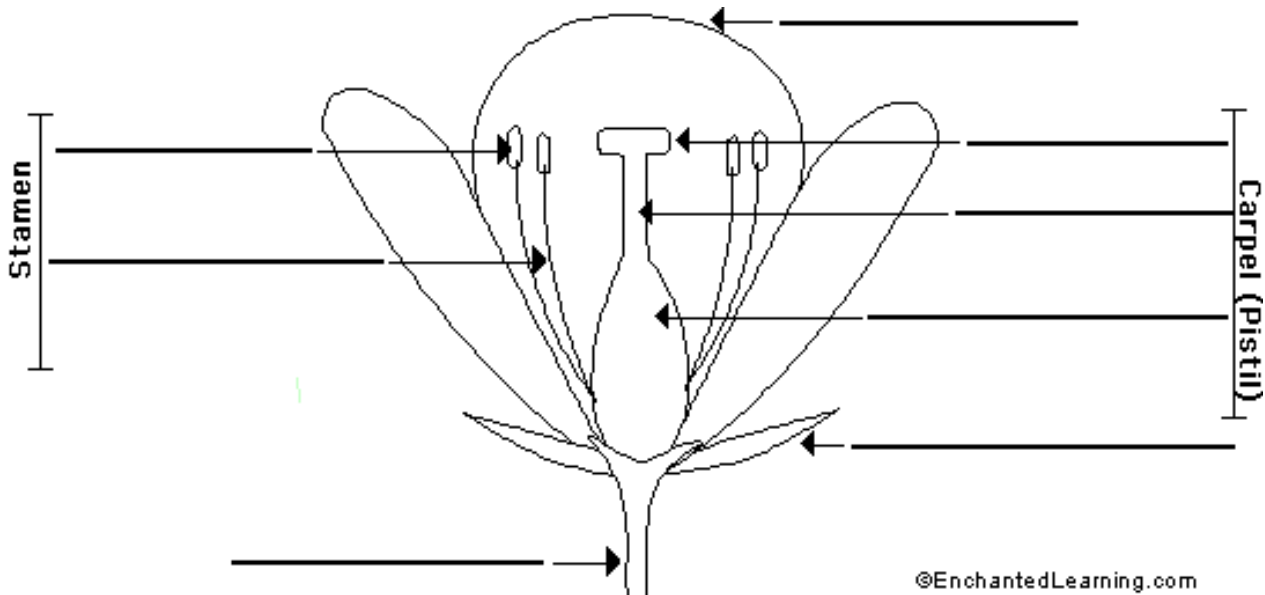


**Chapter 21 & 22 Celebration of Knowledge**

1. Which plant tissue has a function similar to an animal skin?
  - a. Dermal tissue
  - b. ground tissue
  - c. vascular tissue
  - d. xylem
2. Which vascular tissue carries the products of photosynthesis throughout the plant
  - a. Xylem
  - b. Phloem
  - c. Parenchyma
  - d. sclerenchyma
3. Which tissue is correctly paired with its function
  - a. Xylem—transports sugar
  - b. Dermal tissue—stores materials in root and stems
  - c. Ground tissue—protection
  - d. Xylem—transports water
4. Which part of a leaf collects sunlight for photosynthesis
  - a. Petiole
  - b. Mesophyll
  - c. Stomata
  - d. blade
5. Pollinators transfer pollen to a flower's
  - a. Anther
  - b. Stigma
  - c. Sepal
  - d. Petal
6. Where in the flower are pollen grains formed?
  - a. In the carpel
  - b. in the anthers
  - c. in the petal
  - d. in the stigma
7. The function of the vascular tissue is to:
  - a. Secrete a substance that becomes the cuticle.
  - b. Cover the outside of a plant and protect it.
  - c. Provide support and supply materials.
  - d. transport water and nutrients to all parts of plant
8. Cohesion is a result of hydrogen bonds that form between:
  - a. Water molecules.
  - b. Water and the xylem wall.
  - c. Guards cells.
  - d. Vessel elements
9. Primary growth increases a plant's
  - a. Flowers.
  - b. Branches.
  - c. Length.
  - d. Thickness
10. The part of a flower in which female gametophytes are produced is the
  - a. Petal.
  - b. Stamen.
  - c. Stigma.
  - d. Ovary.
11. Plant tissues are made of three basic types of cells: parenchyma, collenchymas, and sclerenchyma. Which of the following is true about all plant cells?
  - a. They do not have a nucleus
  - b. They do not have a cell membrane
  - c. They have a cell wall
  - d. They have the same function
12. Plants capture radiant energy from sunlight and convert it into useable energy in the form of
  - a. Carbon dioxide
  - b. Protein
  - c. Oxygen
  - d. Sugar

13. Name the different parts of the flower:



14. What two structures do plant cells have that animal cells do not have?

- a. Ribosomes and mitochondria
- b. Mitochondria and cell walls
- c. Chloroplasts and cell walls
- d. Chloroplasts and ribosomes

15. Which of the following characteristics is shared by both plant cells and photosynthetic bacteria?

- a. Cell wall of lignin
- b. Chlorophyll
- c. DNA enclosed in a nucleus
- d. Vacuole for starch storage

16. Students recorded data on the effect of different percentages of nitrogen (N) in fertilizer on the growth of bean plants in centimeters. Fertilizer with no nitrogen was included in this experiment because it served as the

- a. Model for the experiment
- b. Control for the experiment
- c. Independent variable for the experiment
- d. Dependent variable for the experiment

17. Terrestrial plants have stomata on the surface of their leaves. A single stomata is surrounded by two guard cells that change shape in response to environmental factors and open or close the stoma. Which of the following best explains how the structure of the leaf is used in processes that occur in plants?

