

## Part A: Multiple Choice

1. Ecology is the study of how:
  - a) the physical environment changes over time
  - b) biotic factors change over time
  - c) humans affect biodiversity
  - ☒ d) living things interact with each other and with their environment
2. Which of the following is an example of a biotic factor?
  - a) the amount of sunlight reaching the soil
  - ☒ b) the amount of bacteria in the soil
  - c) the soil temperature
  - d) the amount of moisture in the soil
3. Which is a biotic factor that affects the size of a population in a specific ecosystem?
  - a) average temperature of the ecosystem
  - b) type of soil in the ecosystem
  - ☒ c) number and kinds of predators in the ecosystem
  - d) concentration of oxygen in the ecosystem
4. Which of the following includes only abiotic features?
  - a) air, water, deer, soil
  - b) air, water, grass, soil
  - c) grass, deer, rabbit, tree
  - ☒ d) wind, temperature, light, water
5. Which list of terms is in the correct order, from simplest to most complex?
  - a) species, community, population, ecosystem, biome
  - b) ecosystem, species, population, community, biome
  - ☒ c) species, population, community, ecosystem, biome
  - d) species, community, ecosystem, population, biome
6. An aquarium is an example of a(n):
  - ☒ a) ecosystem
  - b) biome
  - c) community
  - d) population
7. The original source of energy for almost all life on Earth is:
  - a) glucose
  - ☒ b) sunlight
  - c) water
  - d) producers
8. A food web shows:
  - a) one possible pathway for energy
  - ☒ b) many possible pathways for energy
  - c) the amount of energy available to a producer
  - d) the amount of energy available to a consumer
9. The term consumer is used to define an organism that:
  - a) eats only plants
  - b) eats only animals
  - ☒ c) may eat plants or animals
  - d) causes decomposition in dead organisms
10. Mushrooms and bacteria are examples of:
  - a) producers
  - b) herbivores
  - c) carnivores
  - ☒ d) decomposers
11. An organism that feeds only on plants is called a:
  - a) producer
  - ☒ b) herbivore
  - c) carnivore
  - d) decomposer
12. In an energy pyramid, the bottom level represents:
  - ☒ a) producers
  - b) herbivores
  - c) carnivores
  - d) decomposers
13. Carnivores that feed on herbivores are in the:
  - a) 1<sup>st</sup> trophic level
  - b) 2<sup>nd</sup> trophic level
  - ☒ c) 3<sup>rd</sup> trophic level
  - d) 4<sup>th</sup> trophic level
14. As DDT, a pesticide moves up the trophic levels in food chains, its concentration:
  - a) stays the same
  - ☒ b) increases
  - c) decreases
  - d) is eliminated
15. The equation below represents \_\_\_\_\_.  
$$\text{sugar} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water} + \text{energy}$$
  - ☒ a) cellular respiration
  - b) photosynthesis
  - c) combustion
  - d) compaction
16. Fertilizer run-off into a pond can result in:
  - ☒ a) an increase in the surface algae population
  - b) an increase in the fish population
  - c) an increase in the oxygen concentration in the pond water
  - d) an increase in the aquatic plant population
17. Biodiversity is the term that is used to describe differences that exist in the:
  - a) abiotic factors
  - ☒ b) variety of organisms
  - c) sizes of populations
  - d) rates of reproduction