

## Active Reading

### 6.3 SECTION: GRASSLAND, DESERT, AND TUNDRA BIOMES

Read the passage below and answer the questions that follow.

All desert plants have adaptations for obtaining and conserving water, which allows the plants to live in dry, desert conditions. Plants called *succulents*, such as cactuses, have thick, fleshy stems and leaves that store water. Their leaves also have a waxy coating that prevents water loss. Sharp spines on cactuses keep thirsty animals from devouring the plant's juicy flesh. Rainfall rarely penetrates deeply into the soil, so many plants' roots spread out just under the surface of the soil to absorb as much rain as possible.

Instead of living in dry conditions, some desert plants are adapted to survive for long periods of time without water. When conditions are too dry, some plants die and drop seeds that stay dormant in the soil until the next rainfall. Then, new plants quickly germinate, grow, and bloom before the soil becomes dry again. Some desert plants have adapted so that they can survive even if their water content drops to as low as 30 percent of their mass. Water levels below 50 to 75 percent are fatal for most plants.

#### IDENTIFYING MAIN IDEAS

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently, a main idea is accompanied by supporting information that offers detailed facts about main ideas.

**In the space provided, write the letter of the term or phrase that best complete search statement or best answers each question.**

- \_\_\_\_\_ 1. A waxy coating on a desert plant's leaves prevent it from  
a. germinating too quickly.      c. losing water  
b. being eaten by thirsty animals.      d. Both (b) and (c)
- \_\_\_\_\_ 2. What types of adaptations help all desert plants survive?  
a. adaptations that help the plants obtain and conserve water  
b. adaptations that help the plants fend off snakes  
c. adaptations that allow the plants to produce more carbohydrates  
d. adaptations that allow the plants to quickly germinate
- \_\_\_\_\_ 3. An example of a succulent is a  
a. seed.      c. desert plant.  
b. cactus.      d. spine.

### **RECOGNIZING SIMILARITIES AND DIFFERENCES**

One reading skill is the ability to recognize similarities and differences between two phrases, ideas, or things. This is sometimes known as comparing and contrasting.

**Read each question and write the answer in the space provided**

4. When most plants lose water, what percentage of water content is low enough to be fatal?

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5. When a desert plant loses water, what percentage of water content is low enough to be fatal?

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### **RECOGNIZING CAUSE AND EFFECT**

One reading skill is the ability to recognize cause and effect.

**Read each question and write the answer in the space provided.**

6. Explain how and why a desert plant's roots grow as they do.

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7. What adaptations in a desert plant prevent water loss?

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8. What adaptation helps desert plants keep animals away?

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9. How can a desert plant's death cause more plants to grow?

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strategy for tropical rain forests is to allow agriculture on land already cleared for that purpose but to discourage the clearing of additional land. Methods used to sustain agriculture in other regions of the world could be employed. Money from tourism could help to support the local economy.

18. Answers may vary. Sample answer: Huge fires that burn for long periods of time over large areas can destroy thousands of acres of grassland or trees and kill thousands of animals. However, fire can also restore nutrients to the soil from burned plant matter. Natural fires destroy trees that compete with other plants for light and space, such as in the chaparral. Thus, chaparral plants, which are well-adapted to fire, are able to thrive. Controlled fires help to clear under-brush and thus prevent rapid spread of wildfires in the taiga.
19. Answers may vary. Sample answer: In order to reduce competition for food, different herbivore species feed at different heights. Small gazelles graze on grasses, rhinos browse on shrubs, and giraffes feed on tree leaves. Many animals give birth only during the rainy season when food is abundant. Other grazing herbivores, such as elephants, follow the rains and migrate to areas of watering holes and newly-sprouted grass.

## Active Reading

### SECTION: WHAT IS A BIOME?

1. The author points out that climate becomes colder as latitude and altitude increase.
2. The author notes that the trees of tropical rain forests grow closer to the equator while mosses and lichens of the tundra grow closer to the poles.
3. The introductory phrase "For example" is used.
4. between 30° and 60° north latitude and 30° and 60° south latitude
5. temperate forests and temperate grasslands

6. latitude
7. altitude
8. Near the poles, the tundra supports mosses and lichens. Near the equator, the tropical rain forests support certain trees.
9. Compare: Both are units of measure; contrast: latitude is the distance north or south of the equator that is measured in degrees, while altitude is the height of an object above sea level.
10. changes in latitude and altitude
11. changes in latitude and altitude
12. It includes biomes with moderate temperatures and fertile soil.
13. The climate gets colder.

### SECTION: FOREST BIOMES

1. 100 acres
2. animals, plants, and humans
3. 50 million
4. nearby cities
5. habitat destruction
6. a place that is suitable for living
7. 4
8. 1
9. 2
10. 3
11. 20 percent; 7 percent
12. They all lose the habitat they were dependent upon.
13. for logging operations, agriculture, or oil exploration
14. Its habitat may be destroyed or altered.

### SECTION: GRASSLAND, DESERT, AND TUNDRA BIOMES

1. c
2. a
3. b
4. less than 50 to 75 percent of its mass
5. less than 30 percent of their mass
6. The roots spread out instead of growing down to absorb as much rain as possible. Because it rains so rarely in the desert, rainfall rarely penetrates the soil deeply.
7. thick stems and leaves that store water, waxy coating on leaves
8. sharp spines
9. When the plant dies, it drops dormant seeds in the soil. With the next rainfall, the seeds germinate, grow, and bloom quickly while the soil is still wet.