

Name _____

Period _____

Ms. Foglia

Date _____

AP: CHAPTER 9A: RESPIRATION — GLYCOLYSIS

1. Identify some specific processes the cell does with ATP. _____

2. Explain why ATP is such a “high energy” molecule. _____

3. Sketch the ATP cycle:

4. How does ATP “couple reactions”? _____

5. What is the name of enzymes which phosphorylate molecules? _____

6. Define each of the following:

a. Oxidation _____

b. Reduction _____

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7. What is the role of NAD⁺ & FAD⁺² in respiration? _____

8. Explain why respiration is considered exergonic. _____

9. Glycolysis starts with _____ and produces _____

10. The Kreb's cycle takes place in the: _____

11. Pyruvate is converted to _____ before the Krebs cycle.

12. The Electron Transport Chain is located in the: _____

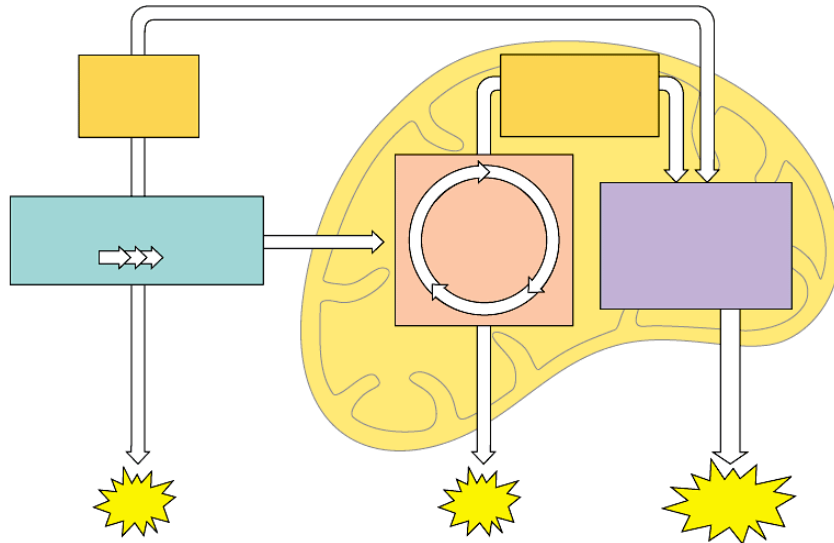
13. Describe the role of the Electron Transport Chain. What happens to the electrons and H⁺?

14. What is chemiogenesis and how is it generated?

15. How does the mitochondrion generate ATP?

16. Label the diagram.

Include: CO₂, organic compounds, O₂, H₂O, respiration, photosynthesis, light, heat, ATP



17. What happens to most of the energy released during cell respiration? _____

18. Alcoholic fermentation converts glucose to _____

19. Alcoholic fermentation is utilized by what organisms? _____

20. Lactic acid fermentation converts glucose to _____

21. Lactic acid fermentation is utilized by what organisms? _____

22. Identify examples of each of the following feedback mechanisms

a. Negative feedback _____

b. Positive feedback _____

23. Write the summary equation for cellular respiration:

a. Where did the glucose come from? _____

b. Where did the O₂ come from? _____

c. Where did the CO₂ come from? _____

d. Where did the H₂O come from? _____

e. Where did the ATP come from? _____

f. What else is produced that is not listed in this equation? _____

24. What was the evolutionary advantage of the proto-eukaryotes that engulfed aerobic bacteria but did not digest them?

25. Why do we eat? _____

26. Why do we breathe? _____

