**Cell Transport, Photosynthesis, and Cellular Respiration Study Guide**

1. What is the function of an enzyme?

2. The table below lists some digestive enzymes found in the human small intestine.

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| **Digestive Enzymes in the Small Intestines** |
| Enzyme (liver) | Substrate | Product |
| Amylase (liver) | Glycogen  | Disaccharides |
| Lipase (liver) | Starch  | Disaccharides |
| Trypsin | Proteins  | Peptides |
| Maltase | Disaccharides | Monosaccharides |
| Peptidase | Peptides | Amino acids |

Based on the information in the table, what would be one effect of a damaged liver (what would the body have a hard time breaking down)?

3. What characteristics do prokaryotes lack that eukaryotes have?

4. What do plant cells have that animal cells do not?

5. What gas is formed from photosynthesis?

6. What type of cell transport is the movement of small particles from an area of high to low concentrations?

7. A student does an investigation measuring the rate of water loss in milliliters for three plants. Plant 1 is exposed to high humidity, Plant 2 is exposed to a high temperature, and Plant 3 is exposed to room temperature. Measurements are taken at half-hour intervals for three hours. In planning the investigation, what additional element is needed to ensure that it has an effective control?

8. What organelle contains DNA and RNA in eukaryotes?

9. What does an aerobic process need?

10. Which eukaryotic cells conduct cellular respiration? Photosynthesis?

11. What organelle conducts cellular respiration in eukaryotes?

12. What is an example of an autotroph?

13. What organelle conducts photosynthesis in eukaryotes?

14. What is an autotroph (what can it do)?

15. What is the equation of cellular respiration?

16. A plant cell is exposed to a hypertonic solution, what will happen to the cell (will it swell, shrink, or not change)?

17. What type of cell transport uses transport proteins?

18. If a cell has a 5% concentration of water, and the solution has a 95% water concentration, what will happen to the cell (will it shrink, swell)?

19. What is needed in order to synthesize (break down) proteins (think of the building blocks of proteins)?

20. What 3 stages are found in cellular respiration?

21. What would happen to an enzyme if it were placed in a hot environment that it is not used to?

22. What are the building blocks of proteins?

23. What macromolecule is this?

24. What are the three parts to the cell theory?

25. What type of cell transport requires energy?