

1. The number and variety of species and ecosystems on the Earth and the ecological processes that they are part of refers to
  - a. genetics
  - b. variability
  - c. biological diversity
  - d. ecosystem speciation
2. A species – a particular group of organisms that have the same structure and can
  - a. have the same predators.
  - b. consume the same food supply.
  - c. live in the same area.
  - d. reproduce with each other.
3. Every organism needs to adapt in order to survive in its environment. There are two types of adaptations – structural and behavioural. Which is a structural adaptation?
  - a. feathers
  - b. predation
  - c. migration
  - d. hibernation
4. Foresters might decide to burn one part of a forest because
  - a. disease is likely to kill off all the trees in the forest, so they give nature a helping hand.
  - b. sacrificing one part of the ecosystem to save the main parts is necessary sometimes.
  - c. habitat is increasing to such an extent that some forest species need to be displaced.
  - d. interspecies reproduction might destroy the natural forest ecosystem balance.
5. This compares kinds of species in a certain area with the total number of organisms in that same area, or ecosystem. It is primarily used to check on the health of an ecosystem – a healthy ecosystem has a
  - a. low diversity index.
  - b. high diversity index.
  - c. high variation level.
  - d. low variation level.
6. What it eats, its habitat, nesting site, range and habits, what effect it has on the other populations and what effect it has on the environment is the role that an organism has within a particular ecosystem called a
  - a. niche.
  - b. species.
  - c. variation.
  - d. adaptation.
7. Adaptations play an important role when competition occurs, because the species that is best suited to survive will. Competition occurs between different species when which of the following is not available?
  - a. habitat diversity.
  - b. basic need resources.
  - c. species interactions.
  - d. adequate protection.
8. Some bird species, like warblers, share resources by accessing these resources in different ways. They avoid direct competition for the same resource, by practicing a technique called
  - a. food supply sharing.
  - b. nutrient cooperation.
  - c. resource partitioning.
  - d. interspecies sharing.

9. Canada supports large populations, with little diversity in the extreme environment and seasonal variations. The reason this restricts species' diversity is because of the limited
  - a. habitats.
  - b. diseases.
  - c. competition.
  - d. food supply.
10. Specialists in the tropics efficiently survive in their environment, because they have relatively narrow niches with adaptations directed toward competing for
  - a. more than one food supply or niche they can occupy.
  - b. one dependable food source, type of soil or level of light.
  - c. alternate habitats with speciation and resource partitioning.
  - d. multiple food sources and fewer competitors for resources.
11. Characteristics are passed on from generation to generation through the reproductive process. These characteristics may be referred to as
  - a. waste matter.
  - b. heritable traits.
  - c. cellular respiration.
  - d. learned behaviour.
12. There are different types of asexual reproduction. One process occurs when the cell duplicates its contents, including its nucleus and other organelles and then splits into two cells with each one being identical. This process is referred to as
  - a. budding.
  - b. tuber formation.
  - c. binary fission.
  - d. spore production.
13. Spores are similar to seeds, but are produced by the division of cells on the parent, not by the union of two cells. Many spores are produced to ensure that at least some of the individual organisms will survive. Spores are produced through the process of
  - a. asexual reproduction.
  - b. sexual reproduction.
  - c. pseudopods.
  - d. zoospores.
14. Plants continue to grow throughout their lives. The rapidly growing tips of roots and stems contain specialized cells called meristems that function in the process of
  - a. reproduction.
  - b. transportation.
  - c. photosynthesis.
  - d. respiration.
15. A primitive form of sexual reproduction in which bacteria are able to transfer genetic material directly from one cell to another is called bacterial conjugation. Because there is no increase in the number of cells, it does result in genetic
  - a. redistribution.
  - b. recombination.
  - c. reconstitution.
  - d. recovery.

16. The stamen part of the flower is the
- male gamete.
  - female gamete.
  - zygote.
  - embryo.
17. The pistil of the flower is the
- male gamete.
  - female gamete.
  - zygote.
  - embryo.
18. During mating, the male gamete cell and the female gamete cell unite to form a fertilized cell called a(n)
- zygote.
  - embryo.
  - sperm.
  - egg.
19. Sexual reproduction
- creates variation among individuals.
  - produces genetically identical individuals.
  - enables organisms to produce many offspring quickly.
  - is only found in animals.
20. Which of the following took place immediately before the development of an embryo in a flower?
- The zygote underwent a series of cellular divisions.
  - Germination took place.
  - A pollen tube was formed.
  - The sperm fertilized the egg.

Use the following words to fill in the sentences. Each word is to be used only once, and there is one extra word.

speciation	among	within	mutualism
broad niche	specialist	reproductive strategies	generalist

21. An organism is considered to have a \_\_\_\_\_ when it is able to live in a variety of environments, and adapt to changes quickly.
22. How one human compares to another human is referred to as variation \_\_\_\_\_ species, but how a human compares to a tree is referred to as variation \_\_\_\_\_ species.
23. Many different species are said to have originated from a common ancestor. This process is referred to as \_\_\_\_\_.
24. Living organisms are able to produce offspring through many different \_\_\_\_\_.
25. A panda bear is considered a \_\_\_\_\_, because it can only survive in a specific environment.

Match the number in the diagram with the appropriate word by placing the number on the blank.

26. fertilization \_\_\_\_\_

27. male gamete \_\_\_\_\_

28. unicellular \_\_\_\_\_

29. multicellular \_\_\_\_\_

30. female gamete \_\_\_\_\_

### Fertilization in Mammals

