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Section 22–3 Seedless Vascular Plants (pages 560–563)

TEKS FOCUS: 10C Characteristics of plant systems and subsystems; 13B Methods of reproduction, growth, and development; **TEKS SUPPORT:** 7A Evidence of change in species; 8A Classify organisms

This section explains how vascular tissue is important to ferns and their relatives. It also describes the characteristics of three phyla of spore-bearing plants and describes the stages in the life cycle of ferns.

Evolution of Vascular Tissue (page 560)

1. What is vascular tissue? _____

_____

2. What kind of cells did the first vascular plants have that were specialized to conduct water? _____

3. Circle the letter of each sentence that is true about tracheids.

a. They are hollow cells.

b. They are connected end to end.

c. Their thick cell walls resist pressure.

d. They are the key cells of phloem.

4. Complete the table about vascular tissue.

VASCULAR TISSUE

Type of Tissue	Function
Xylem	
Phloem	

5. Is the following sentence true or false? Phloem and xylem cannot move water and nutrients against the force of gravity. _____

Ferns and Their Relatives (pages 561–562)

6. Complete the table about plant structures.

PLANT STRUCTURES

Structure	Description
Roots	
Leaves	
Stems	

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7. Spore-bearing vascular plants include what three types of plants?
   a. _____
   b. _____
   c. _____
8. Is the following sentence true or false? Vascular plants have true roots and stems. _____
9. The fossilized remains of ancient forests of club mosses exist today as huge beds of _____.
10. Why is *Equisetum* called "horsetail"? _____
    _____
11. Circle the letter of each structure a horsetail has.
    a. stems **b.** cones **c.** leaves **d.** roots
12. Ferns are members of phylum _____.
13. What are rhizomes? _____
    _____
14. The large leaves of ferns are called _____.
15. Fronds grow from what fern structures? _____
16. In what kind of habitats are ferns most abundant? _____
    _____
    _____

Life Cycle of Ferns (pages 562–563)

17. What is the dominant stage in the life cycle of ferns and other spore-bearing vascular plants? _____
    _____
18. Fern sporophytes produce haploid spores on the underside of their fronds in tiny containers called _____.
19. What are sori? _____
    _____
20. Are the spores of ferns haploid or diploid? _____

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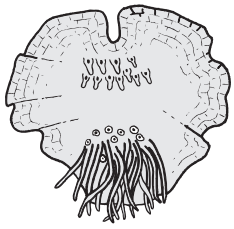
21. Label each drawing of a fern as either the sporophyte or the gametophyte.



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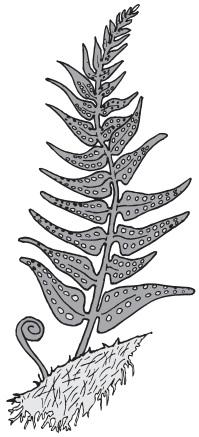

_____

22. Where are the antheridia and archegonia found in ferns? _____

_____

23. Why does fertilization in ferns require at least a thin film of water? _____

_____

24. Circle the letter of each sentence that is true about the life cycle of ferns.

a. The zygote grows into a new gametophyte.

b. The sporophyte is a heart-shaped, green structure.

c. Fern sporophytes often live several years.

d. When spores germinate, they grow into haploid gametophytes.

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