



## Aerobic & Anaerobic Respiration

37 Questions

NAME : \_\_\_\_\_

CLASS : \_\_\_\_\_

DATE : \_\_\_\_\_

1. This term refers to the production of ATP without oxygen being present.

- a) anaerobic                       b) prokaryotic  
 c) biogenic                         d) organic

2. Fermentation occurs in the cell's

- a) cytoplasm                       b) nucleus  
 c) cell membrane                 d) cristae

3. What type of respiration requires oxygen?

- a) Aerobic                          b) Anaerobic

4. When animals exercise with a lack of oxygen their muscles can form

- a) lactic acid                       b) alcohol  
 c) minions                          d) oxygen

5. What molecule is broken down to provide energy for life processes?

- a) oxygen                          b) carbon dioxide  
 c) glucose                          d) water

6. Makes alcohol

- a) anaerobic                       b) aerobic  
 c) both

7. requires mitochondria

- a) aerobic                          b) anaerobic  
 c) both

8. used to make bread/beer

- a) aerobic  b) anaerobic  
 c) both

9. used to make yogurt

- a) aerobic  b) anaerobic  
 c) both

10. causes muscle cramps

- a) aerobic  b) anaerobic  
 c) both

11. Glucose  $\rightarrow$  CO<sub>2</sub> + Lactic Acid OR Alcohol + 2 ATP

- a) aerobic  b) anaerobic  
 c) both

12. Glucose + Oxygen  $\rightarrow$  CO<sub>2</sub> + H<sub>2</sub>O + 36 ATP

- a) aerobic  b) anaerobic  
 c) both

13. Requires glucose (sugar)

- a) aerobic  b) anaerobic  
 c) both

14. makes ATP/energy

- a) aerobic  b) anaerobic  
 c) both

15. Glycolysis

- a) making ATP  b) means sugar splitting  
 c) is the 2nd step of Cellular Respiration  d) Is not required for Anaerobic respiration

16. How many ATPs does Anaerobic Respiration make?

- a) 5 ATPs  b) 3 ATPs  
 c) up to 38 ATP  d) only 2 ATPs

17. Makes 36 ATP

- a) Aerobic  b) Anaerobic  
 c) Both

18. What happens to your pulse when you exercise?

- a) It increases  b) It decreases  
 c) It stays the same

19. What happens to your breathing rate when you exercise?

- a) It increases  b) It decreases  
 c) It stays the same

20.



Why is yeast used to bake bread?

- a) The waste gas,  $\text{CO}_2$ , makes bread rise  b) The alcohol produced makes bread dangerous  
 c) The yeast consumes  $\text{O}_2$ , causing bread to rise

21. What is a disadvantage of fermentation as a process?

- a) It produces too much ATP  b) It only produces 2 ATP  
 c) It occurs in the absence of oxygen  d) It is only for quick bursts of energy

22. What cells in the body may undergo lactic acid fermentation during exercise?

- a) Muscle cells  b) Fat cells  
 c) Liver cells  d) Skin cells

23. Lactic acid fermentation occurs in your muscles after a workout because your cells are struggling to get

- a) Glucose  b) Sunlight  
 c) Oxygen  d) Water

24. What are the two reactants of cellular respiration?

- a)  $\text{C}_6\text{H}_{12}\text{O}_6$  &  $6\text{CO}_2$   b)  $6\text{CO}_2$  &  $6\text{H}_2\text{O}$   
 c)  $\text{C}_6\text{H}_{12}\text{O}_6$  &  $6\text{O}_2$   d)  $6\text{CO}_2$  &  $6\text{O}_2$

25. Along with 2ATP, what is produced during glycolysis?

- a)  $6\text{CO}_2$   b)  $6\text{O}_2$
- c)  $\text{C}_6\text{H}_{12}\text{O}_6$   d) 2 pyruvate

