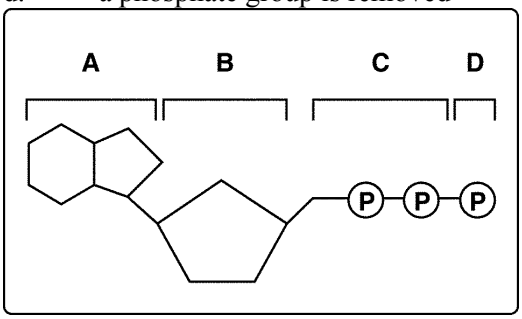
Practice Test for Photosynthesis and Cellular Respiration

1) What are the three parts of an ATP molecule?

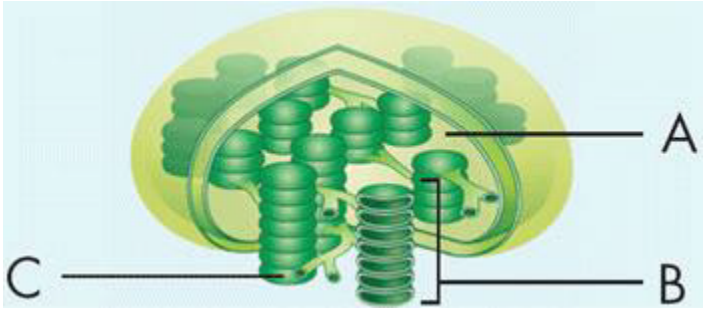
2) What is the main difference between ATP and ADP?

3) Which one stores energy, ATP or ADP

4) Energy is released from ATP when
   a. a phosphate group is added.
   b. adenine bonds to ribose.
   c. ATP is exposed to sunlight.
   d. a phosphate group is removed



5) Label these parts of ATP

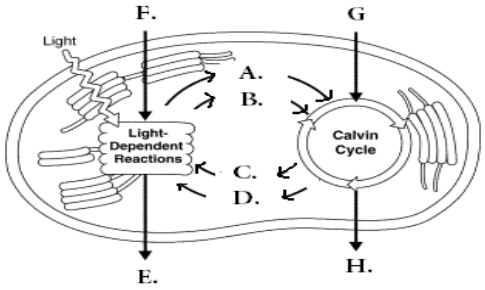


6) Label these parts of the chloroplasts

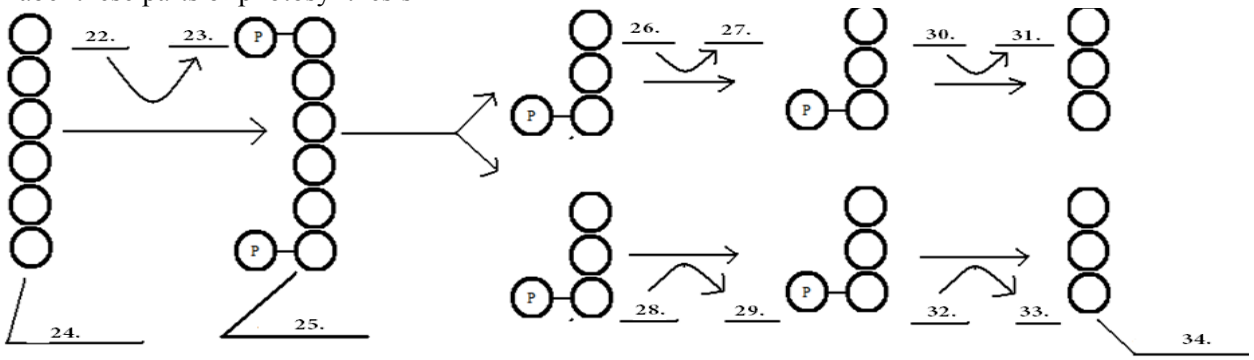
7) When $NADP^+$ accepts and holds two high-energy electrons, what else gets bonded to the molecule as part of the reaction?

8) What is the chemical formula for photosynthesis?

9) What is the chemical formula for respiration?

