**APES Study Guide**

**Ecology: Energy and Communities**

Vocabulary:

It is necessary that you know the meaning of the following terms in order to answer application and evaluation questions on your upcoming assessment. You may write out the definition, make notecards (handwritten or digital), use the online vocabulary resources or simply review the terms in your notes. It is YOUR responsibility to ensure that you know these terms!

Ecosystem Community Population Biotic factor

Abiotic factor Biosphere Lithosphere Atmosphere

Hydrosphere Producer Herbivore Carnivore

Omnivore Trophic level Productivity Consumer (1o, 2o, 3o)

Niche Generalist Specialist Adaptation

Facilitation Inhibition Climax community Mutualism

Parasitism Commensalism Predation Competition

Indicator species Invasive species Species richness Edge effect

Short Answer:

You are REQUIRED to answer each of the following questions on separate paper. ALWAYS write in complete sentences. Use both your class notes AND your textbook for reference.

1. Differentiate between kinetic and potential energy. Give an example of each.
2. Describe the 1st and 2nd laws of Thermodynamics. Where does “lost” energy go?
3. What is the relationship between photosynthesis and chemosynthesis? What type of organisms carry out each process? What gas is produced by both processes?
4. Differentiate between a detritivore and a decomposer.
5. Describe what happens to available energy in an ecosystem as you move up the food web to higher trophic levels.
6. How is gross primary productivity calculated for an ecosystem?
7. Briefly describe the mechanism of evolution by natural selection.
8. Differentiate between primary and secondary succession. Where does each occur and what are the pioneer species for each type?
9. Explain how parasitism is different from predation.
10. Explain the theory of competitive exclusion. How does resource partitioning prevent this from occurring?
11. What is a keystone species? Explain an example.
12. Name 3 examples of ecosystem services.