Name:
Class:
Date:

Lesson 13.1: Plant Anatomy and Physiology

Lesson Review

Carefully study the lesson and then answer the following questions.

1. Scientists estimate there are _____ different plant species. (13.1.0)

A. about 200,000
B. more than 300,000
C. nearly 500,000
D. about 1,000,000

Answer:

Match the types of plant tissue to their function. (13.1.1)

A. Epidermal tissue
B. Ground tissue
C. Vascular tissue

2. Transports materials around the plant much like blood vessels in an animal's body

Answer:

3. The outside covering of a plant

Answer:

4. Includes all the plant parts that perform photosynthesis

Answer:

5. What is the difference between xylem and phloem? (13.1.1)

Answer:

Match the terms with their definition. (13.1.1)

A. Apical meristem
B. Intercalary meristem
C. Lateral meristem
D. Meristematic tissue

6. Undifferentiated plant cells that are capable of dividing independently
   Answer:

7. Tissue found at the tips of roots and shoots of the plant
   Answer:

8. Tissue found at the tube-like shape along the stem of woody plants
   Answer:

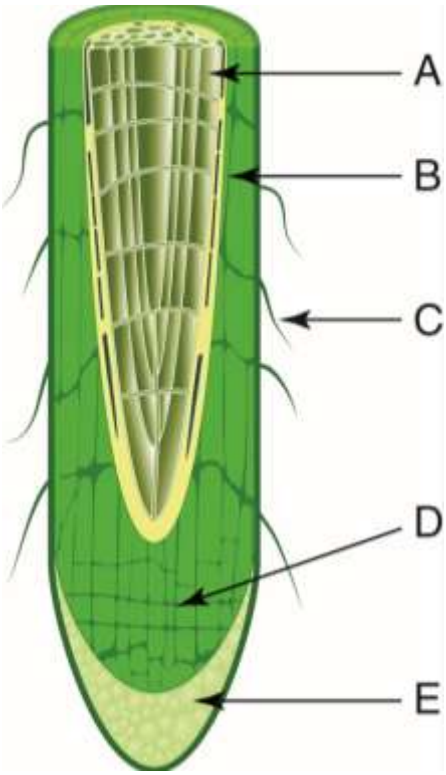
9. Tissue found in the nodes of the plants or the places where leaves and branches attach to the main stem of the plant
   Answer:

10. List the four main plant parts. (13.1.2)
    Answer:

11. The main portion of the root is called the _____. (13.1.2)

A. taproot
B. vascular bundle
C. primary root
D. meristem
   Answer:

12. Explain the difference between taproots and fibrous roots. (13.1.2)
    Answer:



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Label the parts of the root tip. (13.1.2)

13. Area of dividing cells

Answer:

14. Phloem

Answer:

15. Root cap

Answer:

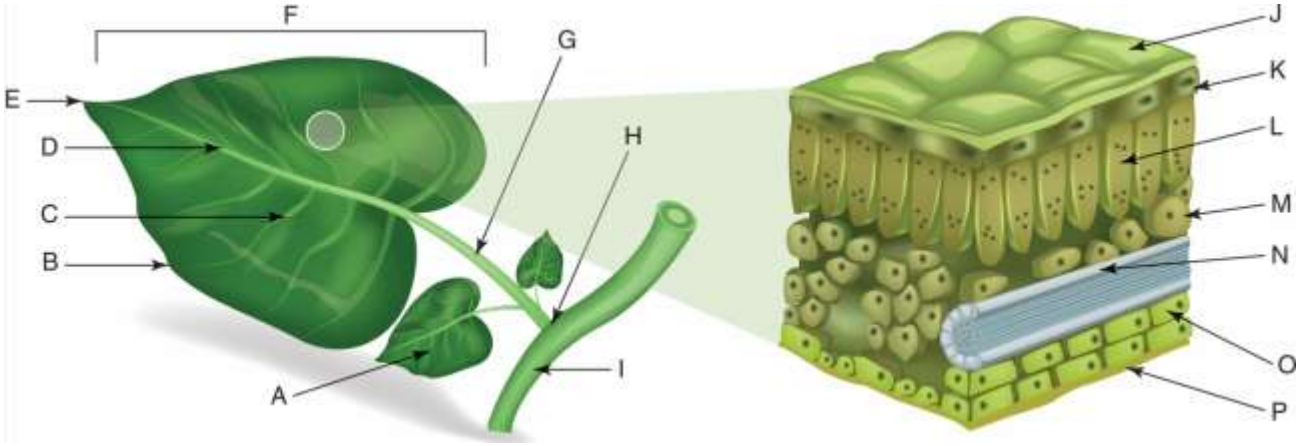
16. Root hair

Answer:

17. Xylem

Answer:

Label the parts of a leaf.



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18. Apex

Answer:

19. Axil

Answer:

20. Blade

Answer:

21. Leaf margin

Answer:

22. Lower cuticle

Answer:

23. Lower epidermis

Answer:

24. Midrib

Answer:

25. Palisade
    Answer:

26. Petiole
    Answer:

27. Spongy mesophyll
    Answer:

28. Stem
    Answer:

29. Stipule
    Answer:

30. Upper cuticle
    Answer:

31. Upper epidermis
    Answer:

32. Vascular bundle
    Answer:

33. Vein
    Answer:

34. *True or False?* Xylem and phloem create the annual rings of trees. (13.1.2)
    Answer:

35. *True or False?* The place on a stem where a leaf, flower, or main branch may occur is called an internode. (13.1.2)

    Answer:

36. *True or False?* Potatoes are actually modified stems. (13.1.2)

    Answer:

