

Unit 3 Test

Plant Structures and Functions

Name _____ Date _____ Hour _____

Multiple Choice

Choose the answer that best completes each statement or question.

- ___ 1. What is the basis for all living things, including plants?
- A. cells
 - B. genes
 - C. tissues
 - D. structures
- ___ 2. What substance must be present for plants to produce food?
- A. ethylene
 - B. filament
 - C. abscisic acid
 - D. chlorophyll
- ___ 3. Movement of water and gases in and out of the plant leaves is achieved through the ___.
- A. epidermis
 - B. endodermis
 - C. palisade layer
 - D. spongy mesophyll
- ___ 4. What protects the leaves from water loss?
- A. cuticle
 - B. endodermis
 - C. palisade layer
 - D. spongy mesophyll
- ___ 5. What layer of cells in a plant's leaves is responsible for making the plant's food and also giving the leaves strength?
- A. cortex
 - B. endodermis
 - C. palisade layer
 - D. abscission layer

- ___ 6. Epidermal cells that open and close the stomata allowing water to escape on cool days and conserving water on hot days are ___.
- A. nodes
 - B. sepals
 - C. internodes
 - D. guard cells
- ___ 7. Bermuda grass has a ___.
- A. taproot system
 - B. fibrous root system
 - C. abscission root system
 - D. auxiliary root system
- ___ 8. A carrot would be an example of a(n) ___.
- A. taproot system
 - B. fibrous root system
 - C. abscission root system
 - D. auxiliary root system
- ___ 9. What part of the root system helps the root retain water?
- A. cortex
 - B. internodes
 - C. epidermis
 - D. endodermis
- ___ 10. What tissue type in a plant's vascular system serves as a means of distributing chemicals, such as weed killers, to all parts of the plant?
- A. cortex
 - B. xylem
 - C. phloem
 - D. endodermis
- ___ 11. Water and mineral elements are moved from the roots to all parts of the plant in the ___.
- A. cortex
 - B. xylem
 - C. phloem
 - D. endodermis

- ___ 12. When compared to woody stems, herbaceous stems are ____.
- A. harder
 - B. browner
 - C. less durable
 - D. more durable
- ___ 13. Where does growth in length occur on a stem?
- A. node
 - B. internode
 - C. axillary buds
 - D. terminal bud
- ___ 14. How are new leaves or stems produced on a stem?
- A. lenticels
 - B. leaf petiole
 - C. axillary buds
 - D. abscission layer
- ___ 15. What closes the hole created when a leaf falls off the stem?
- A. lenticels
 - B. leaf petiole
 - C. axillary buds
 - D. abscission layer
- ___ 16. How is the leaf blade attached to the stem?
- A. lenticels
 - B. leaf petiole
 - C. axillary buds
 - D. abscission layer
- ___ 17. In the stem, the exchange of gasses between the plant and the environment is done through ____.
- A. nodes
 - B. lenticels
 - C. axillary buds
 - D. internodes
- ___ 18. On a stem, the places where buds or leaves form are ____.
- A. nodes
 - B. lenticels
 - C. axillary buds
 - D. internodes

- ___ 19. How will the xylem and phloem appear in an oak tree?
- A. rings in the stem
 - B. straight lines in the stem
 - C. scattered throughout the stem
 - D. intertwined in a line throughout the stem
- ___ 20. How will the xylem and phloem appear in corn, wheat, and oats?
- A. rings in the stem
 - B. straight lines in the stem
 - C. scattered throughout the stem
 - D. intertwined in a line throughout the stem
- ___ 21. How are insects attracted to flowers?
- A. pistil
 - B. sepals
 - C. stamen
 - D. petals
- ___ 22. How are the inner structures of a flower protected as they develop?
- A. pistil
 - B. sepals
 - C. stamen
 - D. petals
- ___ 23. What part of the flower produces pollen?
- A. pistil
 - B. sepals
 - C. stamen
 - D. petals
- ___ 24. What part of the flower includes the ovary or seed-producing part of the flower?
- A. pistil
 - B. sepals
 - C. stamen
 - D. petals
- ___ 25. Plants that have both male and female flowers on them on the same plant are known as ____.
- A. perfect plants
 - B. complete plants
 - C. dioecious plants
 - D. monoecious plants

