Study Guide

Biology

Name:

Period:

* 80 multiple choice questions
* You are allowed one sheet of paper (front and back) of notes for the exam.
* 15% of your final semester grade

**Enzymes (Covered by Ms. Steward)**

* What is the definition of a protein?
* What does catalyze mean?
* Define and describe enzymes.
* Define and describe the 4 biomolecules: proteins, lipids, carbohydrates, nucleic acids
* What are some factors that affect how enzymes work?
* What is the affect of temperature on enzymes?

**Cells**

* What are the functions of the nucleus, chloroplast, and mitochondria?
* Name the major differences between plant and animal cells.
* Name the major differences between prokaryotic and eukaryotic cells.
* What is definition of organelle?
* How are prokaryotes structured?
* **\*Viruses contain non-cellular particles made up of genetic material and protein. They invade living cells.**
* Differences between eukaryotic cells and viruses (Remind Ms. M to go over this on Tuesday)
* Draw a picture of the mitochondria, the Golgi apparatus, and the endoplasmic reticulum.

**Cellular Transport**

* What are the definitions of active and passive transport?
* What are the major functions of the cell membrane?
* Define osmosis.
* What do carrier proteins do in active transport?

**Cell Energy**

* Define anaerobic and aerobic respiration. How are they different?
* What is the organelle that photosynthesis occurs in? What is the organelle that cellular respiration occurs in?
* What are the equations for photosynthesis and cellular respiration?
* What are the 3 stages of cellular respiration?
* How are the formulas for photosynthesis and cellular respiration related?
* What are the products and reactants for photosynthesis and cellular respiration? Draw a diagram that depicts how they relate to each other.
* What are the two types of fermentation?

Define chloroplast. What are the major structures in a chloroplast? What happens there?

* \*\***Aerobic respiration produces more ATP than anaerobic respiration. It is more efficient.**
* **The cellular environment is most stable when oxygen is present.**
* **Electron transport chain produces the most ATP.**

**Cell Reproduction**

* What are the products of mitosis?
* What are the phases of mitosis?
* Define meiosis. What is the purpose of meiosis?
* How does the number of body cells in an organism compare to the number of sex cells?
* How does meiosis contribute to genetic variation?
* What are the two different types of sex cells found in organisms?
* Define Haploid/diploid
* What is crossing over?
* **\*\*Meiosis keeps the chromosome number constant from one generation to the next**
* What are the names of the two phases of meiosis?
* What happens during metaphase of mitosis?
* Meiosis/Mitosis: what types of cells do they occur in?