



CELLULAR RESPIRATION WEBQUEST

OBJECTIVE: I will be able to describe the function of, state the site and chemical equation for cellular respiration, and distinguish between two types of cellular respiration by completing a WebQuest.

DIRECTIONS: As you work through the WebQuest, click on the links to find answers to the questions.

Part I: Function and Equation for Respiration

1. Click on the following links and write a definition for cellular respiration in your own words.

Miller and Levine Biology Book Biology Coach PH

- 2. What living things carry on the process of cellular respiration?
- 3. Write the chemical equation for cellular respiration identifying the reactants and products.

Equation for Cellular Respiration





4. How does the equation for cellular respiration compare with the equation for photosynthesis?

Photosynthesis: Reactants Products
Light Energy (sun) +
$$6CO_2$$
 + $6H_2O$ \longrightarrow $C_6H_{12}O_6$ + $6O_2$

- 5. What is ATP? Why is it an important product of cellular respiration? ATP
- 6. Using the same link you used in Question 5, write the chemical equation for the breakdown of ATP. Does the reaction release energy (exergonic/exothermic) or absorb energy (endergonic/endothermic)? Support your answer.
- 7. Using the same link you used for Question 5, write the chemical equation for the synthesis of ATP. Does the reaction release energy (exergonic/exothermic) or absorb energy (endergonic/endothermic)? Support your answer.

Part II: Main Site of Cellular Respiration

Respiration organelle

- 8. What is the main site of cellular respiration in the cell?
- 9. Make a sketch of the respiration organelle and label the parts.
- 10. What energy molecules are produced in this respiration organelle?

Part III: Aerobic and Anaerobic are Two Types of Cellular Respiration Aerobic and Anaerobic

11. What is the difference between aerobic and anaerobic cellular respiration?

Scroll down to Anaerobic Respiration-

12. What is lactic acid fermentation? Where does it occur?



- 13. What does a build up of lactic acid cause?
- 14. What is alcoholic fermentation?
- 15. In what industry is alcoholic fermentation important?
- 16. Which produces the larger amount of energy aerobic or anaerobic respiration? Support your answer with information from the reading.
- 17. Write a summary of cellular respiration. In your response:
 - State the function of cellular respiration
 - Identify the site of cellular respiration
 - Compare aerobic and anaerobic forms of cellular respiration