Released SOL Test Questions
Sorted by Topic

SOL 4.4 PLANTS

The student will investigate and understand basic plant anatomy and life processes. Key concepts include

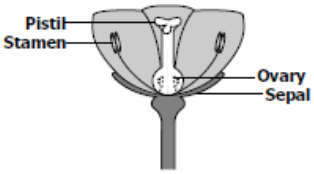
a. the structures of typical plants and the function of each structure;
b. processes and structures involved with plant reproduction;
c. photosynthesis; and
d. adaptations allow plants to satisfy life needs and respond to the environment.

PLANT PARTS

1. Which of these is a ***function of a leaf***?
(2011 test – question 15)
   a. Carrying nutrients throughout the plant
   b. Converting solar energy into sugar
   c. Creating shade for the plant
   d. Absorbing water from the ground

2. Which ***part*** of a sunflower plant ***absorbs*** water and nutrients?
(2009 test – question 34)
   a. Roots
   b. Stems
   c. Leaves
   d. Flowers

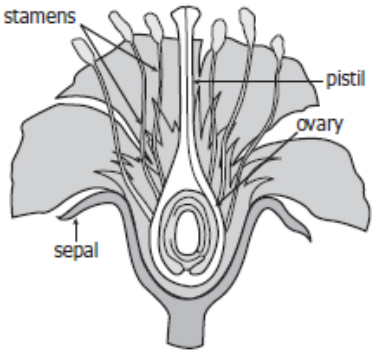
3. In a flower, what most likely happens when ***pollen*** from the stamen gets into the ovary?
(2011 test – question 20)

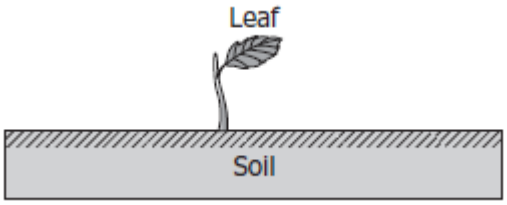


   a. The plant dies.
   b. A seed develops.
   c. The flower closes.
   d. The sepals fall off.

4. The two structures most ***plants*** use to gather nutrients and energy to live are —
(2002-8)
   a. roots and leaves
   b. roots and flowers
   c. stems and roots
   d. stems and leaves

5. What ***part*** of the flower produces ***pollen***?
(2009 test- question 40)
   a. ovary
   b. sepal
   c. pistil
   d. stamen





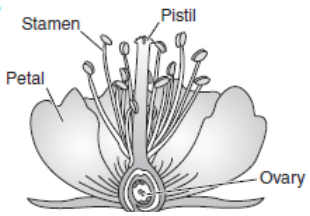
6. The picture shows a sprouting bean plant. The ***leaf*** produced will help the plant by —
(2008-7)
   a. absorbing water from the air for nourishment
   b. using sunlight for energy in food production
   c. reproducing more bean plants for survival of the species
   d. adding support for the plant as it grows taller

Violet Plants

Parts	Function
Roots	Anchor plant, absorb water
Stem	Support and transport
Leaves	Produce energy
Flowers	?

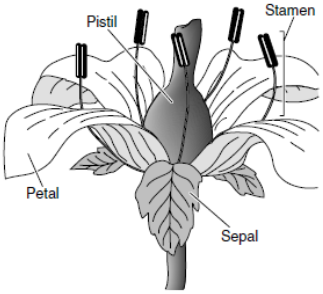
7. The table lists the parts of a violet plant and their functions. What is the **function** of violet **flowers**?
(2007-13)
   a. Release oxygen
   b. Produce seeds
   c. Absorb sunlight
   d. Promote growth

8. ***Pollen*** is produced in the —
(2005-9)
   a. ovary
   b. pistil
   c. petal
   d. stamen



9. Which of these is a main function of this ***plant's roots***?
(2003-20)
   a. Making seeds
   b. Producing pollen
   c. Absorbing nutrients
   d. Storing chlorophyll

10. Which of these ***plant parts*** forms the seeds?
(2001-35)



a. The stamen
b. The pistil
c. The sepals
d. The petals

11. What do plants take in through their root systems?
(2006-10)

a. Light
b. Water
c. Carbon dioxide
d. Oxygen

PHOTOSYNTHESIS

12. ***Photosynthesis*** occurs in which of these organisms?
(2010-18)

a. Sunflower plant
b. Mushroom
c. Sunfish
d. Luna moth

13. Which of the following do ***plants*** need to make their own food?
(2009-28)

a. Flowers
b. Bacteria
c. Sunlight
d. Oxygen

14. The substance that makes ***plants*** green is known as —
(2001-28)

a. water
b. calcium
c. chlorophyll
d. carbon dioxide

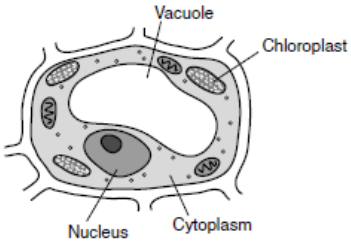
15. Which of these is a process that allows plants to convert light energy into food energy?
(2001-9)

a. Reproduction
b. Excretion
c. Digestion
d. Photosynthesis

16. Why is ***photosynthesis*** important for plants?
(2005-34)

a. It collects sunlight which is used to make food for plants.
b. It gets rid of plant waste products.
c. It changes plant sugar into stronger chemicals.
d. It helps attract insects to plant flowers.

