

5.) Describe the role of adenosine triphosphate (ATP) in the cell. Be as detailed as possible. Draw it.just kidding. (5 pts extra credit for drawing ATP)

6.) What is the role of an enzyme? What determines its function?

7.) What are the three main ways to denature an enzyme?

8.) Explain the difference between a competitive and noncompetitive inhibitor.

9.) What is feedback inhibition? Why is it useful?

10.) Compare and contrast (in general terms) the main chemical reactions used in cellular respiration and photosynthesis.

11.) Compare and contrast oxidation and reduction.

12.) Briefly describe glycolysis. What is involved? What is the initial compound? What are the end products? Where does it take place?

13.) Compare and contrast substrate-level phosphorylation and oxidative phosphorylation.

- 14.) What is chemiosmosis? How does this relate to electron transport and ATP production?
- 15.) Compare and contrast photoautotrophs and heterotrophs.
- 16.) Describe the interconnectivity between the light and dark reactions of photosynthesis.
- 17.) What is the relationship between frequency and wavelength? Which has a higher energy?
- 18.) Why are plants green? How does this relate to light absorption in photosynthesis?

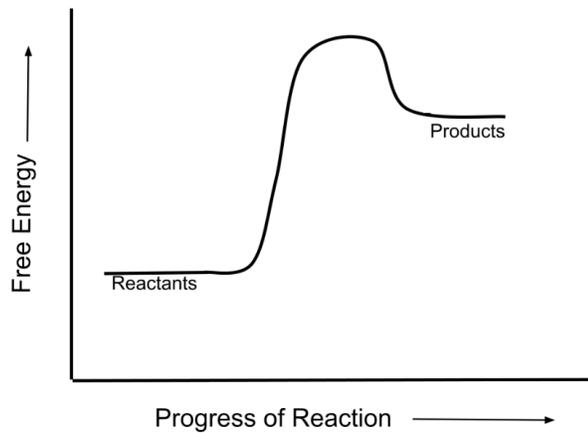
19.) What is the purpose of water in photosynthesis?

20.) What is meant by electron excitation? How does this relate to the photosystem mechanism?

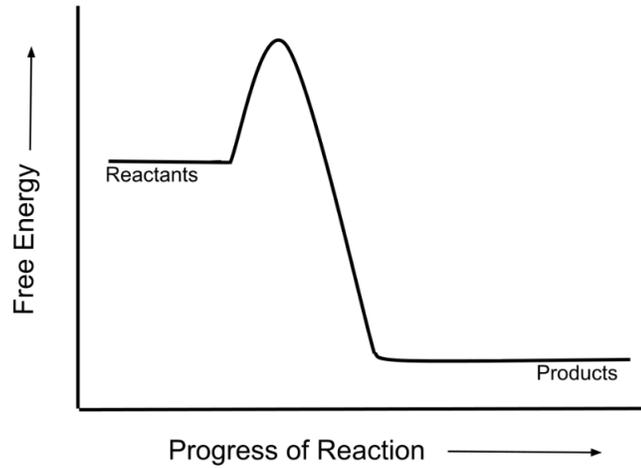
Diagrams (20%)

(5 pts each, 20 pts total) Answer each as completely as possible.

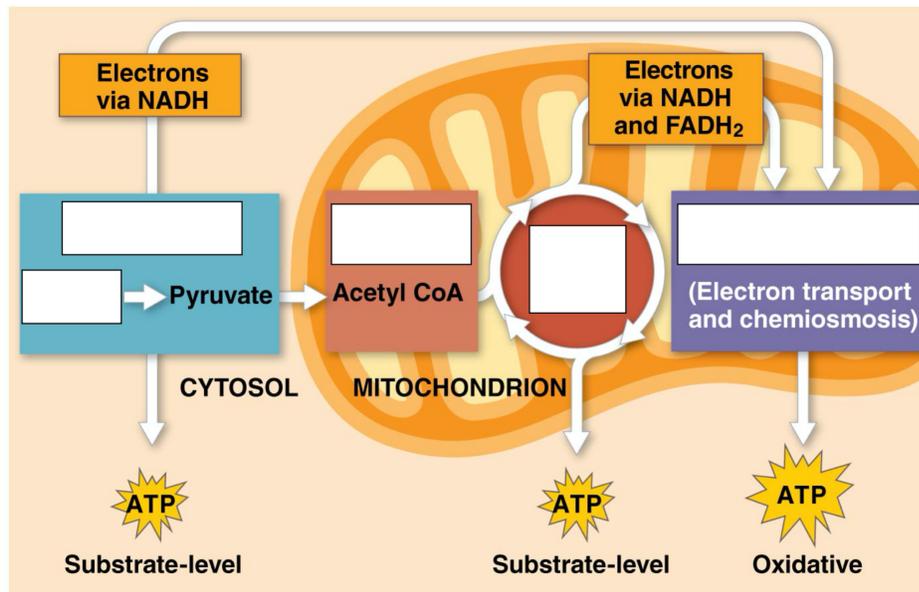
21.) Does the diagram below depict an exergonic or endergonic reaction? State your reasoning why and clearly define that reaction type.



22.) Show the influence of an enzyme in the diagram below.



23.) Complete the diagram below. Fill in each of the missing compound names and reactions.



24.) How many ATP are produced in a typical human cell from a single initial product during cellular respiration?