

# Chapter 9

## Energy in a Cell

### Reinforcement and Study Guide

#### Section 9.1 ATP in a Molecule

*In your textbook, read about cell energy.*

Use each of the terms below just once to complete the passage.

energy  
ATP

phosphate  
chemical bonds

adenosine  
work

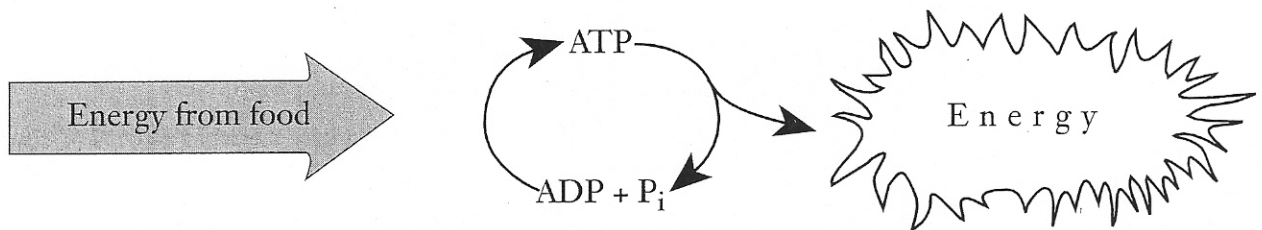
charged  
ribose

To do biological **(1)** \_\_\_\_\_, cells require energy. A quick source of energy that cells use is the molecule **(2)** \_\_\_\_\_. The **(3)** \_\_\_\_\_ in this molecule is stored in its **(4)** \_\_\_\_\_. ATP is composed of a(n) **(5)** \_\_\_\_\_ molecule bonded to a(n) **(6)** \_\_\_\_\_ sugar. Three **(7)** \_\_\_\_\_ molecules called **(8)** \_\_\_\_\_ groups are attached to the sugar.

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*In your textbook, read about forming and breaking down ATP and the uses of cell energy.*

Examine the diagram below. Then answer the questions.



9. How is energy stored and released by ATP?

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10. How do cells use the energy released from ATP?

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**Chapter 9**

**Energy in a Cell, continued**

**Content Mastery**

**Section 9.1 ATP in a Molecule**

**Section 9.2 Photosynthesis: Trapping the Sun's Energy**

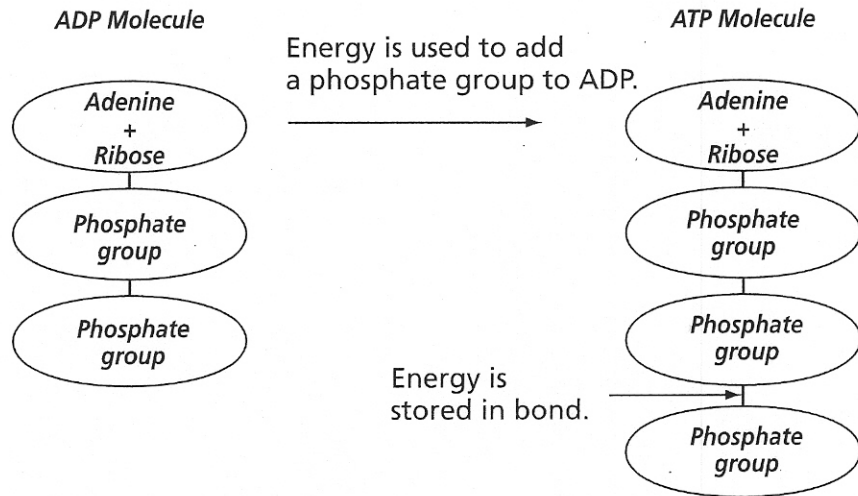
**Section 9.3 Getting Energy to Make ATP**

**Study the Energy Map**

Use the energy map to answer the questions.

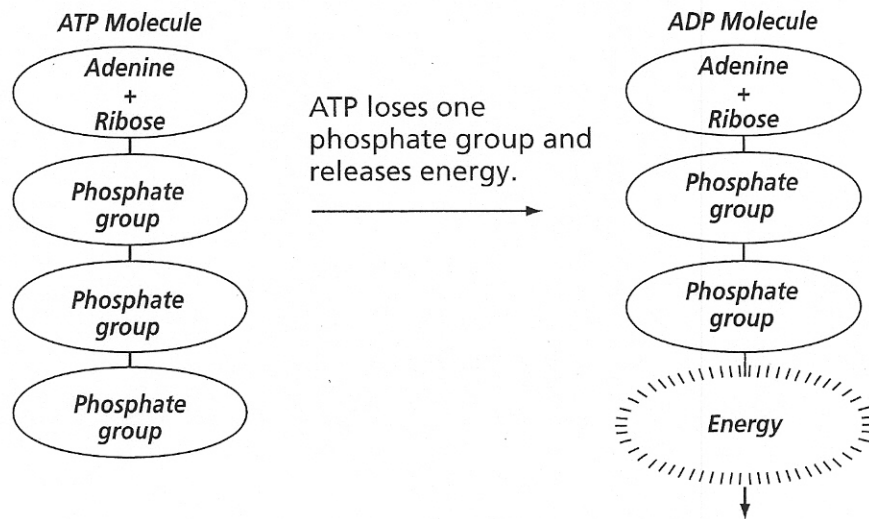
**Forming ATP**

Cells form ATP to store energy.



**Breaking Down ATP**

ATP loses a phosphate group to give energy to the cell.



1. How is ATP formed? \_\_\_\_\_
2. Where is the energy stored in an ATP molecule? \_\_\_\_\_  
\_\_\_\_\_
3. How does ATP give energy to the cell? \_\_\_\_\_  
\_\_\_\_\_
4. What is left after an ATP molecule loses a phosphate group? \_\_\_\_\_