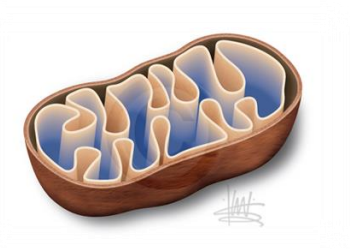


# Cellular Respiration

9

Name: _____ Period: ____

**Cellular Respiration Animation**

Animation: http://www.sumanasinc.com/webcontent/animations/content/cellularrespiration.html

**Instructions:** Answer the questions below as you view and discuss the animation in class.

**Part I: The Big Picture**

1. How do our bodies (and other organisms) obtain energy for their life functions (name the specific process)?

2. In the above animation example, what are the inputs and outputs of cellular respiration as the bison eats the grass?

3. What is ATP, and why is it important to organisms?

4. Cellular respiration is basically like which other process, in reverse?

5. What are the three basic steps of cellular respiration?

**Part II: Glycolysis**

6. Where does glycolysis occur?

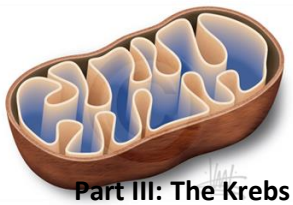
7. What happens during glycolysis?

8. Briefly summarize how the bicyclist analogy helps you understand glycolysis.

9. Summarize the process of glycolysis.

10. What are the products of glycolysis?

11. What is the net energy yield at the end of glycolysis?



# Cellular Respiration



Name: _____ Period: ____

**Part III: The Krebs Cycle**

12. Where does the Krebs cycle take place?

13. In the first series of reactions for the Krebs cycle, what are the products from the original two pyruvate molecules?

14. What is the first outcome of the Krebs cycle?

15. What is created (what are the products) during the second outcome of the Krebs cycle?

16. What are the three products of the third phase of the Krebs cycle?

17. What happens at the very end of the Krebs cycle (the final outcome)?

**Part IV: The Electron Transport Chain**

18. NADH and $FADH_2$ enter the electron transport chain after being created during the Krebs cycle. What is their role in the electron transport chain, and what happens after they fulfill their role?

19. What does the electron transport chain create?

20. What is required for the electron transport chain to operate?

21. What will happen if oxygen is no longer available?

22. Where does the electron transport chain occur?

23. What drives the protons (H+ ions) across the mitochondrial membrane to form ATP?