

Chapter 21

What Is a Plant?

Reinforcement and Study Guide

Section 21.1 Adapting to Life on Land

In your textbook, read about the origins and adaptations of plants.

For each answer given below, write an appropriate question.

1. **Answer:** Multicellular eukaryotes having thick cell walls made of cellulose, a protective, waterproof covering, and that can produce its own food in the form of glucose through photosynthesis

Question: _____

2. **Answer:** The earliest known plant fossils

Question: _____

3. **Answer:** Protective, waxy layers that cover most fruits, leaves, and stems

Question: _____

4. **Answer:** The organ of a plant that traps light energy for photosynthesis, and is supported by a stem

Question: _____

5. **Answer:** The organ that works like an anchor, transports nutrients, and absorbs water and minerals

Question: _____

In your textbook, read about alternation of generations.

Use each of the terms below just once to complete the passage.

diploid	generations	meiosis
gametes	haploid	sporophyte

The lives of all plants consist of two alternating stages, or **(6)** _____. The gametophyte generation of a plant is responsible for the development of **(7)** _____. All seeds of the gametophyte, including the gametes, are **(8)** _____. The **(9)** _____ generation is responsible for the production of spores. All cells of the sporophyte are **(10)** _____. The spores are produced by the sporophyte plant body by **(11)** _____ and are, therefore, haploid.

**Chapter
21****What Is a Plant?, *continued*****Reinforcement and Study Guide****Section 21.1 Adapting to Life on Land,
*continued***

In your textbook, read about the origin and adaptations of plants.

Circle the letter of the choice that best completes the statement.

- 12.** The lives of _____ plants include two generations that alternate.
- a.** non-seed producing
 - b.** seed
 - c.** all
 - d.** most
- 13.** The generation of a plant responsible for producing gametes is the
- a.** alternation of generations.
 - b.** gametophyte generation.
 - c.** sporophyte generation.
 - d.** seed-producing generation.
- 14.** All gametophyte spores are _____ and all sporophyte tissue cells are _____.
- a.** haploid/diploid.
 - b.** diploid/haploid.
 - c.** haploid/haploid.
 - d.** diploid/diploid.
- 15.** Non-seed plants _____ that grow into gametophytes.
- a.** release spores into the environment
 - b.** retain spores in the parent plant
 - c.** release seeds into the environment
 - d.** retain seeds in the parent plant

Answer the following questions.

- 16.** What is the difference between vascular and nonvascular plants?

- 17.** Some land plants produce seeds. What is their function? How do they differ from spores?

- 18.** How do algae and land plants get nutrients?