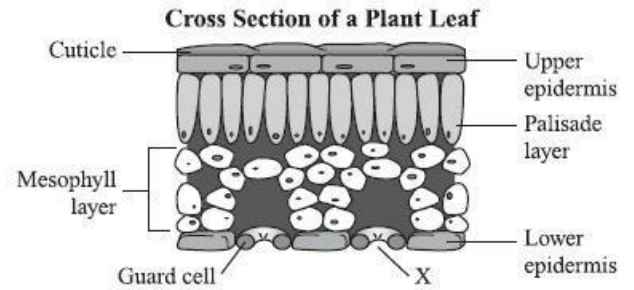
- a. Water enters the plant through the surface of the leaf for transpiration
- b. Gases for photosynthesis are exchanged through the surface of the leaf.
- c. Energy for cellular reproduction is absorbed through the surface of the leaf.
- d. Carbon dioxide enters the plant through the surface of the leaf for cellular reproduction.

18. Plant cells that are specialized for cell division are *most likely* found in what part of the plant?

- a. root tips
- b. leaf epidermis
- c. stem epidermis
- d. vascular tissue

19. If the xylem in a young tree is damaged, which process is *first* affected?
- performing photosynthesis
  - transporting sugar to the roots
  - transporting water to the leaves
  - absorbing water from the soil
20. A plant species lives in an area with limited sunlight. Which physiological adaptation would be *most* useful to the plant?
- colorful flowers
  - large leaves
  - deep roots
  - thin cuticle
21. What is the main function of leaves?
- Leaves provide support for growth and a place to store food.
  - Leaves provide a place for photosynthesis to occur.
  - Leaves absorb water and minerals and transport nutrients to the stem.
  - Leaves create a barrier that prevents water in the plant's tissues from evaporating.
22. The cambium is a section of cells in a plant that can become either part of the xylem or phloem, depending on the growth and needs of the plant. If the cambium of a particular plant was damaged, what would be the most likely effect on the plant?
- The plant would lose its ability to carry out photosynthesis.
  - the plant would have uncontrolled growth.
  - The plant would not experience any change in physiology.
  - The plant would not be able to transport nutrients and water.
23. Which structure in the leaf controls the opening and closing of the stoma?
- Cuticle
  - Epidermis
  - guard cell
  - spongy mesophyll

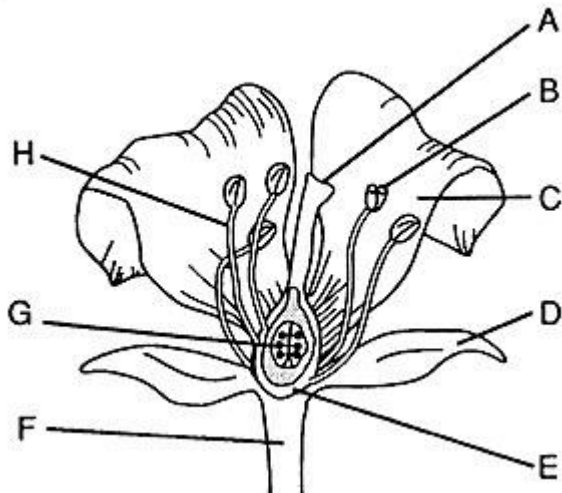
24. The diagram below shows a cross section of a plant leaf.



How does the structure marked X contribute to the survival of the plant?

- It allows the intake of gases necessary for photosynthesis.
  - It allows the intake of minerals necessary for plant growth.
  - It allows the intake of sunlight necessary for ATP production.
  - It allows the intake of sugars necessary for plant reproduction.
25. Which statement describes the role of flowers in plant survival?
- Flowers can absorb carbon dioxide for sugar production.
  - Flowers produce oxygen through cellular respiration.
  - Flowers contain cells that carry out photosynthesis.
  - Flowers contain cells that produce gametes.
26. What is the main purpose of seeds in plants that have them?
- To protect and distribute the zygote.
  - To entice animals to eat the plant.
  - To be fertilized by other plants.
  - To store water for the mother plant.

Bonus! The diagram below represents a flower, the reproductive structure of some plants. Most flowers have both male and female structures for fertilization and reproduction.



Which structure is represented by the letter A in the diagram above?

- a. the stamen, a male structure which produces pollen
- b. the pistil, a female structure which collects pollen and passes it to the ovary
- c. the sepal, a modified leaf used for protection of the flower
- d. the petals, decorative structures which attract pollinators