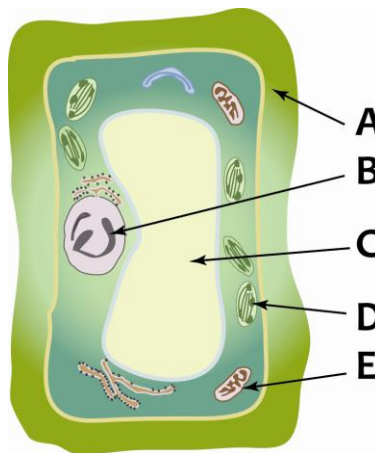
- ___ 26. What type of plant would need to have two plants that are planted near each other for pollen to be transferred from a plant with a stamen to a plant with a pistil?
- A. perfect plants
 - B. complete plants
 - C. dioecious plants
 - D. monoecious plants
- ___ 27. What must happen in order for pollination to occur?
- A. A perfect flower must develop.
 - B. A complete perfect flower must develop.
 - C. Pollen grains must make their way to the top of the sepals.
 - D. Pollen grains must make their way to the top of the pistil.
- ___ 28. What happens to a viable seed when conditions are not prime for germination?
- A. it becomes unviable
 - B. it will go dormant
 - C. it will begin to germinate quickly
 - D. the plant will use the stored food in the seed
- ___ 29. What part of a plant holds the embryo?
- A. seed
 - B. sepals
 - C. stamens
 - D. pistil
- ___ 30. What plants produce seeds through cones?
- A. conifers
 - B. deciduous plants
 - C. herbaceous plants
 - D. flowering plants
- ___ 31. What plant growth regulator would most likely be used on dwarf plants to make them grow taller?
- A. cytokinin
 - B. ethylene
 - C. gibberellin
 - D. abscisic acid
- ___ 32. What causes the ripening of fruits?
- A. cytokinin
 - B. ethylene
 - C. gibberellin
 - D. abscisic acid

- ___ 33. Why are cut flowers kept in a cooler?
- A. slows the production of cytokinin
 - B. slows the production of ethylene
 - C. slows the production of gibberellin
 - D. slows the production of abscisic acid
- ___ 34. What growth hormone serves as a safety mechanism for plants under stress?
- A. cytokinin
 - B. ethylene
 - C. gibberellin
 - D. abscisic acid
- ___ 35. If a plant has no stimulus to change the direction of growth, it is known as ____.
- A. tropism
 - B. autotropism
 - C. thermotropism
 - D. thigmotropism

Matching

Identify each plant cell part by matching it with its name.

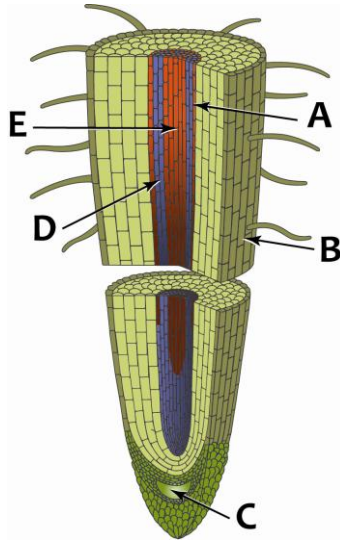
- ___ 36. nucleus
- ___ 37. cell wall
- ___ 38. vacuole
- ___ 39. mitochondria
- ___ 40. chloroplast



Matching

Identify each root structure part by matching it with its name.

- ___ 41. xylem
- ___ 42. phloem
- ___ 43. epidermis
- ___ 44. endodermis
- ___ 45. apical meristem



Matching

Match each type of flower with its definition.

- | | |
|----------------------|---------------------|
| A. complete flower | C. perfect flower |
| B. incomplete flower | D. imperfect flower |
- ___ 46. flower that has both stamens and a pistil
 - ___ 47. flower that lacks either stamens or a pistil
 - ___ 48. flower that is missing at least one principal part
 - ___ 49. flower that has sepals, petals, stamens, and a pistil

Matching

Match each plant growth regulator with its description.

- A. auxins
- B. ethylene
- C. cytokinin
- D. gibberellin
- E. abscisic acid

- ___ 50. promotes growth through cell division and elongation
- ___ 51. promotes stem elongation through cell division and elongation
- ___ 52. inhibits growth; closes leaf stomas; made in mature leaves under stress
- ___ 53. promotes cell division and delays leaf aging; made in root tips and developing seeds
- ___ 54. gas formed in stressed tissue; made during fruit ripening; causes early petal drop

Matching

Match each plant response with its stimulus.

- A. phototropism
- B. chemotropism
- C. gravitropism
- D. thermotropism
- E. thigmotropism

- ___ 55. gravity
- ___ 56. light
- ___ 57. touch
- ___ 58. temperature
- ___ 59. chemicals