

Aerobic Respiration:

Read pages 226-229 and answer the questions below.

1. At the end of glycolysis, 90% of the chemical energy is still locked in the high-energy electrons of _____

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, the Krebs cycle breaks pyruvic acid into _____

4. The Krebs cycle is also known as the _____

5. The Krebs cycle begins when pyruvic acid enters the _____

6. During the Krebs cycle, pyruvic acid makes what 4 molecules?

- A. Carbon dioxide, NADH, ATP and FADH₂
- B. Oxygen, ADP, NAD and FADH
- C. Carbon dioxide, NADH, ADP and FADH

7. Every time you exhale carbon dioxide you expel the products of _____

8. High energy electron carriers NADH and FADH₂, in the presence of oxygen can be used to generate _____ amounts of ATP.

Electron Transport Chain (pages 228-229)

9. What is the electron transport chain? _____

10. How does the location of the electron transport chain differ in eukaryotes (animals, fungi, protists and plants) than prokaryotes (bacteria)? _____

11. At the end of the electron chain an enzyme combines hydrogen ions and oxygen to form _____.

12. Hydrogen ions build up on one side of the membrane and then move across the membrane through a protein channel called _____

13. When ATP synthase spins it converts ADP into high energy _____.

14. What is the total number of ATP produced in Cellular Respiration? _____

Anaerobic Respiration

Read Pages 221-225 and answer the questions below.

Chemical Energy and Food (Page 221)

1. What is a calorie? _____

2. Cellular respiration begins with a pathway called? _____

3. True or False – Glycolysis releases a great amount of energy. _____

Overview of Cellular Respiration (page 222)

4. What is cellular respiration? _____

5. What is the equation of cellular respiration? _____

6. Where does glycolysis take place? _____

Glycolysis (page 223)

7. What is glycolysis? _____

8. If the cell uses 2 ATP molecules at the beginning of glycolysis, how does it end up with a net gain of 2 ATP molecules? _____

9. Why can glycolysis supply energy to cells when oxygen is not available? _____

Fermentation (pages 224-225)

10. What is fermentation? _____

11. Because fermentation does not require oxygen, it is said to be _____

12. What are the two main types of fermentation

A. _____ B. _____

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