

## Section 20–3 Plantlike Protists: Unicellular Algae (pages 506–509)

*This section explains the function of chlorophyll and accessory pigments in algae. It also describes the distinguishing features of the major phyla of unicellular algae.*

### Introduction (page 506)

1. Plantlike protists are commonly called \_\_\_\_\_.
2. Is the following sentence true or false? Algae include only multicellular organisms.  
\_\_\_\_\_

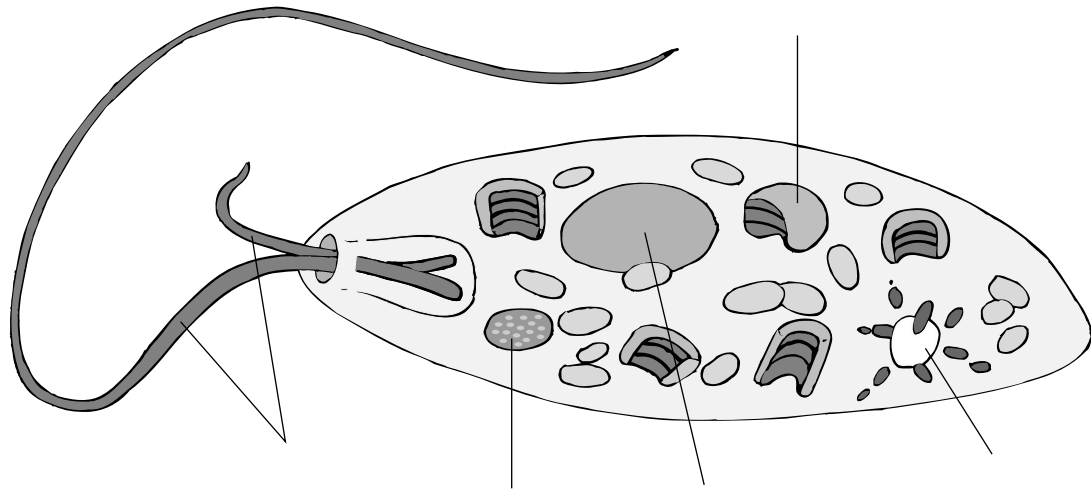
### Chlorophyll and Accessory Pigments (page 506)

3. In the process of photosynthesis, what substances trap the energy of sunlight?  
\_\_\_\_\_  
\_\_\_\_\_
4. How does water affect the sunlight that passes through it? \_\_\_\_\_  
\_\_\_\_\_
5. Why does the dim blue light that penetrates deep into the sea contain little energy that chlorophyll *a* can use? \_\_\_\_\_  
\_\_\_\_\_
6. How have various groups of algae adapted to conditions of limited light?  
\_\_\_\_\_  
\_\_\_\_\_
7. What are accessory pigments? \_\_\_\_\_  
\_\_\_\_\_
8. Why are algae such a wide range of colors? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Euglenophytes (page 507)

9. Euglenophytes are members of the phylum \_\_\_\_\_.
10. Circle the letter of each sentence that is true about euglenophytes.
  - a. They are remarkably similar to zooflagellates.
  - b. They possess chloroplasts.
  - c. They have a cell wall.
  - d. They have two flagella.
11. What is an eyespot, and what is its function? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 12. Euglenas have a tough, intricate membrane called a(an) \_\_\_\_\_.
- 13. How do euglenas reproduce? \_\_\_\_\_
- 14. Label the illustration of a euglena.



**Chrysophytes** (page 507)

- 15. The yellow-green algae and the golden-brown algae are members of the phylum \_\_\_\_\_.
- 16. What color are the chloroplasts of chrysophytes? \_\_\_\_\_
- 17. Circle the letter of each sentence that is true about chrysophytes.
  - a. The cell walls of some contain the carbohydrate pectin.
  - b. They reproduce sexually but not asexually.
  - c. They generally store food in the form of oil.
  - d. Some form threadlike colonies.

**Diatoms** (page 507)

- 18. Diatoms are members of the phylum \_\_\_\_\_.
- 19. Circle the letter of each sentence that is true about diatoms.
  - a. They are very rare in almost all environments.
  - b. Their cell walls are rich in silicon.
  - c. They are shaped like a petri dish or flat pillbox.
  - d. They are among the most abundant organisms on Earth.

**Dinoflagellates** (page 508)

- 20. Dinoflagellates are members of the phylum \_\_\_\_\_.
- 21. How do dinoflagellates obtain nutrition? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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22. Circle the letter of each sentence that is true about dinoflagellates.

- a. They generally have one flagellum.
- b. Many species are luminescent.
- c. Most reproduce by binary fission.

**Ecology of Unicellular Algae** (pages 508–509)

23. How do plantlike protists make much of the diversity of aquatic life possible?

\_\_\_\_\_

24. What are phytoplankton? \_\_\_\_\_

\_\_\_\_\_

25. What are algal blooms? \_\_\_\_\_

\_\_\_\_\_

26. How can an algal bloom be harmful? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_