

Ecology Review

These are all concepts that will be covered on the test. You are responsible for everything in your notes, including homework assignments.

- 1) The four spheres of the Earth. Be able to name and describe them. What is the composition of the Earth's atmosphere?
- 2) Terrestrial vs. Aquatic Biomes. Know how to categorize and describe each.
- 3) Define ecosystem, abiotic, and biotic.
- 4) Define the following terms:
 - Producers, Herbivore, Carnivore, Omnivore, Decomposer, Scavenger, Parasite.
 - Understand their roles in a food chain.
- 5) Photosynthesis and cellular respiration. What are the equations for each? Where does each process occur. What is meant by 'reciprocal process.'
- 6) What adds to population growth? What adds to population death? What is the equation for population growth?
- 7) What are limiting factors?
- 8) Be able to sketch the graph for carrying capacity.
- 9) What is the difference between closed and open populations.
- 10) List abiotic and biotic factors that may limit a species population.
- 11) Understand the structure of a food web vs. food pyramid. Be able to build one if given a list of species. Know and understand the role of quaternary consumer, tertiary consumer, secondary consumer, primary consumer, and producer.
- 12) What is more energy efficient for us to eat: Plants or animals?
- 13) Define trophic level. What are some examples of different trophic levels?
- 14) What is meant by the term biogeochemical cycles?
- 15) Be able to recognize and discuss both the carbon and water cycle.
- 16) What two ways do we use to create usable nitrogen.
- 17) Contrast the process of nitrogen fixation and denitrification.
- 18) Plants and bacteria have a symbiotic relationship. Explain this concept.
- 19) What form is nitrogen in the atmosphere. What are usable forms of nitrogen?
- 20) Describe the carbon cycles. What are some examples of processes in the carbon cycle. List three ways inorganic carbon are stored.
- 21) How may human factors affect the carbon cycle?
- 22) What is the difference between carbon sinks and carbon sources. Provide an example of each.
- 23) State the three categories of ecological relationships and examples for each.
- 24) What are the three types of symbiosis? Give examples for each.
- 25) State the first and second law of thermodynamics, and how they relate to ecology.
- 26) How much energy is lost between trophic levels?
- 27) Define sustainability. Why is sustainability so important in our world?
- 28) Define biodiversity. How is it measured.
- 29) What are five major causes of decreased biodiversity.
- 30) Define extinct, endangered, extirpated, threatened, and vulnerable.
- 31) Define pesticide.
- 32) What is DDT and how may it impact species?

- 33) Describe the term bioaccumulation. Use a diagram.
- 34) What dangers do mercury have to species? Does it have a greater effect on aquatic or terrestrial ecosystems?
- 35) What are the four categories of water pollution? What test may we use to diagnose water pollution?
- 36) What is a carbon footprint and what factors may effect it?
- 37) What is meant by the term overexploitation?
- 38) What is an invasive species and how might it effect an ecosystem?
- 39) What is habitat fragment and how may it effect and ecosystem?
- 40) What is acid rain and what causes it?
- 41) Outline soil composition. What is it made of?
- 42) What effects can soil erosion have on the environment?
- 43) Outline the processes involved in the development of soil.