26. Which is a product of Kreb's Cycle?

- a) Carbon dioxide  b) Glucose
- c) Pyruvate  d) Water

27. Which is a product of the ETC?

- a) Carbon dioxide  b) Glucose
- c) Oxygen  d) Water

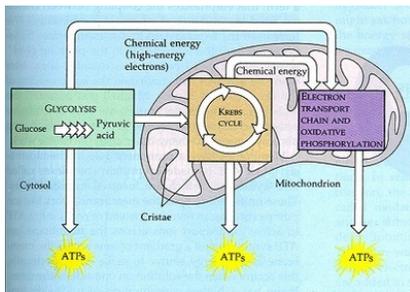
28. What is the correct equation for cellular respiration?

- a)  $6\text{O}_2 + \text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 6\text{CO}_2 + 6\text{H}_2\text{O} + \text{Energy}$   b)  $6\text{O}_2 + \text{C}_6\text{H}_{12}\text{O}_6 + \text{Energy} \rightarrow 6\text{CO}_2 + 6\text{H}_2\text{O}$
- c)  $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow 6\text{O}_2 + \text{C}_6\text{H}_{12}\text{O}_6 + \text{Energy}$   d)  $6\text{CO}_2 + 6\text{H}_2\text{O} + \text{Energy} \rightarrow 6\text{O}_2 + \text{C}_6\text{H}_{12}\text{O}_6$

29. Which molecule isn't an energy carrier?

- a)  $\text{FADH}_2$   b) NADH
- c) oxygen  d) ATP

30.



What is the correct order for aerobic cellular respiration?

- a) glycolysis-->ETC--> Krebs Cycle  b) ETC-->glycolysis-->Krebs Cycle
- c) glycolysis-->Krebs Cycle-->ETC  d) Krebs Cycle-->glycolysis-->ETC

31. Which metabolic process breaks down food to release energy?

- a) Anabolism  b) Catabolism

32. Which metabolic process is photosynthesis?

- a) Anabolism  b) Catabolism

33. How much ATP is produced during the Krebs Cycle?

- a) 2  b) 4  
 c) 32  d) 34  
 e) 36

34. Which processes are ANAEROBIC? CHOOSE ALL THAT APPLY.

- a) ETC  b) Krebs Cycle  
 c) Glycolysis  d) Alcohol Fermentation  
 e) Lactic Acid Fermentation

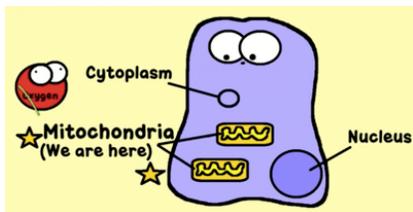
35. What are the folds of the inner membrane of the mitochondria called?

- a) cristae  b) matrix  
 c) thylakoids  d) grana

36. Fermentation and Aerobic Respiration produce different amounts of ATP. What is the correct pairing of amount of ATP produced?

- a) Fermentation = 2; Aerobic Respiration = 36  b) Fermentation = 4; Aerobic Respiration = 32  
 c) Fermentation = 36; Aerobic Respiration = 2  d) Fermentation = 2; Aerobic Respiration = 32

37.



Which process occurs in the mitochondria

- a) glycolysis and Krebs' Cycle  b) Krebs' Cycle and Electron Transport  
 c) Calvin Cycle and Electron Transport  d) Glycolysis only

**Answer Key**

- |       |       |       |           |
|-------|-------|-------|-----------|
| 1. a  | 11. b | 21. b | 31. b     |
| 2. a  | 12. a | 22. a | 32. a     |
| 3. a  | 13. c | 23. c | 33. a     |
| 4. a  | 14. c | 24. c | 34. c,d,e |
| 5. c  | 15. b | 25. d | 35. a     |
| 6. a  | 16. d | 26. a | 36. a     |
| 7. a  | 17. a | 27. d | 37. b     |
| 8. b  | 18. a | 28. a |           |
| 9. b  | 19. a | 29. c |           |
| 10. b | 20. a | 30. c |           |