

# The Plants

## Vocabulary

charophyte	sporangium	frond	angiosperm
cuticle	gemma	pollen	flower
stoma	lignin	ovule	fruit
bryophyte	lycophyte	seed	cotyledon
antheridium	pterophyte	gymnosperm	
archegonium	rhizome	cone	

Textbook pp. 86–95

**MAIN IDEA:** Plants are large, multicellular eukaryotes that evolved from a group of green algae more than 400 million years ago. As producers, plants support virtually all terrestrial food webs.

1. There is strong evidence that plants evolved from \_\_\_\_\_, a group of green algae, between 425 and 490 million years ago. Plants and modern green algae both have \_\_\_\_\_ and \_\_\_\_\_, as well as additional pigments not found in other photosynthetic eukaryotes and other shared characteristics. **K/U**
2. List four major groups of plants. **K/U**
3. Almost all plants produce food through the process called \_\_\_\_\_. **K/U**

**MAIN IDEA:** Plant life cycles alternate between haploid and diploid generations.

4. The progression from diploid to haploid states during the life cycle is known as \_\_\_\_\_. **K/U**
5. Label **Figure 1** to describe a plant life cycle. **7/I**

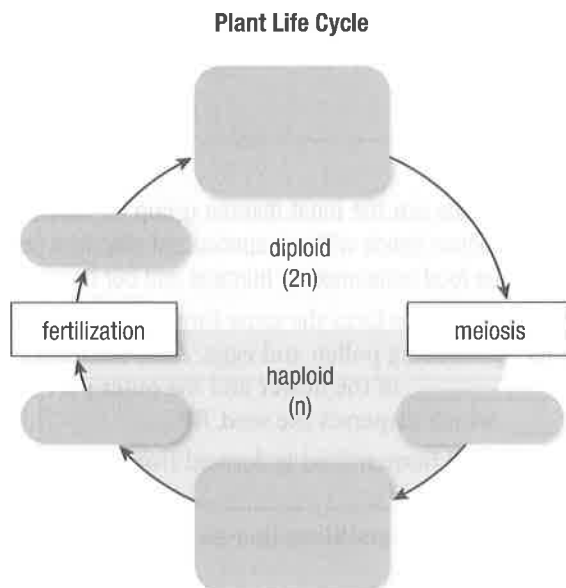


Figure 1

**MAIN IDEA:** Bryophytes are simple plants with a waxy cuticle and stomata to reduce water loss and allow gas exchange.

6. The most recognizable bryophytes are the \_\_\_\_\_, **K/U**
7. Bryophytes lack \_\_\_\_\_ and true leaves, roots, or seeds. **K/U**
8. Bryophyte gametophyte generations produce swimming sperm in \_\_\_\_\_ and eggs in \_\_\_\_\_. **K/U**

**MAIN IDEA:** Ferns are seedless vascular plants with large leaves and simple roots.

9. \_\_\_\_\_ (club mosses) and \_\_\_\_\_ (ferns) are \_\_\_\_\_ plants that have many characteristics of the earliest vascular plants. **K/U**
10. How are gametophyte bryophytes similar to gametophyte lycophytes and pterophytes? How are they different? **T/W**

#### LEARNING TIP

##### "Naked" Seeds

You can remember the difference between gymnosperms and angiosperms more easily by remembering that gymnosperms have "naked" seeds—seeds without fruits. In Greek, the word part *gymno-* means "naked" and the word *sperm* means "seed."

**MAIN IDEA:** Gymnosperms are seed plants that reproduce with specialized cones that produce pollen grains and ovules.

11. Gymnosperms include coniferous trees such as \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_, as well as cycads and ginkgoes. **K/U**
12. In the space below, draw a 3- or 4-step flowchart showing the gymnosperm life cycle from pollen release to seed production. **K/U C**

**MAIN IDEA:** Angiosperms are the most diverse group of plants and reproduce using flowers. Angiosperms produce seeds within a specialized structure called a fruit. Flowering plants provide most of the food consumed by humans and our domesticated animals.

13. Flowers of angiosperms perform the same function as the \_\_\_\_\_ of gymnosperms—producing pollen and eggs. After fertilization, seeds form within the \_\_\_\_\_ of the flower and the outer part of the ovary becomes a \_\_\_\_\_, which disperses the seed. **K/U**
14. More than 70 % of all human food is derived from the seeds of three angiosperms: \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_. **K/U**
15. List three human-caused conditions that can threaten plants. **K/U**