

# STUDY GUIDE: Unit 3 – Cell Energy

[Notebook pages \_\_\_\_\_ - \_\_\_\_\_ ]

**DIRECTIONS:** Study for the exam. This will not be collected and is not for points but should help guide your studying. It is recommended that you use the study strategies you learned in Earth Science but they are not required.

## ★ Study Strategies ★

- **Write 3 times:** Write the answer 3 times. This is helpful with memorizing information.
- **Draw and label:** draw a diagram of the process (labeling the parts) and explain how it all works. This is helpful with learning patterns in the cycles or repeating processes. Combining this with “write 3 times” can help you memorize the pattern.
- **Explain like I’m 5:** Write the answer to the question like you are explaining it to a 5-year-old. Include all the important information but in simple language a kid would understand.
- **Venn Diagram:** Create a Venn diagram to compare and contrast the 2 things. Have 5 points for each of the sides (differences) and 3 points for the middle (similarities).
- **Flashcards:** Create flashcards with the word/question on one side and the definition/answer on the other side. Use your flashcards. If you get the flashcard right, put a check in the corner of the card and put an “x” in the corner if you get it wrong. Repeat the cards until you get all of them right 3 times.
- **Test questions:** Write questions that might be similar to a question you will see on the test. Level 1 questions can be multiple choice and level 2 questions should be short answers. Be sure to include the correct answer!

### Topics & Main Ideas:

- ★ Carbon Cycle
- ★ Cardiovascular System
- ★ Cellular Respiration
- ★ Chloroplast
- ★ Digestive System
- ★ Energy transfer in Ecosystems
- ★ Excretory System
- ★ Leaf Structure and Function
- ★ Mitochondria
- ★ Muscle Fatigue
- ★ Photosynthesis
- ★ Respiratory System
- ★ Stomata

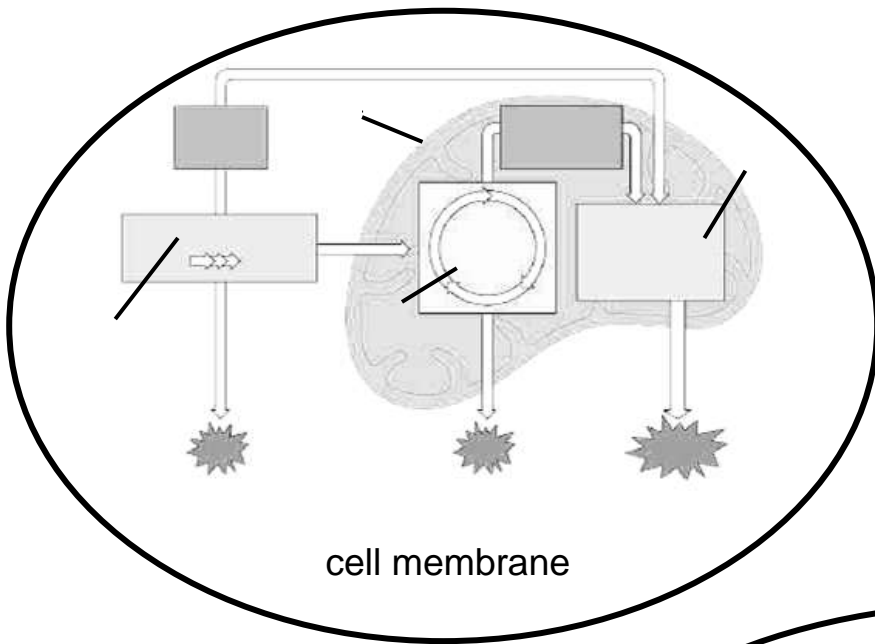
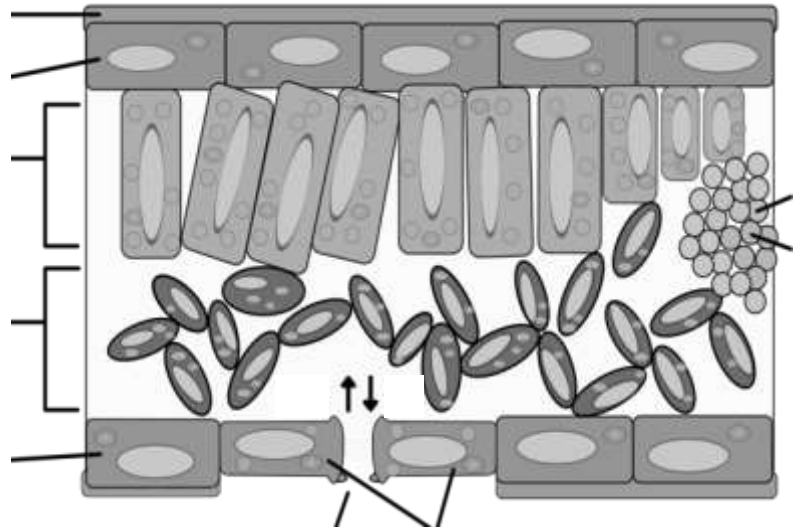
### Vocab:

