

Green Generation

1. Organisms in this biome must tolerate highly variable conditions.
 - a. Tropical Forest
 - b. Tundra
 - c. Savanna
 - d. Grassland
 - e. Estuary
2. Coldest part of lake in the summer
 - a. Epilimnion
 - b. Thermocline
 - c. Hypolimnion
 - d. Metalimnion
3. Which does not affect moisture levels?
 - a. Latitude
 - b. Turbidity
 - c. Wind patterns
 - d. Forests
 - e. Lakes
4. Where might a sea grass grow?
 - a. Limnetic Zone
 - b. Benthic Zone
 - c. Littoral Zone
 - d. Pelagic Zone
5. A squirrel's niche does not include:
 - a. Habitat
 - b. Food sources
 - c. Death rate
 - d. Behavior
6. Viceroy Butterflies and Monarch butterflies (both poisonous) are examples of :
 - a. Batesian Mimicry
 - b. Mullerian Mimicry
 - c. Divergent Evolution
 - d. Allosteric Speciation
7. Cycle in which the nutrient does not exist as a solid?
 - a. Nitrogen
 - b. Phosphorus
 - c. Sulfur
 - d. Carbon
8. Elk males usually have several female mates. This is a type of
 - a. Polygamy
 - b. Polygyny
 - c. Polyandry
 - d. Scandalousness

9. Hamilton's rule describes:
- Coefficient of Relatedness
 - Natural Selection of Altruism
 - Rate of Assimilation into Ecosystem
 - Model of Mating Behavior

10. Bees have which type of survivorship curve?
- Type I
 - Type II
 - Type III
 - Type IV

11. Draw a diagram of the water cycle. Include the following processes: Infiltration, Evaporation, Condensation, Movement of Clouds, Percolation, Precipitation, Runoff, Sublimation, Evapotranspiration, and two major natural water reservoirs. (10 in total)

Part I: Principles of Ecology

1. What are two characteristics of R-selected species?
2. Which ecological pyramid may sometimes be inverted? Explain how this happens.
3. Draw the graph of bacteria population over time in a nutrient-rich growing medium. Label each part of your graph, and explain what affects the growth rate at each stage.
4. What is commensalism? Give an example.
5. How does primary succession differ from secondary succession? Draw a diagram of primary succession. Label the types of organisms found in each stage.

Part III: Legislation

1. What are “Superfunds”? Name one superfund site, as well as the name of the act that established these funds.
2. List two major regulations addressed in the Clean Water Act of 1972.
3. How might a city develop a sustainable yield of groundwater? Name two factors to consider.
4. How was bioremediation used in the Deepwater Horizon oil spill? What must be considered for bioremediation to be successful?

5. Name an invasive species and how it wreaks havoc. Include how it was introduced, the damage it causes, and actions taken to counteract their effects.

6. What's the difference between passive and active solar energy?

7. What were the resolutions of the Kyoto Protocol and the Montreal Protocol?