37. *True or False?* Rhizomes are tall, vertical stems without nodes. (13.1.2)

    Answer:

38. What happens in each of the four main layers of leaves? (13.1.2)

A. Cuticle

    Answer:

B. Palisade layer

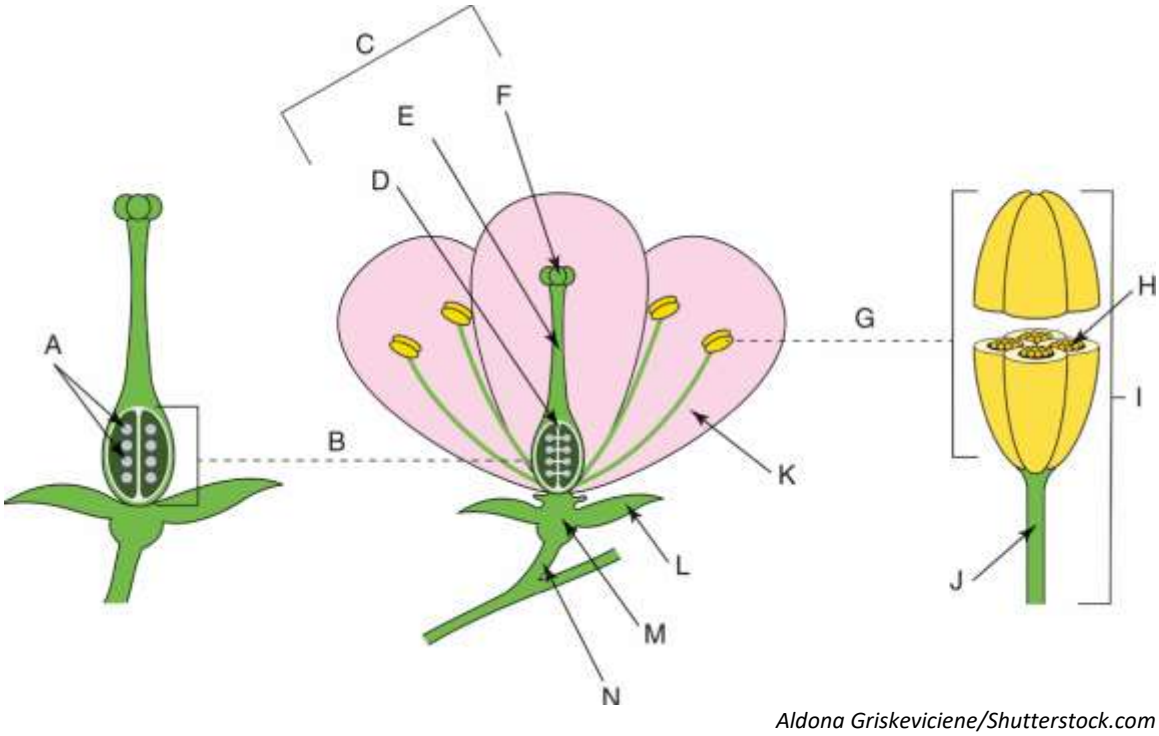
    Answer:

C. Mesophyll

    Answer:

D. Lower epidermis

    Answer:



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Label the parts of the flower. (13.1.2)

39. Anther

Answer:

40. Filament

Answer:

41. Ovary

Answer:

42. Ovary

Answer:

43. Ovule

Answer:

44. Pedicel

Answer:

45. Petal
    Answer:

46. Pistil
    Answer:

47. Pollen grain
    Answer:

48. Receptacle
    Answer:

49. Sepal
    Answer:

50. Stamen
    Answer:

51. Stigma
    Answer:

52. Style
    Answer:

Match the types of flowers to their definition. (13.1.3)

A. Composite flowers
B. Pistillate flowers
C. Staminate flowers

53. Flowers with only male reproductive parts

Answer:

54. Flowers made of many small flowers in one large "flower" structure

Answer:

55. Flowers with only female reproductive parts

Answer:

56. Explain the difference between a monocot and a dicot. (13.1.4)

Answer:

57. How much time does each of the following plant types require to complete its growth cycle? (13.1.4)

A. Annual

Answer:

B. Biennial

Answer:

C. Perennial

Answer:

58. _____ is the process of converting light energy to chemical energy and storing it in the form of sugar. (13.1.5)

A. Chlorophyll

B. Chloroplast

C. Autotroph

D. Photosynthesis

Answer:

59. An organism that can make its own nutrients is called a(n) _____. (13.1.5)

A. chlorophyll
B. chloroplast
C. autotroph
D. phototroph

Answer:

60. The substance that absorbs sunlight to help complete the process of photosynthesis is _____. (13.1.5)

A. chlorophyll
B. chloroplasm
C. autoplasm
D. carbon

Answer:

61. What is the chemical formula for photosynthesis? (13.1.5)

Answer:

62. List three factors that can contribute to the rate of photosynthesis. (13.1.5)

Answer:

63. *True or False?* Mature plant tissue growing into an exact copy of the plant is considered sexual reproduction. (13.1.5)

Answer:

64. *True or False?* New plants can be recreated from a single plant cell. (13.1.5)

Answer:

65. *True or False?* Plants create sex cells through the process of meiosis. (13.1.5)

Answer:

66. *True or False?* Leaves house the reproductive parts of a plant. (13.1.5)

    Answer:

67. *True or False?* A single pollen grain is all that is required to pollinate a plant. (13.1.5)

    Answer:

Critical Thinking

1. Which reproduction method is better for creating new plants? Give an example of a situation where sexual reproduction would be the best method to use. Give an example of a situation where asexual reproduction would be the best method. (13.1.5)

   Answer: