




9.1 Cellular Respiration: An Overview

Lesson Objectives

-  Explain where organisms get the energy they need for life processes.
-  Define cellular respiration.
-  Compare photosynthesis and cellular respiration.

BUILD Vocabulary

The chart below shows key terms from the lesson with their definitions. Complete the chart by writing a strategy to help you remember the meaning of each term. One has been done for you.

Term	Definition	How I'm Going to Remember the Meaning
Aerobic	Process that requires oxygen	<i>Aero- means "air"; oxygen is part of air.</i>
Anaerobic	Process that does not require oxygen	
calorie	Amount of energy needed to raise the temperature of 1 gram of water 1 degree Celsius	
Cellular respiration	Process that uses oxygen to release energy from food	

BUILD Understanding

Preview Visuals Previewing visuals and taking notes about them can help you remember what you read and review for tests. As you look at each visual, think about why it may be important to the lesson.

Draw a T-Chart in your notebook. Make a list of questions you have about the diagram The Stages of Cellular Respiration. List those questions in the left column. Read about the stages of cellular respiration in your textbook. As your questions are answered, record these answers in the right column. You can see a sample below.

Your Question Before Reading	Your Answer After Reading
<i>What do the six circles drawn below the word Glucose mean?</i>	<i>The six circles represent the six carbon atoms found in glucose.</i>

Section 9–2 The Krebs Cycle and Electron Transport (pages 226–232)

Key Concepts

- What happens during the Krebs cycle?
- How are high-energy electrons used by the electron transport chain?

Introduction (page 226)

1. At the end of glycolysis, how much of the chemical energy in glucose is still unused?

2. Because the final stages of cellular respiration require oxygen, they are said to be _____.

The Krebs Cycle (pages 226–227)

3. In the presence of oxygen, how is the pyruvic acid produced in glycolysis used?

4. What happens to pyruvic acid during the Krebs cycle? _____

5. Why is the Krebs cycle also known as the citric acid cycle? _____

6. When does the Krebs cycle begin? _____

7. What happens to each of the 3 carbon atoms in pyruvic acid when it is broken down?

8. What happens to the carbon dioxide produced in breaking down pyruvic acid?

9. How is citric acid produced? _____

10. During the energy extraction part of the Krebs cycle, how many molecules of CO₂ are released? _____
11. What is the energy tally from 1 molecule of pyruvic acid during the Krebs cycle?
