Final Exam Study Guide

Instructions: Answer the following questions in complete sentences to help study for your semester final. Use your notes, worksheets, readings, and biology textbook to help answer these questions. Write your answers on a separate piece of paper and staple this paper with your answers.

1. What is the difference between eukaryotic and prokaryotic cells?
    a. List at least 3 differences and 3 similarities.
2. Describe the function of the following organelles, including whether or not they are found in a plant or animal cell.
    a. Nucleus
    b. Rough endoplasmic Reticulum
    c. Smooth endoplasmic reticulum
    d. Golgi Apparatus
    e. Cell Membrane
    f. Cell Wall
    g. Chloroplast
    h. Mitochondria
    i. Ribosome
    j. Lysosome
3. What is the difference between a plant and animal cell? Are these cells prokaryotic or eukaryotic cells? How can you identify a cell as being prokaryotic or eukaryotic?
4. What role do enzymes play in cells and living organisms?
    a. Which of the following are enzymes? Proteins, Lipids, or Carbohydrates?
5. What are two things that can disrupt enzyme activity?
6. What is the difference between osmosis, passive transport, and active transport? Where do they take place?
7. What does it mean when a scientist says that the cell membrane is semipermeable?
8. What is the purpose of photosynthesis?
    a. In which organelle does it take place?
    b. What are the reactants (ingredients) needed for it to work?
    c. What are the products (what is produced)?
9. What is the purpose of cellular respiration?
    a. In which organelle does it take place?
    b. What are the reactants (ingredients) needed for it to work?
    c. What are the products (what is produced)?
10. How do cellular respiration and photosynthesis work together (be specific)?
11. What is the difference between anaerobic and aerobic respiration?
12. What are the subunits of each of the biomolecules (macromolecules) [what are their smaller parts]:
    a. lipids
    b. proteins
    c. nucleic acids
    d. carbohydrates