1. Adhesion
2. Arteries
3. Atriums
4. Autotrophs
5. Carbon Cycle
6. Cardiovascular System
7. Cellular respiration
8. Chloroplast
9. Cohesion
10. Electron Transport Chain
11. Epidermis
12. Fermentation (Anaerobic respiration)
13. Glycolysis
14. Guard Cells
15. Heart
16. Heterotrophs
17. Krebs Cycle
18. Lactic Acid
19. Light dependent reaction
20. Light Independent Reaction (Calvin Cycle)
21. Mesophyll layer
22. Mitochondria
23. Palisade Layer
24. Phloem
25. Photosynthesis
26. Pulmonary Arteries
27. Pulmonary Veins
28. Respiratory System
29. Stroma
30. Stomata
31. Thylakoids
32. Veins
33. Ventricles
34. Xylem

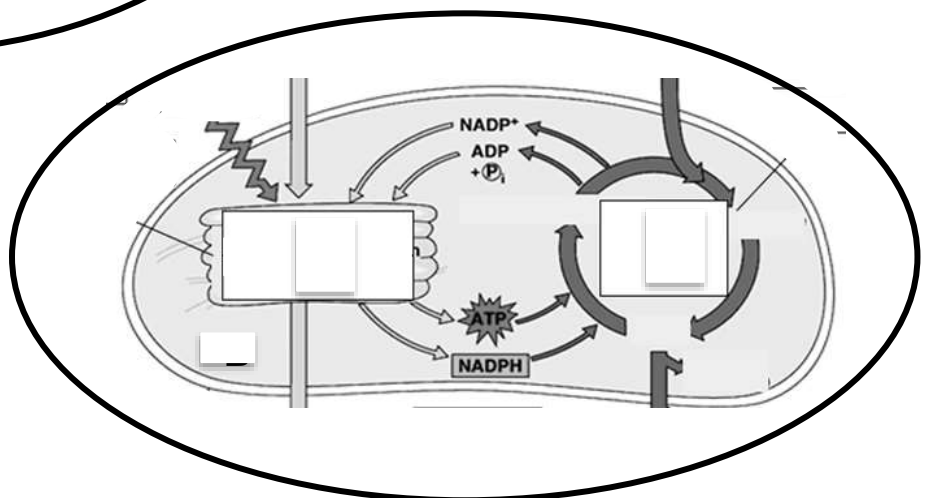
### Questions:

1. Compare and contrast the chloroplast and the mitochondria.
2. What is the balanced chemical equation for photosynthesis?
3. What is the balanced chemical equation for cellular respiration?
4. Why are leaves in the shade typically larger than leaves in the sun?

5. How do stomata change depending on weather?
6. What causes cramping?
7. Compare and contrast fermentation to cellular respiration.
8. Explain how your body gets the reactants needed for cellular respiration.
9. Explain how your body gets rid of the products from cellular respiration.
10. Compare and contrast how humans get the reactants for cellular respiration to how plants get them.
11. Explain what ATP is and how it is used in cells.
12. Diagram the steps of photosystems.
13. Diagram the steps of cellular respiration.
14. Label a cross section of a leaf.
15. How does the cardiovascular system help with cellular respiration?
16. Diagram the cardiovascular system.



cell membrane



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