

- .5 What is the high-energy molecule that transfers energy from the breakdown of food molecules to cell processes called?
1. What happens when one of the phosphate groups is removed from ATP?
  2. Draw the diagram of the relationship between ATP and ADP (Pg 101).
  3. Which macromolecule is most commonly broken down to produce ATP?
  4. Which macromolecule stores the most energy?
  5. What is the process by which some organisms use chemical energy instead of light energy to make energy-storing molecules?
  6. Define Photosynthesis:
  7. What is the name for the molecule that captures energy from light, and also gives plants their green color?
  8. What are the coin-shaped compartments called that contain chlorophyll? What reactions take place in them?
  9. A stack of thylakoids is called a \_\_\_\_\_, and the fluid outside of the thylakoids is called the \_\_\_\_\_.
  10. Which set of reactions in photosynthesis capture energy from sunlight? Where do these reactions take place, and what is needed for them to occur?
  11. Which set of reactions in photosynthesis use energy from the light-dependent reactions to make sugars? Where do these reactions take place, and what is needed for them to occur?
  12. Write the chemical reaction of photosynthesis:
  13. We can not get energy directly from food. What is the name of the process we use to breakdown food to make ATP when oxygen is present?
  14. What is the difference between *aerobic* and *anaerobic*?

15. Where in the cell does cellular respiration take place?
  
16. A pre-requisite (or thing that needs to happen before) of cellular respiration is a process called \_\_\_\_\_, which means the breakdown of glucose (sugar) into two 3-carbon molecules (pyruvates).
  
17. Is glycolysis aerobic or anaerobic?
  
18. The first stage of cellular respiration (which occurs only after glycolysis) is called the \_\_\_\_\_.
  
19. What does the Krebs's Cycle need in order to occur, and what does it produce?
  
20. The second stage of cellular respiration is called the \_\_\_\_\_ (3 words).
21. What does the second stage of cellular respiration need in order to occur, and what does it produce?
  
22. Write the chemical reaction for cellular respiration:
  
23. After glycolysis, what is the name of the process that occurs when oxygen IS available?
24. After glycolysis, what is the name of the process that occurs when oxygen IS NOT available?
25. Is ATP produced by fermentation? Why is fermentation important (what do we get out of it)?
  
26. \_\_\_\_\_ is produced in muscle cells and in some microorganisms when glycolysis is complete but there is no oxygen available.
  
27. Why do your muscles burn during and after intense exercise?
  
28. When oxygen becomes available after fermentation has already started, what happens?

29. Complete the following chart:

	Photosynthesis	Cellular Respiration
Where does it occur?		
What are the reactants?		
What are the products?		