

## Bio-10-Q2W7,8-H.W.-Plants

### Matching

*Match each item with the correct statement below.*

- |              |                 |
|--------------|-----------------|
| a. ovule     | f. pollen grain |
| b. cotyledon | g. embryo       |
| c. sorus     | h. gymnosperm   |
| d. cones     | i. prothallus   |
| e. frond     | j. rhizome      |

- \_\_\_\_\_ 1. organism at an early stage of development
- \_\_\_\_\_ 2. structure that includes sperm cells, nutrients, and a protective outer covering
- \_\_\_\_\_ 3. food-storage organ of a plant embryo
- \_\_\_\_\_ 4. leaf of a fern
- \_\_\_\_\_ 5. vascular plant that produces seeds that are not protected by a fruit
- \_\_\_\_\_ 6. cluster of sporangia
- \_\_\_\_\_ 7. early gametophyte in lycophytes, sphenophytes, and pterophytes
- \_\_\_\_\_ 8. woody strobili that contain seeds
- \_\_\_\_\_ 9. thick, underground stem

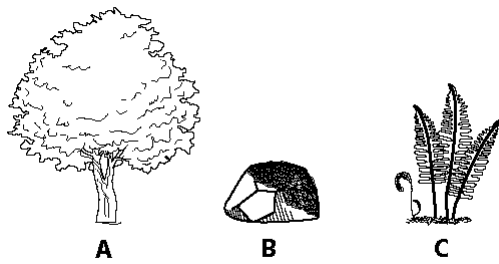
*Match each item with the correct statement below.*

- |         |                   |
|---------|-------------------|
| a. root | d. cuticle        |
| b. leaf | e. vascular plant |
| c. stem | f. seed           |

- \_\_\_\_\_ 10. broad, flat organ of a plant that traps light energy for photosynthesis
- \_\_\_\_\_ 11. a plant organ that absorbs water and minerals from the soil
- \_\_\_\_\_ 12. contains tissues of tubelike, elongated cells through which water and food are transported
- \_\_\_\_\_ 13. provides structural support for upright growth
- \_\_\_\_\_ 14. structure that contains an embryo along with a food supply and is covered by a protective coat
- \_\_\_\_\_ 15. protective, waxy layer covering most fruit, leaves, and stems

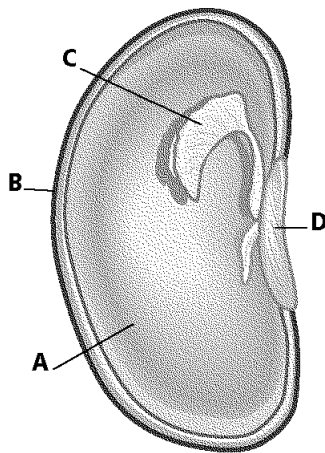
## Multiple Choice

Identify the choice that best completes the statement or answers the question.



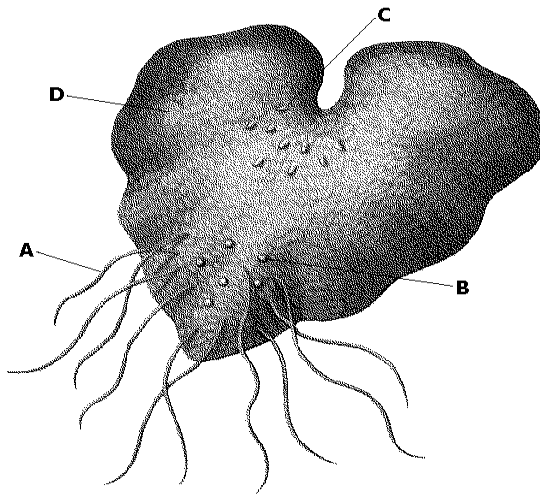
### Figure 22-2

- \_\_\_\_\_ 16. Which of the plants shown in Figure 22-2 has a dominant gametophyte generation?
- a. C c. A
- b. B d. all of them
- \_\_\_\_\_ 17. Which of the plants shown in Figure 22-2 uses alternation of generations to reproduce?
- a. B c. A
- b. C d. all of them
- \_\_\_\_\_ 18. Which of the plants shown in Figure 22-2 uses seeds to reproduce?
- a. A c. C
- b. B d. all of them
- \_\_\_\_\_ 19. Which of the plants shown in Figure 22-2 does NOT contain vascular tissue?
- a. C c. A
- b. B d. none of them contains vascular tissue
- \_\_\_\_\_ 20. Which reproductive process is NOT used by all three of the plants shown in Figure 22-2?
- a. sexual c. asexual
- b. gametophyte d. fruit generation
- \_\_\_\_\_ 21. An anthophyte differs from a conifer in that \_\_\_\_\_.
- a. its seeds are enclosed in a fruit c. it has vascular tissue
- b. it produces seeds d. it is deciduous



