

Unit 12 Plant Test

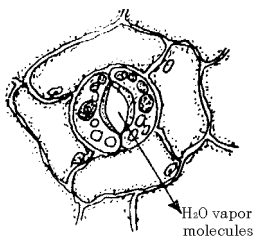
Name: _____

Date: _____

1. Which organisms add more oxygen to the atmosphere than they remove?
 - A. grasshoppers
 - B. bread molds
 - C. corn plants
 - D. mushrooms

2. The dissolved sugars produced in the leaves of a maple tree move to the tree's roots through the
 - A. xylem
 - B. phloem
 - C. epidermis
 - D. guard cells

3. The diagram shown represents some epidermal cells from the lower surface of a leaf. The arrow shows the direction of the movement of water vapor molecules. Which process is indicated by the arrow?

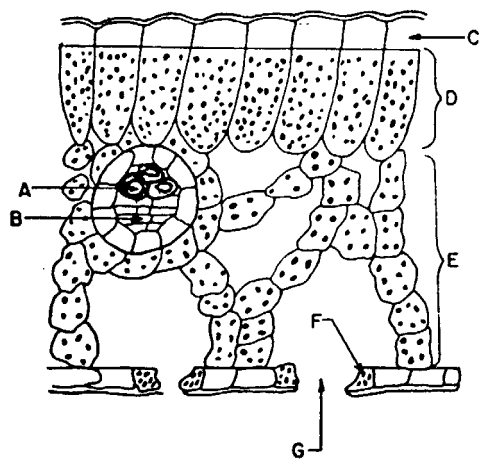


- A. osmosis
- B. active transport
- C. transpiration
- D. anaerobic respiration

4. Heavy use of insecticides in springtime may lead to a decrease in apple production. This decreased apple production is most probably due to interference with the process of
 - A. pollination
 - B. cleavage
 - C. absorption
 - D. transpiration

5. Nitrogen-fixing bacteria enrich the soil by producing nitrates beneficial to green plants. The bacteria live in nodules located on the roots of legumes. These nodules provide a favorable environment for the bacteria to grow and reproduce. The relationship between these bacteria and the leguminous plant is an example of
 - A. parasitism
 - B. commensalism
 - C. mutualism
 - D. competition

6. Which letter indicates the area where carbon dioxide passes out of the leaf?



- A. A
- B. G
- C. C
- D. D

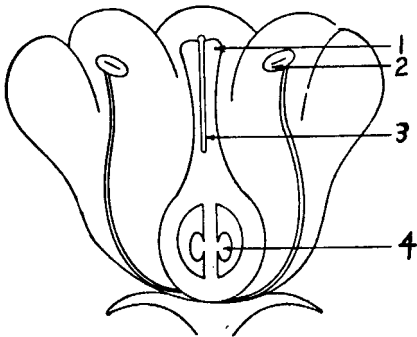
7. Which letter indicates a structure which regulates the size of a stoma?

- A. *A* B. *B* C. *F* D. *G*

8. When does aerobic respiration occur in green plants?

- A. during daylight, only
 B. during darkness, only
 C. during both daylight and darkness
 D. only when photosynthesis is occurring

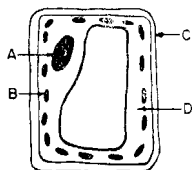
9. Which process has occurred in this flower?



- A. pollen germination B. seed formation
 C. zygote formation D. fruit production

10. Which structures in the diagram shown enable the observer to identify it as a plant cell?

- A. *A* and *B*
 B. *B* and *C*
 C. *A* and *C*
 D. *B* and *D*



11. Sugars are transported from the leaves of a plant to the roots through the

- A. phloem tissue B. xylem tissue
 C. pollen tubes D. stomates

12. The growing point at the tip of a root consists of an actively dividing tissue known as the

- A. epidermis B. xylem
 C. meristem D. phloem

13. Which flower structure develops into a seed after fertilization?

- A. ovule B. ovary
 C. anther D. stigma

14. The apical meristems of plants are located

- A. between the xylem and phloem tissue of woody stems
 B. at the tips of roots and stems
 C. uniformly throughout the plant
 D. within root hairs of plants

15. Two groups of 100 carrots seeds each were used in an investigation to test for the influence of temperature on germination of seeds. One group was kept at a temperature of 20°C, and the other at 10°C. All other conditions were the same. Observations made during the investigation were used to construct the data table shown.

