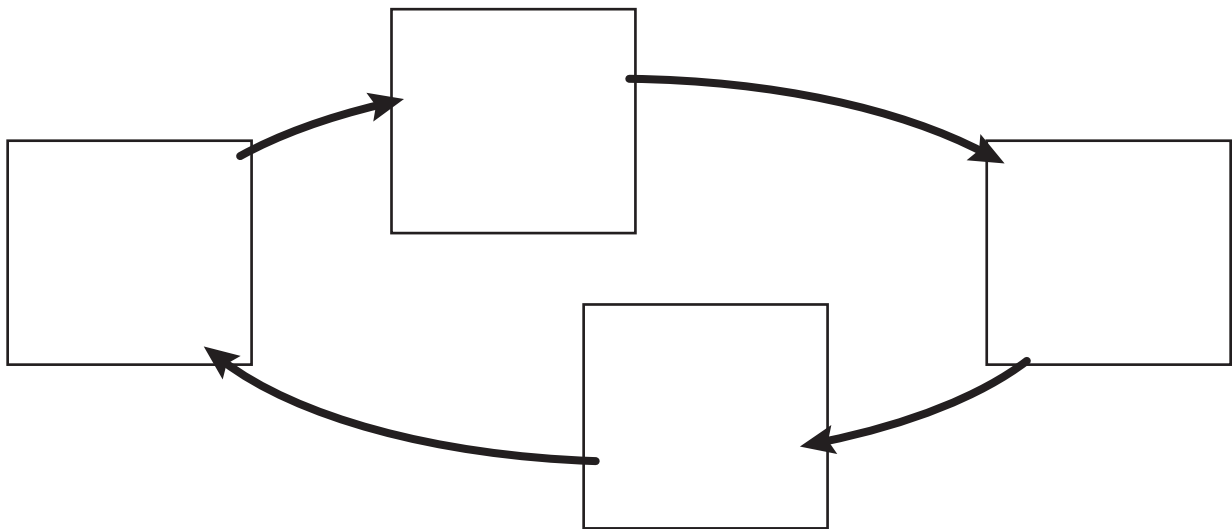
MAIN IDEA: The chemical energy used for most cell processes is carried by ATP.

1. What do all cells use for energy?

2. What is ATP?

3. What is the relationship between ATP and ADP?

Fill in the four parts of the cycle diagram below to take notes on the relationship between ATP and ADP.



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STUDY GUIDE, CONTINUED

MAIN IDEA: Organisms break down carbon-based molecules to produce ATP.

Use the table below to organize your notes about the different types of molecules that are broken down to make ATP.

Type of Molecule	Role in ATP Production
Carbohydrates	4.
Lipids	5.
Proteins	6.

MAIN IDEA: A few types of organisms do not need sunlight and photosynthesis as a source of energy.

7. What is chemosynthesis?

Vocabulary Check

8. The prefix *tri-* means “three,” and the prefix *di-* means “two.” How do these prefixes tell you the difference between adenosine triphosphate (ATP) and adenosine diphosphate (ADP)?

9. The prefix *chemo-* means “chemical,” and *synthesis* comes from a Greek word that means “to put together.” How do these meanings tell you what chemosynthesis does?
