

To prepare for your test, please answer the following questions, review your notes, and chapter 4 in your textbook.

1. Which molecule provides energy to the cell?

ATP

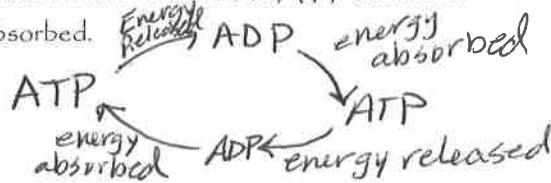
2. Why must carbohydrates be converted into ATP in the cell?

Cells can not use carbohydrates for energy, the only usable energy for cells is ATP

3. Why do organisms need a constant supply of energy?

so they can do cellular processes to live and grow

4. Write a reaction for the formation of ATP and the break down of ATP. Be sure to indicate where energy is released and absorbed.



5. Where is energy stored in ATP?

in the 2nd to 3rd Phosphate bond

6. Which process is used by plants to make food?

photosynthesis

7. What is an autotroph?

a self feeder
a producer

produces its own food

8. What is the source of energy used for plants to make food?

sunlight

9. What is the green pigment found in plants called? Where is it found?

Chlorophyll is found in chloroplasts in the leaves

10. What is the function of the pigment found in plants?

to capture sunlight

11. Why do leaves appear green?

all the other colors are absorbed

12. What is the equation for photosynthesis?



13. What stage of photosynthesis produces sugar using carbon dioxide and ATP?

Calvin cycle (light independent reactions)

14. What is the name for the process that breaks down glucose?

Cellular Respiration

15. What is the equation for cellular respiration?



16. What is the net gain of ATP molecules during cellular respiration?

36 ATP

17. What type of fermentation occurs in most animals?

Lactic Acid fermentation

18. What type of fermentation occurs in bacteria, yeast, and fungi?

Alcoholic fermentation

19. Under what conditions do alcoholic fermentation and lactic acid fermentation occur?

anaerobic conditions (without oxygen)

20. What happens to muscle cells that have a build up of lactic acid in them?

they feel tired and sore

21. What is the difference between aerobic and anaerobic respiration?

has O_2

without O_2

22. Where does the Calvin Cycle take place?

the stroma of the chloroplasts

23. In the Calvin Cycle, CO_2 combines with hydrogen to form what?

glucose ($\text{C}_6\text{H}_{12}\text{O}_6$)

24. Where does glycolysis take place?

mitochondrial matrix