

Section 19.1

Vocabulary Review

Answer the following questions with complete sentences.

1. What is another name for animal-like protists?
2. What are microscopic protozoans that are found in the gut of insects?

Understand Key Concepts

3. Which process is most likely the way in which the first protists formed?
 A. aerobic respiration C. endosymbiosis
 B. decomposition D. photosynthesis
4. Which method below is used to divide protists into three groups?
 A. method of getting food
 B. method of movement
 C. type of reproduction
 D. type of respiration
5. Which is least likely to be a suitable environment for protists?
 A. decaying leaves C. damp soil
 B. the ocean D. dry sand

Use the photo below to answer questions 6 and 7.

LM Magnification: 125×



6. To which group does the protist belong?
 A. algae C. funguslike
 B. animal-like D. protozoan
7. Which term best describes this protist?
 A. acellular C. multicellular
 B. eukaryotic D. prokaryotic

Constructed Response

8. **Open Ended** Describe three locations near your home or school where you might be able to find protists.
9. **CAREERS IN BIOLOGY** If you were a taxonomist given the task of organizing protists into groups, would you use the same method described in this book? Explain your answer.

Think Critically

10. **Predict** changes in protist populations if an area had an above-average amount of rainfall.

Section 19.2

Vocabulary Review

Define each of the structures below and provide an example of an organism where it could be found.

11. pseudopod
12. contractile vacuole
13. test

Understand Key Concepts

Use the diagram below to answer question 14.



14. Which structure does this organism use for movement?
 A. cilia
 B. contractile vacuole
 C. flagella
 D. pseudopodia
15. What does the paramecium's contractile vacuole help regulate inside the cell?
 A. amount of food C. movement
 B. amount of water D. reproduction
16. Which are most likely to form fossils?
 A. apicomplexans C. foraminifera
 B. flagellates D. paramecia

Constructed Response

17. **Open Ended** Explain why termites might die if their symbiotic flagellates died.
18. **Short Answer** Describe the process of conjugation in paramecia.

Think Critically

19. **Apply Concepts** Recommend several options a village might consider to slow down the spread of malaria.
20. **Research Information** Research other diseases that are caused by protozoans. Use a map and plot locations where the diseases occur.

Section 19.3

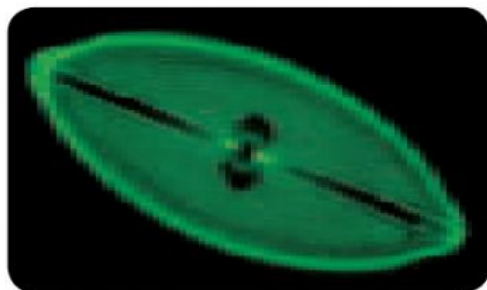
Vocabulary Review

Match each definition below with the correct vocabulary term from the Study Guide page.

21. a life cycle of algae that requires two generations
22. a group of cells living together in close association
23. gives off light

Understand Key Concepts

Use the photo below to answer question 24.

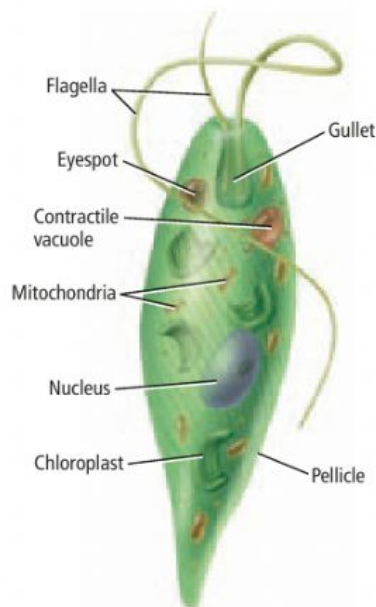


24. Which term best describes how this organism stores its excess food?
- | | |
|--------------|-----------------|
| A. cellulose | C. protein |
| B. oil | D. carbohydrate |
25. Which are used in the human food supply?
- | | |
|--------------------|---------------|
| A. dinoflagellates | C. protozoans |
| B. euglenoids | D. red algae |

26. Which organism has silica walls?

- | | |
|---------------|-------------------|
| A. brown alga | C. dinoflagellate |
| B. diatom | D. euglenoid |

Use the illustration below to answer questions 27 and 28.



27. What is the name of the structure used by the organism above for movement?
- | | |
|------------------------|--------------|
| A. cilia | C. flagella |
| B. contractile vacuole | D. pseudopod |
28. Which structure is used to sense light?
- | | |
|----------------|-------------|
| A. chloroplast | C. nucleus |
| B. eyespot | D. pellicle |

Constructed Response

29. **Open Ended** Why are there more fossils of diatoms, foraminiferans, and radiolarians than of other algae?
30. **Short Answer** Explain why diatoms must reproduce sexually occasionally.
31. **Short Answer** Explain the relationship between the sporophyte and gametophyte in alternation of generations.

Think Critically

32. **Analyze** the difference between freshwater algae and marine algae.

- 33. Recognize Cause and Effect** Explain the effects of a marine parasite that kills all phytoplankton.

Section 19.4

Vocabulary Review

Replace the underlined words with the correct vocabulary term from the Study Guide page.

- 34.** A motile organism that consists of many diploid nuclei but no separate cells is a protoplasm.
- 35.** Starving amoeboid cells give off a chemical called arsenic.

Understand Key Concepts

- 36.** Acellular slime molds have many nuclei, but what structure do they not have?
- chromosomes
 - spores
 - separate cells
 - cilia
- 37.** Which is present in the life cycle of water molds in a flagellated form?
- nuclei
 - plasmodia
 - pseudopods
 - reproductive cells

Constructed Response

- 38. Short Answer** Compare and contrast a water mold and a cellular slime mold.
- 39. Open Ended** Describe some environmental conditions that might lead to the production of spores by an acellular slime mold.

Think Critically

- 40. Analyze and Conclude** During the multinucleated plasmodial stage, could acellular slime molds be classified as multicellular organisms? Explain your reasoning.

Additional Assessment

- 41. WRITING in Biology** Choose one protist and help it “evolve” by determining a new organelle or structure that is going to develop. How will this new condition affect the protist? Will this change increase or decrease the chance of survival?



Document-Based Questions

The text below describes a new detection method for finding microscopic organisms in water sources.

The protozoans *Giardia lamblia* and *Cryptosporidium parvum* are major causes of waterborne intestinal diseases throughout the world. A very sensitive detection method was developed using the DNA amplification procedure—polymerase chain reaction. This procedure can detect the presence of incredibly small amounts of these pathogens—as little as a single cell in two liters of water.

Data obtained from: Guy, et al. 2003. Real-time PCR for quantification of *Giardia* and *Cryptosporidium* in environmental water samples and sewage. *Applications of Environmental Biology* 2003 69(9): 5178-5185.

- 42.** Explain how this detection method might be used by municipal water departments.
- 43.** Analyze the significance of this research for global human health concerns especially in remote regions of the world.
- 44.** Predict how this detection method might be used to monitor the level of organisms that cause red tides.

Cumulative Review

- 45.** Point out how meiosis provides genetic variety. (Chapter 10)
- 46.** Sketch a branching diagram that explains evolution of hominoids from genus *Proconsul* to genus *Homo*. (Chapter 16)
- 47.** Pick the traits you would use to make a key for classifying the kingdoms. Describe why you chose the characteristics on the list. (Chapter 17)