

Reviewing Key Concepts

Completion On the lines provided, complete the following sentences.

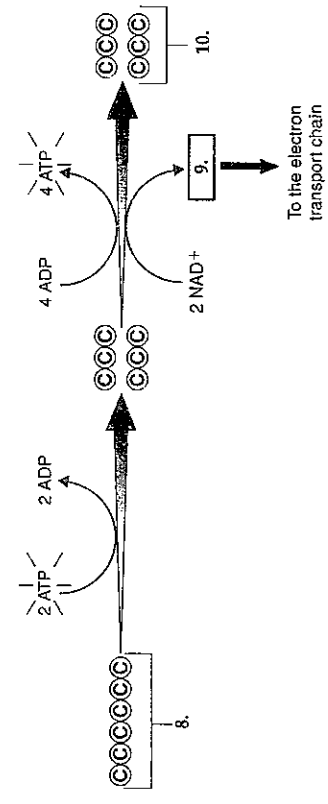
- Glycolysis can continue without oxygen in a process called _____.
- During glycolysis, _____ is broken down.
- During glycolysis NAD⁺ is converted to _____ ATP molecules for each reaction.
- The products of alcoholic fermentation are _____, _____, and _____.

Short Answer On the lines provided, answer the following questions.

- Why is fermentation considered an anaerobic process?
- What is the importance of lactic acid fermentation?

Reviewing Key Skills

Labeling Diagrams On the lines provided below, write the names of the substances in the glycolysis reaction that correspond to the numbers in the diagram.



- _____
- _____
- _____

Reviewing Key Concepts

Short Answer On the lines provided, answer the following questions.

- What role do high-energy electrons play in the electron transport chain?
- How are glycolysis and cellular respiration related?
- What are the three main stages of cellular respiration?
- What are the reactants in cellular respiration? What are the products?
- How is pyruvic acid used in the Krebs cycle?

Reviewing Key Skills

Identification On the lines provided, identify which phrase belongs to the following processes: cellular respiration or photosynthesis.

- energy storage
 - electron carrier FADH₂ produced
 - reactants are CO₂ and H₂O
 - occurs only in plants, algae, and some microorganisms
 - 6O₂ + C₆H₁₂O₆ → 6CO₂ + 6H₂O
 - occurs in mitochondria
 - uses oxygen to gain energy from food
13. Comparing How many ATP molecules are produced in glycolysis? in cellular respiration?

14. Applying Concepts Would a baseball player running to first base and a cross-country skier use the same or different pathways to release energy? Explain your answer.

15. Inferring Why are some exercise classes called aerobics?

Chapter 9 Cellular Respiration Chapter Vocabulary Review

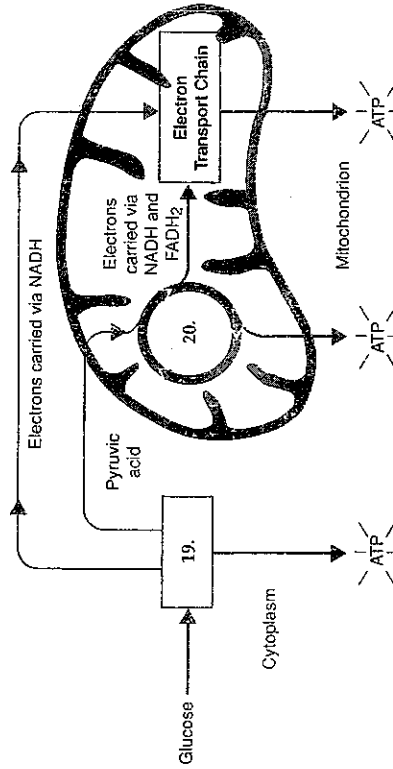
Defining Terms On the lines provided, write a definition for each of the following terms.

1. calorie _____
 2. glycolysis _____
 3. NAD⁺ _____
 4. fermentation _____
 5. anaerobic _____
 6. aerobic _____
 7. cellular respiration _____
 8. Krebs cycle _____
 9. electron transport chain _____
- Identification** On the lines provided, identify which phrase belongs to the following processes: cellular respiration, glycolysis, lactic acid fermentation, or alcoholic fermentation.
10. important in baking bread _____
 11. builds up in muscles after a few seconds of intense activity _____
 12. requires oxygen and glucose _____
 13. produces 2 ATP molecules and pyruvic acid _____
 14. almost the opposite process of photosynthesis _____
 15. the reason why runners breathe heavily after a race _____

Multiple Choice On the lines provided, write the letter that best answers the question.

16. What is the net energy gain in glycolysis?
 - a. 4 molecules of ATP
 - b. 2 molecules of ATP
 - c. 36 molecules of ATP
 - d. 38 molecules of ATP
17. Which of the following causes a painful, burning sensation in muscles after vigorous exercise?
 - a. alcohol
 - b. glycolysis
 - c. pyruvic acid
 - d. lactic acid
18. What is another name for the Krebs cycle?
 - a. the glycolysis cycle
 - b. alcoholic fermentation
 - c. the citric acid cycle
 - d. the respiration cycle

Interpreting Diagrams On the lines below, write the name of the stage of cellular respiration that correspond with the numbers in the diagram.



19. _____
20. _____