

Chapter

9

Energy in a Cell

Reinforcement and Study Guide

Section 9.1 The Need for Energy

In your textbook, read about cell energy.

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

energy

phosphate

adenine

charged

ATP

chemical bonds

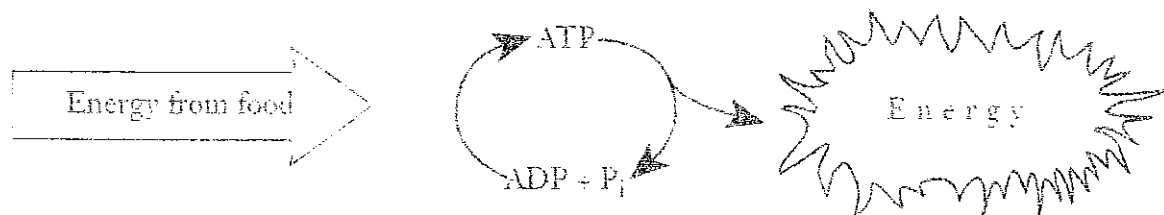
work

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 an (5) _____ molecule bonded to an (6) _____ sugar. Three (7) _____ molecules called (8) _____ groups are attached to the sugar.

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?

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



Photosynthesis & Cellular Respiration Worksheet



Name: _____ Period: _____

Vocabulary: Match the phrases on the left with the term that best fits. Use answers only one time.

- | | |
|---|-------------------------|
| ___ 1. Organisms that make their own food | A. Chloroplasts |
| ___ 2. Site of photosynthesis | B. Anaerobic |
| ___ 3. Process occurs in a mitochondrion | C. Aerobic |
| ___ 4. $C_6H_{12}O_6$ | D. Glucose |
| ___ 5. Process does not require oxygen | E. ATP |
| ___ 6. Process requires oxygen | F. Krebs's cycle |
| ___ 7. Adenosine diphosphate | G. Glycolysis |
| ___ 8. Energy storing molecule | H. Energy |
| ___ 9. The anaerobic process of splitting glucose and forming two molecules of pyruvic acid | I. ADP |
| ___ 10. The ability to do work | J. Autotrophs |

Directions: Answer each of the following questions in a clear and concise manner.

1. Compare and discuss how cells store energy and release energy using ATP. Be specific! You may draw the cycle.

2. Compare lactic acid fermentation and alcoholic fermentation by describing what pyruvic acid is changed in to. Be sure to include what type of organism each one takes place in.

	<u>What is pyruvic acid changed into?</u>	<u>Organism:</u>
Alcoholic Fermentation		
Lactic Acid Fermentation		