For each question, select the best answer from the four alternatives.

1. Which part of the plant carries out the process of reproduction? (4.1) K/U
   (a) flower
   (b) leaf
   (c) root
   (d) stem

✗ In which of the following plants would you expect to find periderm tissue? (4.2) K/U
   (a) a water lily
   (b) an oak tree
   (c) a cactus
   (d) a poinsettia

3. What are the products of photosynthesis? (4.1, 4.4) K/U
   (a) carbon dioxide and water
   (b) water and oxygen
   (c) oxygen and sugar
   (d) sugar and carbon dioxide

4. Plant cells that can differentiate into specialized tissues are called
   (a) stomata cells.
   (b) transgenetic cells.
   (c) epidermal cells.
   (d) meristematic cells. (4.2, 4.6) K/U

5. What material forms the tube-shaped structures that carry water from the roots to the leaves? (4.2) K/U
   (a) chlorophyll
   (b) cuticle
   (c) stomata
   (d) xylem

6. Which of these plants stores the most starch in its roots? (4.1) K/U
   (a) yam
   (b) tomato
   (c) pumpkin
   (d) apple tree

Indicate whether each of the statements is TRUE or FALSE. If you think the statement is false, rewrite it to make it true.

7. The shoot system is another name for the stem of a plant. (4.1) K/U

8. Phloem transports food produced by photosynthesis throughout the plant. (4.2) K/U

9. The spongy mesophyll is an inner region of a leaf with loosely packed cells. (4.4) K/U

Copy each of the following statements into your notebook. Fill in the blanks with a word or phrase that correctly completes the sentence.

10. The organelle where photosynthesis takes place is called a(n) _____. (4.1) K/U

✗ Thylakoids are arranged in stacks called _____. (4.1) K/U

12. Plant eggs produced by the female reproductive organ are fertilized by _____ produced by the male reproductive organ. (4.1) K/U

Match each term on the left with the most appropriate description on the right.

13.

(a) stomata	(i) a layer of wax on the surface of leaves
(b) cuticle	(ii) a structure that controls the size of openings
(c) chloroplast	(iii) an opening that allows for the exchange of gases
(d) guard cell	(iv) an organelle that carries out photosynthesis

(4.1, 4.2, 4.4) . K/U

Write a short answer to each of these questions.

14. Briefly describe one difference between plants and animals that applies to all plants and animals. (4.1, 4.4) K/U

✗ You are planning a study of the cells in the stem of a tomato plant. (4.1, 4.2) T/I
   (a) Identify two tools you would need for this study and describe how you would use them.
   (b) Identify three types of cells you would look for and describe their functions.

16. (a) Identify the two products of photosynthesis, and describe how animals take in each of these products.

(b) Explain why each product is essential to the survival of animals. (4.1, 4.4) K/U

17. Plants need water, carbon dioxide, and sunlight to produce food. Design an experiment to study the effect of each of these resources on plant growth. Describe how you would first deprive the plant of each resource and then observe the effect of restoring the resource. (4.1, 4.4) T/I

18. A student's backyard contains two maple trees. One maple tree has a trunk that is 2 m in diameter, and one maple tree has a trunk that is 3 m in diameter. Which tree is older? Explain your answer. (4.6) T/I

19. Draw a diagram of the cells in a root tip. Label the root cap, the region of cell division, the region of elongation, and the region of maturation. (4.6) C

20. Explain how each plant tissue has a similar function to the organ or organ system in the human body.

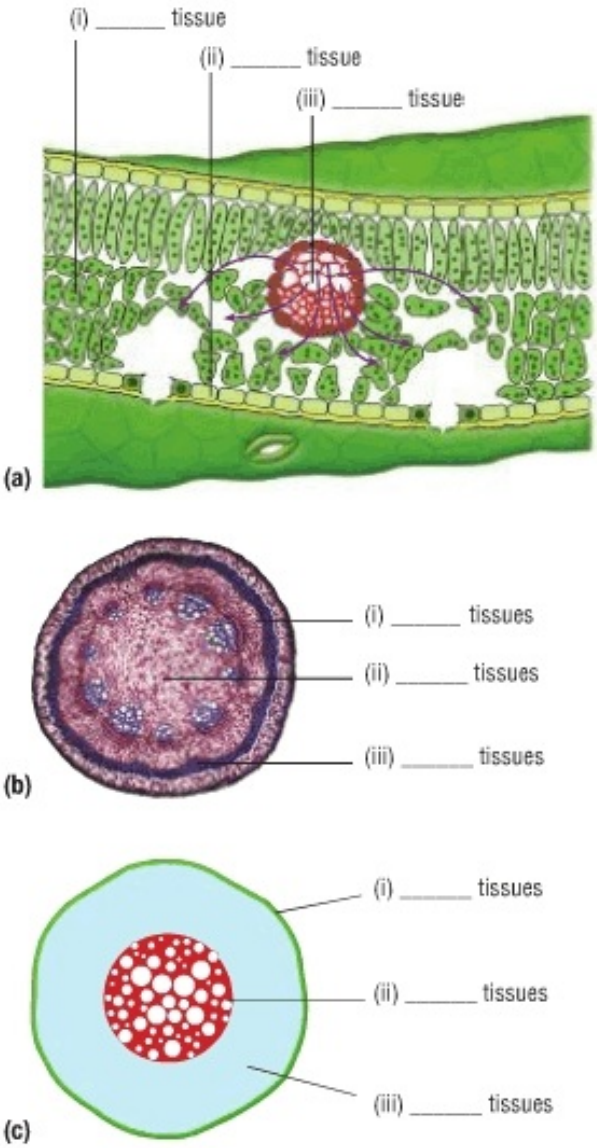
(a) dermal tissue and human skin
(b) vascular tissue and the circulatory system
(c) ground tissue and the skeletal system
(4.2, 4.4) A

21. You are planning to study the reproduction and propagation methods of several flowering plants in your area.

(a) Name four questions you would ask during your study to determine each plant's methods of reproduction.

(b) Name four questions you would ask during your study to determine each plant's methods of spreading its seeds. (4.1, 4.6) T/I C

22. Complete the diagrams below by labelling the tissues. Each space should be labelled as dermal, vascular, or ground. (4.2, 4.4) C



23. A hedge always grows new leaves after it is pruned. However, a human cannot grow a new finger if it is lost in an accident. Explain why animals and plants respond differently to the loss of a body part. (4.2, 4.6) A

24. Imagine you are a carbon atom that is part of a compound floating in the air. Describe your journey into a plant and the changes that take place there. Then describe how you become part of an animal and how you return to the air. In each phase tell what chemical compound you are part of. (4.1, 4.2, 4.4) K/U T/I C