1. Which of the following is abiotic?
   (a) a protist
   (b) an animal
   (c) a plant
   (d) a fungus
   (e) a rock

2. What level of ecology is concerned with the adaptations of individuals?
   (a) community
   (b) tissue
   (c) organismal
   (d) ecosystem
   (e) population

3. What level of ecology is concerned with groups of individuals of different species?
   (a) community
   (b) tissue
   (c) organism
   (d) ecosystem
   (e) population

4. Which of these is a community?
   (a) all of the *Staphylococcus aureus* (a species of bacteria living on your skin)
   (b) all of the organisms living in your home
   (c) all of the students in your class
   (d) all of the people living in your neighborhood
   (e) all of the nut grass (considered a weed) in my backyard

5. What is the primary source of energy for nearly all of Earth's ecosystems?
   (a) sunlight
   (b) geothermal vents
   (c) water
   (d) wind
   (e) rocks and soil

6. Which nutrients often limit the distribution and abundance of photosynthetic organisms?
   (a) water and oxygen
   (b) nitrogen and phosphorus
   (c) carbon dioxide and nitrogen
   (d) water and carbon dioxide
   (e) oxygen only

7. Which of the following is a behavioral response to environmental variability?
   (a) migrating to a different location
   (b) acclimation
   (c) evolutionary adaptation
(d) growing a heavier coat of fur  
(e) growing to a larger size

8. Which of the following can moderate climate by absorbing heat when the air is warm and releasing heat when the air is cold?
   (a) clouds  
   (b) ponds  
   (c) glaciers  
   (d) mountains  
   (e) oceans

9. The Sahara Desert and the Negev Desert belong to the same __________.
   (a) community  
   (b) abiotota  
   (c) biome  
   (d) biota  
   (e) population

10. __________ are the dominant herbivores of savanna ecosystems.
    (a) Antelopes  
    (b) Zebras  
    (c) Buffalo  
    (d) Gnus  
    (e) Insects

11. Which of these biomes is maintained by fire?
    (a) temperate deciduous forest  
    (b) chaparral  
    (c) tundra  
    (d) desert  
    (e) tropical forest

12. Most of the temperate grassland in North America has been converted to __________.
    (a) shopping malls  
    (b) cities  
    (c) farmland  
    (d) national parks  
    (e) suburbs

13. With regard to the environment as a whole, when is the worst time to apply pesticide to your lawn?
    (a) when it is raining, or is about to rain  
    (b) when it is cold, or is about to get cold  
    (c) at the same time you apply fertilizer  
    (d) at night  
    (e) during the day

14. What are estuaries?
    (a) regions where two rivers join  
    (b) a freshwater biome  
    (c) the start of a river  
    (d) regions where ocean water meets land
15. What name is given to the region where sea meets land?
   (a) pelagic realm
   (b) thermocline
   (c) intertidal zone
   (d) benthic realm
   (e) aphotic zone

16. In what part of the ocean are phytoplankton found?
   (a) pelagic realm
   (b) thermocline
   (c) intertidal zone
   (d) benthic realm
   (e) aphotic zone

17. Water moves from land to the atmosphere through _____.
   (a) evaporation only
   (b) precipitation only
   (c) transpiration only
   (d) transpiration and evaporation
   (e) evaporation and precipitation

18. The greenhouse effect causes an increase in global temperatures. This increase is primarily due to __________.
   (a) CO₂ and other greenhouse gases allowing more solar radiation to penetrate Earth's surface
   (b) CO₂ and other greenhouse gases slowing the escape of UV radiation from Earth
   (c) the loss of ozone that trapped cooling UV radiation in the atmosphere
   (d) CO₂ and other greenhouse gases slowing the escape of heat from Earth
   (e) none of the above

19. The effect of deforestation is to __________.
   (a) decrease the amount of carbon dioxide in the atmosphere
   (b) increase the amount of carbon dioxide in the atmosphere
   (c) increase the rate at which carbon dioxide is incorporated into organic material
   (d) increase the rate of carbon dioxide production through cellular respiration
   (e) none of the above

20. Which of the following is not an expected result of global warming?
   (a) changes in the breeding seasons of some species.
   (b) changes in the timing of flowering in certain plants.
   (c) decreasing sea levels.
   (d) melting permafrost.
   (e) shifts in the ranges of some species.

21. Examine the figure below. Which part of Earth receives the greatest intensity of solar radiation?
   (a) Tropic of Cancer
   (b) Tropic of Cancer and Tropic of Capricorn
   (c) equator
   (d) North and South Poles
   (e) all parts of Earth receive the same intensity of solar radiation.
22. Examine the figure below. Globally, the largest amount of water moves from __________.
(a) the oceans to the atmosphere by evaporation
(b) land to the atmosphere by evaporation and transpiration
(c) the atmosphere to land by precipitation
(d) the atmosphere to the oceans by precipitation
(e) land to the oceans by surface and groundwater runoff
The following information refers to questions below.

Salmon eggs hatch in freshwater streams and, during the first year of their life, the young salmon migrate up to 1,000 km to the ocean. They spend varying amounts of time in the ocean (ranging up to five years), where they feed and grow, rapidly acquiring more than 95% of their biomass during this period. During the summer of their maturing year, they begin the long journey back to their home streams where they spawn. Although it is still uncertain how salmon navigate back to their spawning grounds, current hypotheses suggest that they have a highly developed sense of smell. At the spawning grounds, females use their tails to form a hollow cavity where they lay up to 8,000 eggs. The male fertilizes the eggs, and both adults typically die soon thereafter.

23. At different times in their lives, salmon can be found in all of the following except __________.
   (a) a freshwater biome
   (b) a marine biome
   (c) a chaparral
   (d) the pelagic realm
   (e) an estuary