***IMPORTANT TOPICS TO REVIEW FOR THE AP TEST***

For the following topics, make an outline/essay that will help you study the material if you had to write a long free-response on the test. I will collect these the week of the AP test. Each outline will be worth 10 points. Even though this is worth a lot of points (140), I want the motivation to create these outlines to be a desire to do well on the AP test. (I can dream!!!) With this being the case, the best advice I can give you is to create these outlines **WITHOUT** using your notes or another person initially. Then go back to the book to add to it. This should be extremely helpful. **THESE ESSAYS CANNOT BE TYPED.**

1. Cell Structure – organelles, prokaryote vs. eukaryote, plant vs. animal, different types of cell walls
2. Cell Membranes & Movement Across Them to Maintain Homeostasis – passive vs. active transports, examples of actual cells & their use
3. Mitosis and meiosis
4. DNA Structure & Replication
5. Protein Synthesis
6. Natural Selection
7. Speciation
8. Photosynthesis & Chloroplast
9. Respiration & Mitochondria
10. Feedback Mechanisms (negative & positive) – how they work, specific examples in organisms
11. Homeostasis:
    1. Gas exchange in aquatic vs. terrestrial plants
    2. Digestive – vacuoles vs. gastrovascular cavity vs. one-way
    3. Respiratory systems of aquatic vs. terrestrial animals
    4. Nitrogenous waste production & elimination in aquatic vs. terrestrial animals
    5. Thermoregulation in aquatic vs. terrestrial animals
12. Gene Regulation in Eukaryotes vs. Prokaryotes (include discussion of signal transduction pathways)
13. Cell Communication – pheromones, immune cells, neuronal impulse
14. Biogeochemical Cycles (nitrogen, carbon, phosphorus, water)