Name_____ Class_____ Date_____

Section 20–4 Plantlike Protists: Red, Brown, and Green Algae (pages 510–515)

TEKS SUPPORT: 6E Mitosis and meiosis and their significance to reproduction; 11D Role of microorganisms in maintaining equilibrium

This section describes the distinguishing features of the major phyla of multicellular algae. It also explains how multicellular algae reproduce.

Introduction (page 510)

1. What are seaweeds? _____
2. What are the most important differences among the three phyla of multicellular algae?

_____

_____

Red Algae (page 510)

3. Red algae are members of the phylum _____.
4. Why are red algae able to live at great depths? _____

_____

5. What pigments do red algae contain? _____

_____

6. Which color of light are phycobilins especially good at absorbing?
   a. red **b.** green **c.** yellow **d.** blue
7. Circle the letter of each sentence that is true about red algae.
   a. They can grow in the ocean at depths up to 260 meters.
   b. Most are unicellular.
   c. All are red or reddish-brown.
   d. Coralline algae play an important role in coral reef formation.

Brown Algae (page 511)

8. Brown algae are members of the phylum _____.
9. What pigments do brown algae contain? _____

_____

Match each structure with its description.

	Structure	Description
_____	**10.** Holdfast	**a.** Flattened stemlike structure
_____	**11.** Stipe	**b.** Gas-filled swelling
_____	**12.** Blade	**c.** Structure that attaches alga to the bottom
_____	**13.** Bladder	**d.** Leaflike structure

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Green Algae (pages 511–512)

14. Where are brown algae commonly found growing? _____

_____

_____

15. What is the largest known alga? _____

16. Green algae are members of the phylum _____.

17. What characteristics do green algae share with plants? _____

_____

_____

18. What do scientists think is the connection between mosses and green algae?

_____

_____

19. The freshwater alga *Spirogyra* forms long threadlike colonies called _____.

20. How can the cells in a *Volvox* colony coordinate movement? _____

_____

21. "Sea lettuce" is the multicellular alga _____.

Reproduction in Green Algae (pages 512–514)

22. What occurs in the process known as alternation of generations? _____

_____

_____

23. The single-celled *Chlamydomonas* reproduces asexually by producing _____.

24. Circle the letter of each sentence that is true about sexual reproduction in *Chlamydomonas*.

a. If conditions become unfavorable, cells release gametes.

b. Paired gametes form a diploid zygote.

c. A zygote quickly grows into an adult organism.

d. The gametes are called male and female.

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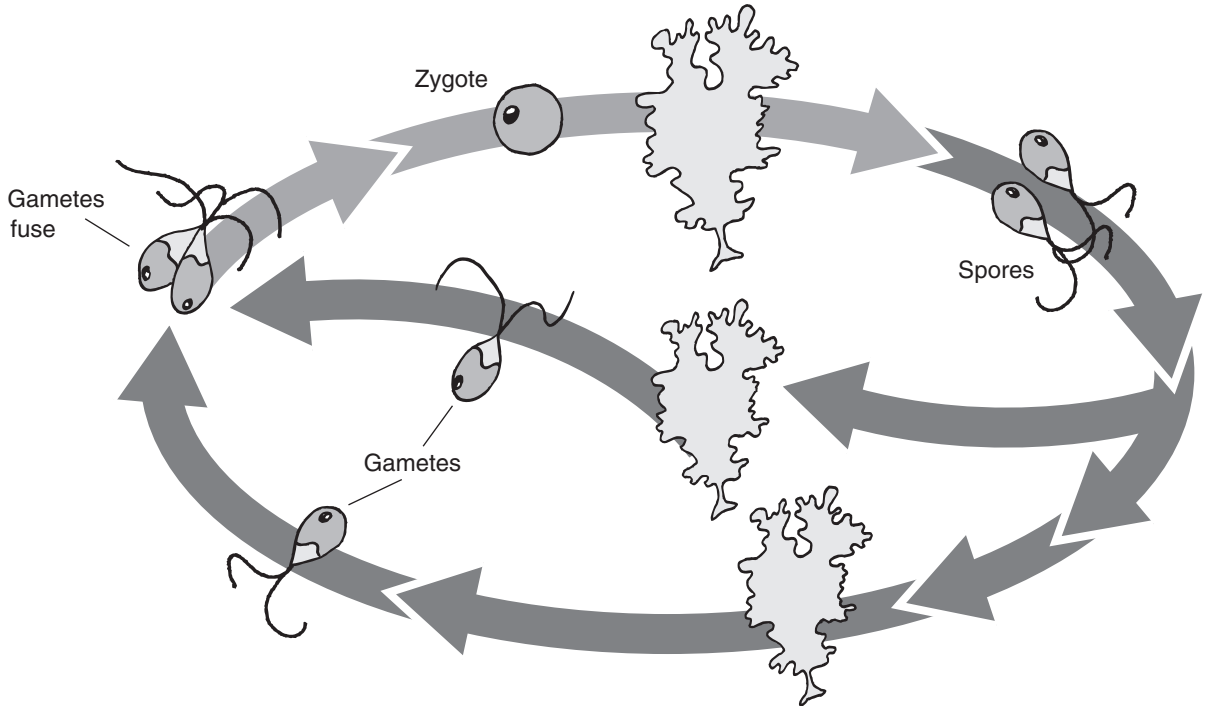
25. Complete the life cycle of *Ulva* by labeling the sporophyte, the male gametophyte, and the female gametophyte. Also, label the places where the processes of fertilization, mitosis, and meiosis occur.



26. Complete the table about the generations in an organism's life cycle.

GENERATIONS IN A LIFE CYCLE

Generation	Definition	Diploid or Haploid?
	Gamete-producing phase	
	Spore-producing phase	

Human Uses of Algae (page 515)

27. Why have algae been called the "grasses" of the sea? _____

_____

28. Through photosynthesis, algae produce much of Earth's _____.

29. What is the compound agar derived from, and how is it used? _____

_____

_____

_____