

Ch 22 to mosses ferns

# CHAPTER REVIEW

## CONTENT REVIEW

### Multiple Choice

Choose the letter of the answer that best completes each statement.

- All of the following plants are bryophytes except
  - ferns.
  - mosses.
  - liverworts.
  - hornworts.
- Fern leaves are called
  - sori.
  - fronds.
  - rhizomes.
  - spores.
- The most obvious stage of a moss is the
  - sporophyte.
  - parent.
  - protonema.
  - gametophyte.
- Mosses are used for all of the following except
  - food.
  - garden plants.
  - soil additive.
  - fuel.
- Mosses do not grow in
  - swamps.
  - marshes.
  - deserts.
  - rain forests.
- Each of the following can be found on a fern sporophyte except a
  - sorus.
  - frond.
  - prothallium.
  - rhizome.
- The moss sporophyte lives
  - a solitary-life.
  - attached to the gametophyte.
  - attached to a spore.
  - attached to a leaf.
- The waxy covering on the leaves of a tracheophyte is called the
  - cuticle.
  - sori.
  - xylem.
  - phloem.

### True or False

Determine whether each statement is true or false. If it is true, write "true." If it is false, change the underlined word or words to make the statement true.

- Mosses are tracheophytes.
- Moss sporophytes are the most obvious stage of the moss life cycle.
- Fern gametophytes are small heart-shaped structures.
- Fern leaves are called sori.
- Sexual reproduction in ferns depends on the presence of water.
- Xylem tissue conducts water in a plant stem.
- There are many fossils of early land plants.
- In mosses, the archegonium produces sperm.

### Word Relationships

A. In each of the following sets of terms, three of the terms are related. One term does not belong. Determine the characteristic common to three of the terms and then identify the term that does not belong.

- sori, sporangium, spore, sperm
- xylem, phloem, tracheids, cuticle
- sperm, egg, zygote, spore
- antheridium, archegonium, gametophyte, sporophyte
- rhizoid, frond, rhizome, vascular cylinder

B. Give the vocabulary word whose meaning is opposite that of the following words.

- archegonium
- gametophyte
- gametes

## CONCEPT MASTERY

Use your understanding of the concepts developed in the chapter to answer each of the following in a brief paragraph.

1. Why is water needed for reproduction to occur in mosses?
2. Describe the appearance of the moss sporophyte.
3. Briefly describe sexual reproduction in a fern.
4. What are two uses of mosses and ferns?
5. Mosses must live in areas that remain damp for much of the time. Ferns can live in drier environments. What adaptations do ferns show that enable them to survive in areas that would not support moss plants?
6. Briefly summarize the life cycle of a typical moss plant.

## CRITICAL AND CREATIVE THINKING

Discuss each of the following in a brief paragraph.

1. **Applying concepts** Moss plants are small. Ferns can grow as tall as a small tree. Explain why this is so.
2. **Relating concepts** Suppose you wanted to grow a garden of mosses in your backyard. What kinds of conditions would you have to provide to make these plants grow well?
3. **Applying concepts** What stage in a fern's life cycle would require more water to survive? Why?
4. **Identifying patterns** This photograph shows the structure of a tracheophyte. What structure is it? To what kind of plant does this structure belong? Is this a part of a sporophyte or a gametophyte plant?
5. **Making predictions** A friend of yours lives in a desert area of New Mexico. She wants to grow a garden of mosses. Is this a good idea? What will probably happen to her garden?
6. **Using the writing process** Imagine that you are a moss plant living in the Olympic Forest in Washington State. Every day, moist fogs roll in from the Pacific Ocean. One day the prevailing winds that blow from the west abruptly change direction. Now the winds blow from the east. Write a brief autobiography that describes your

life before the winds changed direction, explaining the transformation that would occur in you and your forest home as a result.

