Chapter 4 Concept Review

**B I O L O G Y**

**Directions:** *Answer the following questions using your notes and textbook*

1. The chemical energy used for most cell processes is carried by ________.
2. All carbon-based molecules in food store chemical energy in their ____________.
3. Energy of ATP released when _______________ group is removed.
4. When loses _______ phosphate group, ATP becomes ________ (adenosine diphosphate).
5. Number of ATP molecules depends on type of molecule broken down (Carbohydrate, Protein, lipid).
6. _________________ most commonly broken down to make ATP.
7. Break down of ________________ yields 36 molecules of ATP.
8. Amino acids needed to build new ________________.
9. Some organisms use ________________________ to produce energy (sugars).
10. __________________ make their own source of chemical energy.
11. photosynthesis is process that captures energy from _________________ to make sugars that store chemical energy.
12. Plants appear green because ________________ green light (not absorbed)
13. Photosynthesis in plants occurs in ________________.
14. _________________ - stacks of coin-shaped, membrane-enclosed compartments called _________________.
15. _________________ is the fluid that surrounds grana.
16. Light-dependent reactions (capture energy from ________________). Occurs within and across membrane of ________________.
17. Light _______________________ reactions (uses energy produced from light-dependent reactions). Occur in the stroma of chloroplasts.

18. Plants produce __________ for themselves and other ________________.

19. Animals use ________________ produced by photosynthesis in cellular respiration (released stored ________________)

20. Cellular respiration makes ATP by breaking down ________________ and other carbon-based molecules to make ________.

21. ________________ process (does not require oxygen).

22. Chemical equation for cellular respiration is basically the ________________ of that for __________________________.

23. ________ produced (34 to 36 molecules) for a total of 36 to 38 including ________________.

24. Fermentation allows ________________ to continue.

25. ________________ is an anaerobic process.

26. Lactic Acid fermentation- occurs in ________________ cells.

27. Glycolysis splits glucose into two ________________ molecules.

28. ________________ fermentation- similar to lactic acid fermentation. Products of alcoholic fermentation include cheese, bread, yogurt.

29. ________________ splits glucose and products enter fermentation.

30. ________________ fermentation- Glycolysis splits glucose and products enter __________________________.