Data Table

Day of Observation	Total Number of Seeds that Germinated	
	10°C	20°C
7	0	5
10	20	35
15	40	70
20	45	80
25	45	80

According to this investigation, what is the difference in the number of seeds germinated at the two temperatures on day 10?

- A. 15 B. 20 C. 30 D. 35
16. If some of the xylem of a young oak tree were destroyed, it would most likely interfere with the tree's ability to
- A. absorb sunlight
 B. produce carbon monoxide
 C. conduct water
 D. conduct organic compounds
17. In plant cells undergoing mitotic cell division, spindle fibers are attached to
- A. nucleoli B. nuclear membranes
 C. centrioles D. centromeres

18. Most plants are classified as autotrophs because they
- A. carry on the life function known as locomotion
 B. produce offspring by self-pollination
 C. store food products for short periods of time
 D. convert light energy into chemical bond energy
19. Xylem tissue in plants transports minerals and
- A. sugars B. proteins
 C. lipids D. water
20. After a flower on a cherry tree is fertilized, what part of the flower will develop into the fruit?
- A. stamen B. anther
 C. ovary D. ovule
21. The presence of which organelles would identify an organism as an autotroph?
- A. nuclei B. lysosomes
 C. chloroplasts D. cilia
22. In a plant, the cells of the cambium are actively involved in
- A. transpiration
 B. mitotic cell division
 C. pollination
 D. meiotic cell division

23. *Acer saccharum* is the scientific name for the sugar maple tree. *Acer* is the name of the tree's

- A. genus
- B. phylum
- C. species
- D. kingdom

24. Which plant tissue should a student examine under a compound microscope to observe different stages of mitotic cell division?

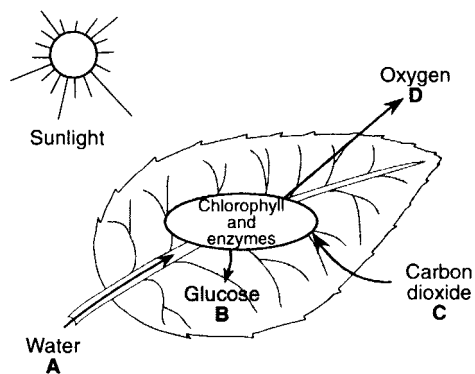
- A. upper epidermal layer from the surface of a leaf
- B. meristamatic tissue from the tip of a root
- C. xylem tissue from the wood of a tree trunk
- D. palisade and spongy layers from the inside of a leaf

25. Two plants were observed to have the characteristics indicated in the chart shown. An X indicates that the characteristic was present. According to the chart, which statement about these plants is correct?

- A. Plant A is a tracheophyte, and plant B is a bryophyte
- B. Plant A has xylem and phloem, but plant B does not
- C. Plant A could be a pine tree, and plant B could be a moss
- D. Plant A is a bryophyte, and plant B is a tracheophyte

<i>Specimen</i>	<i>Plant A</i>	<i>Plant B</i>
Multicellular	X	X
Photosynthetic	X	X
Vascular Tissue		X
Roots		X
Stems		X
Leaves		X

26. The diagram represents some processes occurring in the leaf of a plant. Which equation illustrates a process of nutrition carried out within the leaf?



- A. $B + D \rightarrow A + C$
- B. $A + C \rightarrow A + B + D$
- C. $B + C \rightarrow A + D$
- D. $A + B + D \rightarrow B + C$

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1.
Answer: C
2.
Answer: B
3.
Answer: C
4.
Answer: A
5.
Answer: C
6.
Answer: B
7.
Answer: C
8.
Answer: C
9.
Answer: A
10.
Answer: B
11.
Answer: A
12.
Answer: C
13.
Answer: A
14.
Answer: B
15.
Answer: A
16.
Answer: C
17.
Answer: D
18.
Answer: D
19.
Answer: D
20.
Answer: C

21.
Answer: C
22.
Answer: B
23.
Answer: A
24.
Answer: B
25.
Answer: D
26.
Answer: B