Exam Review Guide III
Biology

Enzyme notes of interest:

- Organic catalysts
- Lower activation energy
- Synthesis/decomposition rxns
- Specific in action
- Work best at an optimal temperature and pH
- Molecules (glucose) potential energy stored in chemical bonds

1. In the below diagram label the following: substrate, enzyme, products and enzyme-substrate complex

2. The primary function of cellular respiration is to produce ATP out of glucose.
3. ATP releases energy by removing a phosphate group and becomes ADP The energy to produce more ATP from ADP comes from the food we eat.
4. Environment that have adequate amounts of oxygen are called aerobic environments; environments that lack oxygen are called anaerobic environments
5. The primary function of the light-dependent reaction in photosynthesis is to convert sunlight into chemical energy
6. The carbon source for photosynthesis is carbon dioxide
7. The pigment that captures light energy in plants is chlorophyll
8. The reactants (raw materials) for photosynthesis are carbon dioxide and water: the end products of photosynthesis are glucose and oxygen
9. The light dependent reaction and the Calvin cycle (light-independent reaction) occurs in a cellular organelle called the chloroplast; cellular respiration occurs in a cellular organelle called the mitochondria
10. DNA (chromosome replication) occurs in which phase of cell division interphase
11. Label the parts of the below chromosome

12. Chromosomes are composed of DNA and proteins and they are located in the cells nucleus Half of the chromosomes in all of your cells came from your mom and the other half came from your father.

13. Mitosis produces 2 (number) daughter cells that are genetically identical to the parent cell
14. What structure found in the cells nucleus stores and transports the genetic information chromosomes
15. In humans if a cell has both sets of chromosomes (1/2 from each parent) the cell would have 46 (number) chromosomes. This number of chromosomes is called the diploid or 2n number. Cells that are produced by meiosis have ½ the chromosome number; this chromosome number is called the hapliod number of chromosomes..
16. Reproductive cells (sperm, egg) are produced by meiosis These cells have 1/2 the chromosome number of regular diploid cells. In humans, muscle cells, skin cells etc… all have 46 (number) chromosomes, but sperm and egg cells have 23 (number) chromosomes