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 _____

   _____

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 chemiomosis and how is it generated?

_____

_____

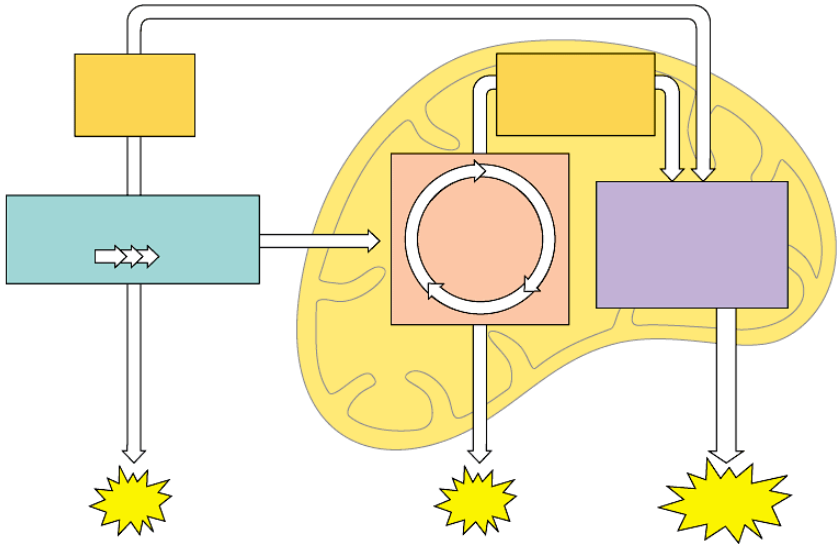
_____

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 O_2 come from? _____

c. Where did the CO_2 come from? _____

d. Where did the H_2O 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? _____

_____

_____