

Assessment

Chapter Test C

Classification

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- _____ 1. Which of these terms describes the relative number of all species on Earth that have been given scientific names?
- all
 - fraction
 - most
 - none
- _____ 2. Until the mid-1700s, organisms were rarely known to everyone by the same name because
- species varied from place to place.
 - polynomials were often changed by biologists.
 - not very many people spoke or read Latin.
 - all species were not named yet.
- _____ 3. An organism once named *Apis pubescens, thorace subgriseo, abdomine fusco, pedibus posticis glabris, untrinque margine ciliatus* is probably the
- red oak.
 - willow oak.
 - African lion.
 - European honeybee.
- _____ 4. When can the genus name of an organism be abbreviated?
- always, if it is common and everyone is familiar with the species
 - never, because it could be confused with another organism
 - sometimes, after it's first use is spelled out
 - occasionally, depending on the amount of space there is to write
- _____ 5. Who established the currently used rules for naming a species?
- the scientist who discovered the species
 - an international commission of scientists
 - the government of the country where the species was discovered
 - Carolus Linnaeus
- _____ 6. Linnaeus was the first to organize the genera and species that he described into
- a ranked system of groups that increase in inclusiveness.
 - a random collection of groups.
 - several collections of major kinds of organisms, such as horses, fishes, and insects.
 - a ranked system of groups that increase in exclusiveness.

Chapter Test C *continued*

- _____ 7. The domain Eukarya is composed of
- all prokaryotes.
 - all archaeobacteria.
 - all animals.
 - all eukaryotes.
- _____ 8. Which of the following organisms has a cell without a nucleus?
- an archaeobacterium
 - a protist
 - a mushroom
 - a eukaryote
- _____ 9. Which of these is a derived character used to separate birds from reptiles?
- flight
 - egg laying
 - feathers
 - clawed feet
- _____ 10. In the five-kingdom system, prokaryotes were classified in the kingdom
- | | |
|--------------|--------------|
| a. Protista. | c. Monera. |
| b. Eukarya. | d. Bacteria. |
- _____ 11. According to the modern tree of life, which pair of organisms shares the most recent common ancestor?
- bacteria and protists
 - archaeobacteria and fungi
 - sponges and cnidarians
 - conifers and flowering plants
- _____ 12. Which of the following kingdoms *most likely* will be divided in several more kingdoms in the future?
- Protista
 - Animalia
 - Eubacteria
 - None of the above
- _____ 13. The wings of birds and the wings of insects represent
- ancestral characters.
 - genetic similarities.
 - morphological similarities.
 - analogous characters.

Chapter Test C *continued*

- _____ 14. In lions and humans, hair is
- a. a derived character.
 - b. an ancestral character.
 - c. an analogous character.
 - d. None of the above
- _____ 15. A phylogenetic tree is
- a. based on derived characters without consideration for the importance of the characters.
 - b. an objective analysis of evolutionary relationships.
 - c. a diagram of evolutionary relationships developed through traditional systematics.
 - d. a diagram of evolutionary relationships developed through modern cladistics.

In the space provided, write the letter of the description that best matches each term.

- | | |
|---------------------------------|------------------------------------|
| _____ 16. domain | a. objective evolutionary analysis |
| _____ 17. phylogeny | b. contains genera |
| _____ 18. convergent evolution | c. least inclusive |
| _____ 19. family | d. two-word naming system |
| _____ 20. cladogram | e. leads to analogous characters |
| _____ 21. species | f. most inclusive |
| _____ 22. binomial nomenclature | g. evolutionary history |

Read each question, and write your answer in the space provided.

23. Describe the advantages of the modern system of binomial nomenclature.

Chapter Test C *continued*

24. What four characteristics do biologists use to distinguish between the six kingdoms?

25. Explain how convergent evolution leads to analogous characters. Explain your answer in terms of natural selection.
