Test Prep Pretest

1. a
2. c
3. d
4. a
5. d
6. b
7. nastic movement
8. transpiration
9. osmosis
10. promotes, ethylene
11. dormancy
12. d
13. f
14. g
15. b
16. h
17. a
18. c
19. i
20. e
21. Frits Went placed the tip of an oat shoot on an agar block. Auxin then diffused from the tip into the block. When the agar block with auxin was placed on the cut end of an oat shoot, the shoot grew. When an agar block with auxin was placed on either side of a cut shoot, the shoot grew in the opposite direction. When Went placed an agar block without auxin on the cut end of a shoot, the shoot did not grow. The experiment showed that auxin comes from the shoot tip and causes shoots to elongate.
22. Both transpiration and translocation are involved in the movement of materials through a plant. Transpiration is the loss of water from the leaves that pulls water and mineral nutrients up from the roots. Translocation is the movement sugars and other organic materials throughout a plant.
23. Water enters through the roots by osmosis. It then enters the xylem and moves up the stem and into the leaves. Water vapor diffuses out of the open stomata of leaves and is carried away by air moving across the surfaces of the leaves. This process is called transpiration.
24. C and D; insures that the shoot grows upward even while the seed is germinating underground
25. B; the main stem bent toward the direction of the light, making this part of the plant grow sideways

Quiz

SECTION: NUTRIENTS AND TRANSPORT

1. d
2. c
3. a
4. b
5. d
6. d
7. a
8. c
9. b
10. a

SECTION: PLANT RESPONSES

1. c
2. e
3. a
4. b
5. f
6. d
7. a
8. c
9. b
10. c

Chapter Test (Basic)

1. T
2. F
3. F
4. a
5. c
6. b
7. b
8. a
9. B
10. A
11. nastic
12. thigmotropism
13. translocation
14. tropism
15. dormancy

Chapter Test (General)

1. f
2. d
3. h
4. a
5. b
6. e
7. c
8. g
9. b
10. c
11. a
12. c
13. b
14. c
15. b
16. a
17. a
18. d
19. b
20. a

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Chapter Test (Advanced)

1. d
2. d
3. b
4. a
5. c
6. c
7. b
8. c
9. a
10. d
11. hormones, respond
12. nitrogen, magnesium (in either order)
13. stomata, transpiration (in either order)
14. nitrogen, sulfur
15. oats, agar, auxin
16. 4
17. 2
18. 6
19. 3
20. 5
21. 1
22. Large amounts of carbon dioxide and water are required for photosynthesis. Plants also need a lot of oxygen for cellular respiration.
23. If a response such as flowering occurs when days become shorter than a certain length (or when the nights become longer than a certain length), the plant is said to be a short-day plant. If the response occurs when days become longer than a certain length (or when the nights become shorter than a certain length), the plant is said to be a long-day plant. Day-neutral plants are plants that are not affected by day length.
24. When two guard cells take in water, they increase in length, but not in diameter. This causes the cells to bend away from each other, opening the stoma. When water leaves the guard cells, they shorten and move closer to each other, closing the stoma.
25. Organic compounds move from a source, where they are made or stored, to a sink, where they are used. Leaves and roots are sources. Roots, stems, and developing fruits are sinks.

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