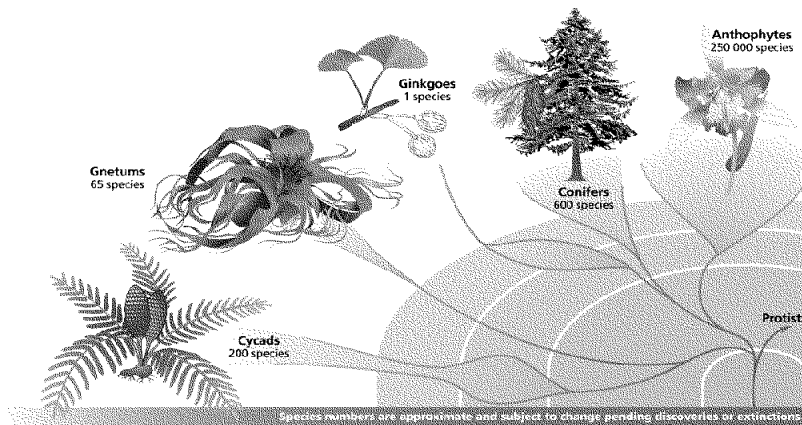
### Figure 21-4

- \_\_\_\_ 22. Which structure in Figure 21-4 is analogous to a human fetus?
- |      |      |
|------|------|
| a. B | c. D |
| b. C | d. A |
- \_\_\_\_ 23. Which structure in Figure 21-4 is analogous to an egg's shell?
- |      |      |
|------|------|
| a. D | c. A |
| b. B | d. C |
- \_\_\_\_ 24. Which structure in Figure 21-4 is analogous to a yolk in a chicken egg?
- |      |      |
|------|------|
| a. B | c. C |
| b. A | d. D |



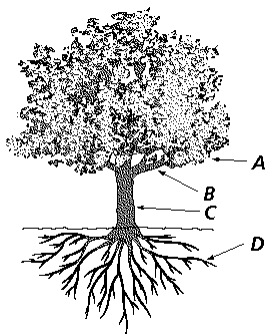
**Figure 22-4**

- \_\_\_\_ 25. Where is the structure shown in Figure 22-4 located?
- |                  |                  |
|------------------|------------------|
| a. in the leaves | c. in the root   |
| b. in the stalk  | d. in the ground |
- \_\_\_\_ 26. Where are the male gametophytes produced in Figure 22-4?
- |      |      |
|------|------|
| a. A | c. C |
| b. B | d. D |



**Figure 22-6**

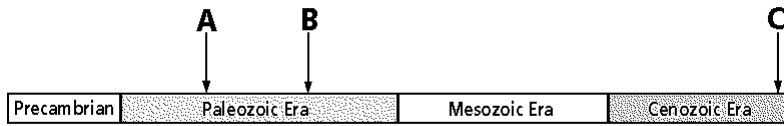
- \_\_\_ 27. According to Figure 22-6, which species was the fastest to differentiate from the rest of the ones shown?
- gnetums and cycads
  - anthophytes, conifers, and ginkos
  - conifers and ginkos
  - anthophytes
- \_\_\_ 28. According to Figure 22-6, with which division of seed plants do ginkos share the most recent common ancestor?
- gnetums
  - anthophytes
  - conifers
  - cycads
- \_\_\_ 29. What can be inferred from Figure 22-6?
- there used to be more than one species of ginkos
  - ginkos only grow in one area of the world
  - anthophytes are the most common seed plants
  - seed plants are more closely related to protists than non-seed plants



**Figure 21-3**

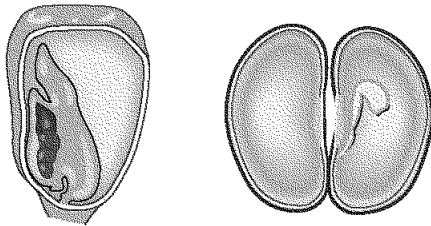
- \_\_\_ 30. Refer to Figure 21-3. Removing which structure would cause this plant to starve?
- D
  - A
  - C
  - B
- \_\_\_ 31. Refer to Figure 21-3. Which structure is used for the transportation of nutrients?
- C
  - D
  - A
  - B
- \_\_\_ 32. Refer to Figure 21-3. Which structure collects water?
- C
  - B
  - A
  - D

- \_\_\_ 33. Refer to Figure 21-3. Removing which structure would cause this plant to fall over?
- A
  - B
  - C
  - D



**Figure 22-3**

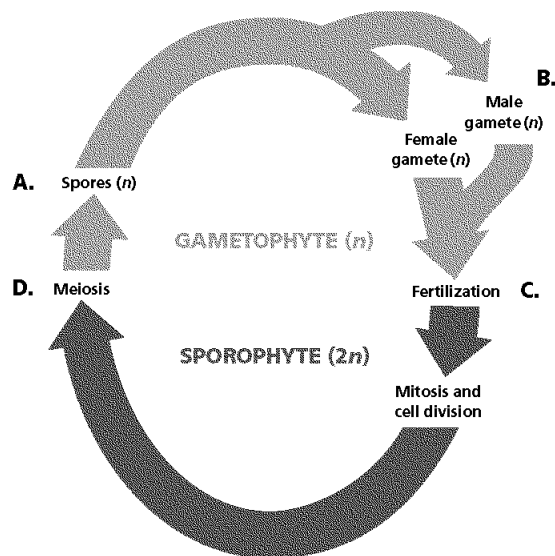
- \_\_\_ 34. What type of plant died out in the time marked B in the timeline shown in Figure 22-3?
- nonvascular plants
  - vascular plants
  - seed plants
  - non-seed vascular plants
- \_\_\_ 35. What originated at point A on the timeline shown in Figure 22-3?
- non-seed vascular plants
  - nonvascular plants
  - vascular plants
  - seed plants
- \_\_\_ 36. What type of plant is completely extinct at point C in the timeline shown in Figure 22-3?
- nonvascular plants
  - vascular plants
  - conifers
  - none of the above
- \_\_\_ 37. The female reproductive structure of nonvascular plants is called a(n) \_\_\_\_.
- pinnae
  - antheridia
  - archegonia
  - rhizoid