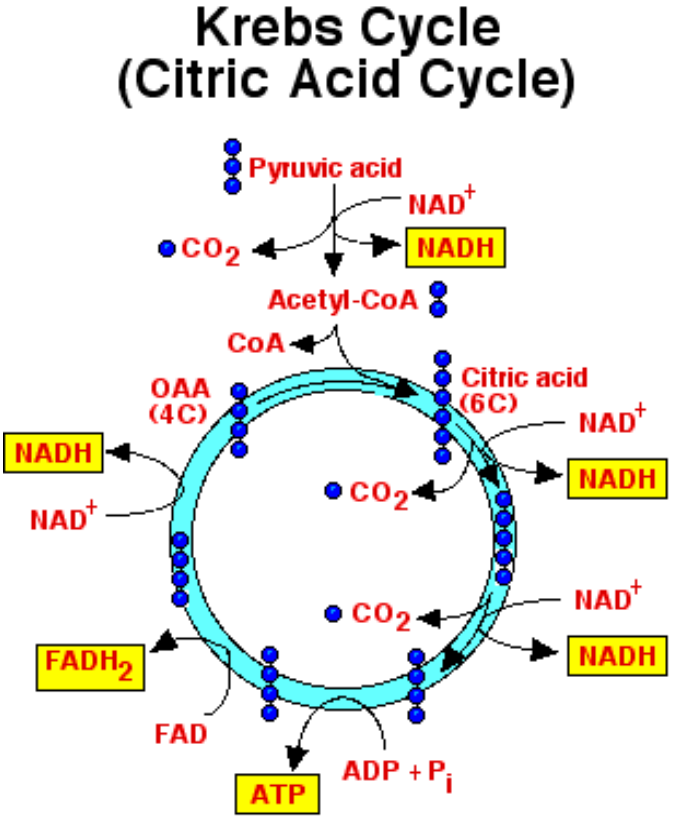


10) Label these parts of photosynthesis



11) Label these parts of glycolysis

12) How many pyuvates are made in glycolysis?

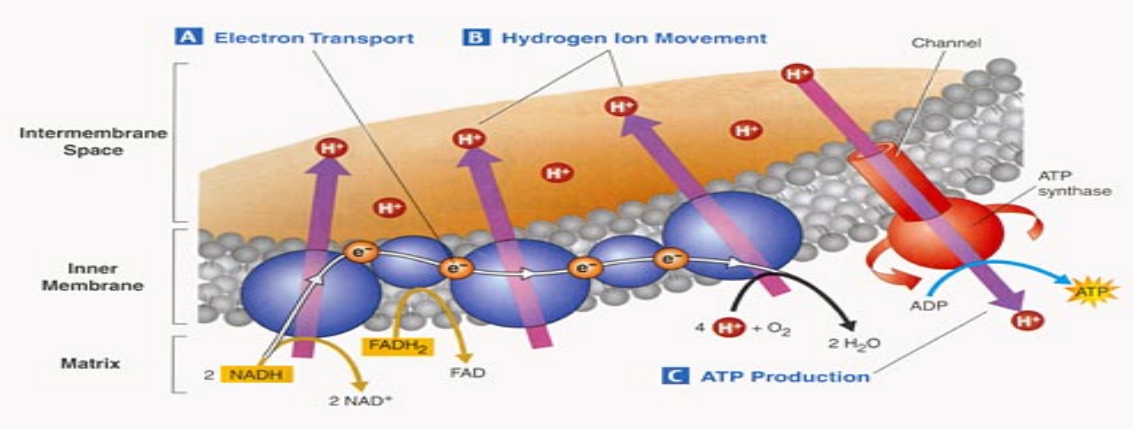


13) How many CO2 are made in the Kreb cycle?

14) Where does the Kreb cycle take place?

15) How many ATP are made?

16) What carries the electrons in the Kreb cycle?



17) How many ATPs are made using the electron transport?

18) What is carrying the electrons for the electron transport chain?

19) What is needed to make water?

20) What is the protein that makes ATP?

21) What is the correct order of cellular respiration?

22) What is the net gain of ATP for cellular respiration?

23) If oxygen is present and the cell can go through cellular respiration than it is a _____ process.

24) If oxygen is not present and the cell has to go through fermentation than it is a _____ process.

25) Avery is known for making great pasteries and started a bakery. As she starts her business adventure she realizes that the cause of bread rising is due to the production of CO_2 which is a byproduct of this process?

Answers

1) adenine, ribose, and three phosphate groups
2) ATP has three phosphate groups while ADP only has two
3) ATP
4) D
5) A, Adenine B, Ribose C and D, phosphate groups
6) A, stroma B, Grana C, thylakoid
7) Hydrogen Ion
8) 6 CO_2 + 6 H_2O (Sunlight) → $C_6H_{12}O_6$ + 6O_2
9) $C_6H_{12}O_6$ + 6O_2 → 6 CO_2 + 6 H_2O (Energy)
10) A= NADPH, B=ATP, C=ADP, D= NADP, E= O_2, F= H_2O, G= CO2 H= Glucose
11) 22= 2 ATP 23= 2 ADP 24= Glucose 25= 6 Carbon sugar diphosphate 26= NAD 27=NADH 28 NAD 29= NADH 30= 2 ADP 31=2ATP 32=2 ADP 33= 2 ATP 34= Pyruvate
12) 2
13) 8
14) Mitochondria
15) 2
16) NADH and FADH2
17) 32
18) NADH and FADH2
19) The H+ ion from NADH and O_2
20) ATP synthase
21) Glycolysis, Krebs, Electron transport chain
22) 36
23) Aerobic
24) Anaerobic
25) Alcohol
26)