17. In which plant ***cell structure*** does photosynthesis occur?
(2006-32)



a. Vacuole
b. Chloroplast
c. Cytoplasm
d. Nucleus

18. In plant cells, chloroplasts —
(2003-23)

a. act as the cell's control center
b. enable plant cells to produce their own food
c. allow materials to move into and out of the cell
d. support and protect the cell

19. For the native birds and mammals of Virginia to survive, plant life must be conserved. What do plants provide directly to all animals?
(2010-6)

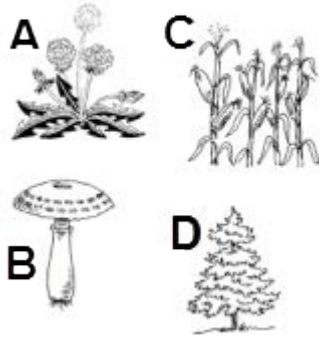
a. Oxygen
b. Minerals
c. Light
d. Hydrogen

20. Which gas is given off by ***plants***?
(2007-28)

a. Hydrogen
b. Nitrogen
c. Oxygen
d. Helium

SPORES

21. Which of these is not a plant?
(2004-2)



22. One way that ***mosses and ferns*** are similar is they both —
(2004-29)

a. are flowering plants
b. produce spores
c. grow in areas with little rainfall
d. are dormant during the winter

23. What do ***ferns*** have that apple trees do not have?
(2003-25)

a. Stems
b. Roots
c. Flowers
d. Spores

24. This fern plant has rows of little black dots on the back of the leaves. These little dots are not harmful. They hold millions of tiny reproductive cells called —

(2005-17)

a. pistils
b. anthers
c. spores
d. chloroplasts

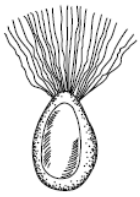
SEEDS

25. The wind helps many ***plants reproduce*** by —
(2007-31)

a. cooling the plants
b. giving the plants moisture
c. spreading the plants' pollen
d. strengthening the plants' root systems

26. Which of the following ***seeds*** is probably carried by animals?
(2002-26)


Maple


Milkweed


Dandelion


Cocklebur

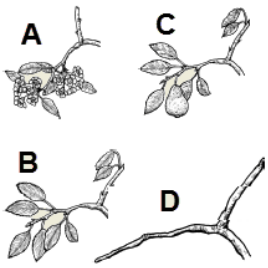
a. Maple
b. Dandelion
c. Milkweed
d. Cocklebur

27. Which of the following is a benefit that many flowering plants get from animals?
(2006-26)

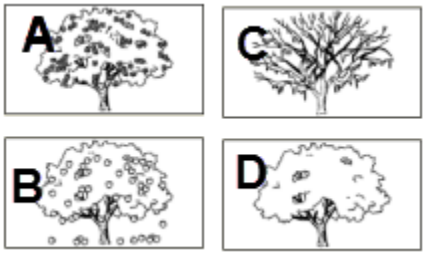
a. Shelter from direct sunlight
b. Seeds carried to new places
c. Oxygen to use in photosynthesis
d. Moisture to prevent wilting

PLANTS - DORMANCY

28. Which picture shows a ***dormant*** tree branch?
(2011-8)



29. Which of these apple trees is dormant?
(2010-38)



30. When a tree is ***dormant***, the tree is
(2009-23)

a. dying
b. inactive
c. growing taller
d. growing its leaves

31. Seeds that remain ***inactive*** until the right conditions of light, water, and soil are present are called —
(2008-12)

a. pollen
b. dormant
c. flowers
d. recycled

32. Seeds can lie ***dormant*** for many years until —
(2004-25)

a. sunlight causes photosynthesis
b. food webs are complete
c. conditions are right for growth
d. conduction of food occurs

VASCULAR / NONVASCULAR

This topic is not part of the SOL 4.4 (Plants) and covered instead on SOL 5.6. As the subject is plants, I have included the questions here as well.

33. A student sees many plants around a pond. The student can determine which plants are ***nonvascular*** by —
(2007-38)

a. observing if they lack true stems, roots, or leaves
b. examining the plants for spores
c. counting the number of leaves on each stalk
d. noticing if the plants are near rocks

34. ***Trees***, wild flowers, and grasses are all considered to be —
(2004-34)

a. vascular plants
b. nonvascular plants
c. woody plants
d. nonwoody plants

35. ***Moss*** is best classified as —
(2010-36)

a. a type of mold
b. an evergreen plant
c. a species of fungus
d. a nonvascular plant

36. Which of these plants does not have special tissues to deliver food and water to its cells?
(2005-20)

a. Maple
b. Dogwood
c. Tomato
d. Liverwort

37. Which of the following plants is an example of a ***nonvascular plant***?
(2002-20)

a. Dogwood
b. Moss
c. Ginkgo
d. Pine tree

38. Redwood ***trees*** can grow to be very tall. They can grow so tall because they are —
(2003-27)

a. vascular
b. deciduous
c. nonvascular
d. flowering