**Figure 22-5**

- \_\_\_ 38. If you cut open a stalk of the plant that produced the seed shown to the right in Figure 22-5, how would the vascular bundles appear?
- net-like
  - they do not exist
  - scattered
  - in a ring
- \_\_\_ 39. You pick a flower off the plant that produced the seed shown to the right in Figure 22-5. What is a possible number of petals this flower could have?
- 8
  - 7
  - 6
  - 3
- \_\_\_ 40. How are the vascular tissues bundled in the stalks of the seed shown to the left in Figure 22-5?
- in a ring
  - net-like
  - they do not exist
  - scattered
- \_\_\_ 41. Plant cells all have a \_\_\_\_ composed of cellulose.
- nucleus
  - cytoplasm
  - cell membrane
  - cell wall

- \_\_\_ 42. Nonvascular plants is the only plant division in which the gametophyte stage is \_\_\_\_\_.  
 a. dependent upon the sporophyte c. composed of  $2n$  cells  
 b. smaller than the sporophyte d. dominant
- \_\_\_ 43. The gametophyte of a moss produces \_\_\_\_\_.  
 a. spores c.  $2n$  cells  
 b. vascular tissue d. gametes
- \_\_\_ 44. Which of the following are considered BOTH a vascular and non-seed plant?  
 a. Coniferophytes c. Bryophytes  
 b. Hepatophytes d. Pterophytes
- \_\_\_ 45. Anthophytes that live for only one year or less are called \_\_\_\_\_.  
 a. dicots c. perennials  
 b. biennials d. annuals



**Figure 21-2**

- \_\_\_ 46. Where does the asexual reproductive cycle begin in Figure 21-2?  
 a. B c. D  
 b. A d. C
- \_\_\_ 47. If the plant described in Figure 21-2 has 16 chromosomes in the gametophyte stage, how many chromosomes does it have in the sporophyte stage?  
 a. 4 c. 32  
 b. 8 d. 16
- \_\_\_ 48. Where are seeds developed in Figure 21-2?  
 a. C c. B  
 b. A d. D
- \_\_\_ 49. Where does the sexual reproductive cycle begin in Figure 21-2?  
 a. B c. D  
 b. A d. C
- \_\_\_ 50. Both algae and plants store their food in the form of \_\_\_\_\_.  
 a. proteins c. glycogen  
 b. cellulose d. glucose

- \_\_\_\_ 51. Bryophytes and Hepatophytes tend to be found in moist environments because \_\_\_\_.
- a. they don't produce seeds
  - b. they contain vascular tissue
  - c. they are both small plants
  - d. they rely on osmosis and diffusion for transport of nutrients
- \_\_\_\_ 52. Which division of seed plants is represented by only one living species?
- a. Coniferophyta
  - b. Cycadophyta
  - c. Ginkgophyta
  - d. Gnetophyta
- \_\_\_\_ 53. Which of the following is not a dicotyledon?
- a. lettuce
  - b. grass
  - c. dandelion
  - d. maple tree
- \_\_\_\_ 54. Although all plants produce spores only \_\_\_\_ produce flowers.
- a. Coniferophytes
  - b. Ginkgophytes
  - c. Anthophytes
  - d. Anthocerophytes
- \_\_\_\_ 55. Which of these are vascular plants?
- a. club mosses
  - b. ferns
  - c. spike mosses
  - d. all of these
- \_\_\_\_ 56. In most seed plants, fertilization does not require \_\_\_\_.
- a. a gametophyte generation
  - b. the production of eggs
  - c. alternation of generations
  - d. a film of water to carry the sperm to the egg
- \_\_\_\_ 57. Horsetails are \_\_\_\_.
- a. bryophytes
  - b. arthropytes
  - c. pterophytes
  - d. lycophytes
- \_\_\_\_ 58. The fronds of ferns are divided into leaflets called \_\_\_\_.
- a. pinnae
  - b. cycads
  - c. rhizomes
  - d. sori
- \_\_\_\_ 59. Fossil and genetic evidence suggests that \_\_\_\_ were the first land plants.
- a. liverworts
  - b. horsetail
  - c. mosses
  - d. lycophytes
- \_\_\_\_ 60. Which of the following are NOT considered non-seed plants?
- a. Hepatophytes
  - b. Anthocerophytes
  - c. Coniferophytes
  - d. Bryophytes

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