

Section 25–3 Plant Adaptations (pages 643–646)

This section describes how plants are adapted to different environments. It also explains how plants obtain nutrients from sources other than photosynthesis.

Aquatic Plants (page 643)

1. What adaptation do aquatic plants have that allows them to grow in mud that is saturated with water and nearly devoid of oxygen? _____

2. How do waterlilies get oxygen to their roots? _____

3. Circle the letter of each sentence that is true about the adaptations of aquatic plants.
 - a. All aquatic plants grow very slowly after germination.
 - b. In waterlilies, oxygen diffuses from open spaces in petioles into the roots.
 - c. The knees of mangrove trees bring oxygen-rich air down to the roots.
 - d. The seeds of some aquatic plants can float in water.

Salt-Tolerant Plants (page 644)

4. What adaptation do the leaves of salt-tolerant plants have that protects them against high salt concentration? _____

Desert Plants (pages 644–645)

5. What are three plant adaptations to a desert climate?
 - a. _____
 - b. _____
 - c. _____
6. What are xerophytes? _____
7. Why do the roots of xerophytes have many hairs? _____

8. Where is most of a desert plant's photosynthesis carried out? _____

9. Why do cactuses and euphorbias have small leaves or no leaves at all? _____

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10. What is the advantage for many desert plants that have seeds that can remain dormant for years? _____

Nutritional Specialists (page 645)

11. The Venus' flytrap is an example of what kind of nutritional specialist?

12. What nutrient do carnivorous plants need to obtain from insects that they can't otherwise get from the environment? _____

13. How does a Venus' flytrap obtain the nutrient it needs from an insect it catches?

14. What common plant grows as a parasite on conifers in the western United States?

Epiphytes (page 645)

15. What are epiphytes? _____

16. Why aren't epiphytes considered to be plant parasites? _____

17. Circle the letter of each example of an epiphyte.

- a. orchid b. Spanish moss c. pitcher plant d. mistletoe

Chemical Defenses (page 646)

18. How do many plants defend themselves against insect attack? _____

19. How does nicotine protect a tobacco plant from potential predators? _____

WordWise

Complete the sentences by using one of the scrambled words below.

Word Bank

eormnh

yhppieet

gmrsaivpiotr

ynmrdoac

somiptroghitm

ieehrbcd

snniikoytc

oxretyeph

psmiort

tlrlaea dbu

otophmsiport

preoiimsdoothp

gttear lcel

xiuan

1. A compound that is toxic to a plant is a(an) _____.
2. The response of a plant to an external stimulus is a(an) _____.
3. A plant that grows directly on the body of another plant is a(an) _____.
4. The period during which an organism's growth and activity decrease or stop is _____.
5. A substance that is produced in one part of an organism and affects another part of the same individual is a(an) _____.
6. A substance produced in the apical meristem that stimulates cell elongation is a(an) _____.
7. The tendency of a plant to grow toward a source of light is _____.
8. Plant hormones that are produced in growing roots and in developing fruits and seeds are _____.
9. A plant's response to periods of light and darkness is _____.
10. The response of plants to touch is _____.
11. A meristematic area on the side of a stem that gives rise to side branches is a(an) _____.
12. The response of a plant to the force of gravity is _____.
13. A desert plant is also called a(an) _____.
14. The portion of an organism affected by a particular hormone is known as its _____.