

**Chapter
22**
The Diversity of Plants, *continued*
Reinforcement and Study Guide
Section 22.2 Non-Seed Vascular Plants

In your textbook, read about the alternation of generations of non-seed vascular plants and lycophyta.

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

antheridia

leaves

sporophyte

archegonia

prothallus

strobilus

egg

reproductive cells

zygote

fertilization

sperm

Unlike nonvascular plants, the spore-producing **(1)** _____ is the dominant generation in vascular plants. A major advance in vascular plants was the adaptation of **(2)** _____ to form structures that protect the developing **(3)** _____. In some non-seed vascular plants, spore-bearing leaves form a compact cluster called a(n) **(4)** _____. Spores are released from this compact cluster. These spores then grow to form the gametophyte, called a(n) **(5)** _____. This structure is relatively small and lives in or on soil. The prothallus then forms **(6)** _____, male reproductive structures, and **(7)** _____, female reproductive structures. **(8)** _____ are released from the antheridium and swim through a film of water to the **(9)** _____ in the archegonium. **(10)** _____ occurs and a large, dominant sporophyte plant develops from the fertilized **(11)** _____.

For each statement below, write true or false.

- _____ **12.** The leafy stems of lycophytes resemble clubs, and their reproductive structures are moss shaped.
- _____ **13.** The leaves of lycophytes occur as pairs, whorls, or spirals along the stem.
- _____ **14.** Lycophytes are simple vascular plants with creeping leaves.
- _____ **15.** The club moss is commonly called ground pine because it is evergreen and resembles a miniature pine tree.

**Chapter
22****The Diversity of Plants, *continued*****Reinforcement and Study Guide****Section 22.2 Non-Seed Vascular Plants,
*continued***

In your textbook, read about sphenophyta and pterophyta.

Complete each statement.

- 16.** The hollow-stemmed horsetail appears to be jointed with scalelike _____ surrounding each joint.
- 17.** The most recognized generation of ferns is the _____ generation.
- 18.** The _____ in most ferns is a thin, flat structure.
- 19.** In most ferns, the main stem, called a _____, is underground. It contains many starch-filled cells for _____.
- 20.** The leaves of a fern are called _____ and grow upward from the rhizome.
- 21.** Fronds are often divided into leaflets called _____, which are attached to a central stipe.
- 22.** Ferns were the first vascular plants to evolve leaves with branching _____ of vascular tissue.
- 23.** The common names for the seedless vascular plants, Lycophyta, Sphenophyta, and Pterophyta are _____, _____, and _____.

Answer the following questions on the lines provided.

- 24.** Why are sphenophytes, or horsetails, sometimes referred to as scouring rushes?

- 25.** Why might you be more familiar with ferns than with club mosses and horsetails?
