

CHAPTER REVIEW

CONTENT REVIEW

Multiple Choice

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

- All protists are
 - solitary.
 - colonial.
 - motile.
 - eukaryotic.
- Which organism causes malaria?
 - Paramecium*
 - Trypanosoma*
 - Plasmodium*
 - Euglena*
- Short hairlike projections that produce movement in certain protists are
 - cilia.
 - pseudopods.
 - flagella.
 - microtubules.
- Diatoms belong to the phylum
 - Ciliophora.
 - Chrysophyta.
 - Pyrrophyta.
 - Myxomycota.
- Which of the following organisms are not placed in the phylum Sarcodina?
 - amebas
 - radiolarians
 - heliozoans
 - flagellates
- A euglena moves by means of
 - pseudopods.
 - cilia.
 - spores.
 - flagella.
- Which organism is not associated with a disease in humans?
 - Trichonympha*
 - Entamoeba*
 - Trypanosoma*
 - Plasmodium*
- A paramecium excretes excess water through the
 - gullet.
 - trichocysts.
 - contractile vacuole.
 - micronucleus.

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.

- Red tides are caused by dinoflagellates.
- Cellular slime molds produce plasmodia.
- Animallike protists make up a considerable part of the phytoplankton.
- During conjugation, paramecia exchange macronuclei.
- Sporozoans use pseudopods to move.
- In some protists, the cell membrane and associated structures make up the flagellum.
- A paramecium uses flask-shaped structures called contractile vacuoles for defense.
- Some species in the phylum Pyrrophyta are luminescent.

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.

- dinoflagellate, diatom, ameba, euglena
- macronucleus, micronucleus, flagella, cilia
- red tide, malaria, African sleeping sickness, amebic dysentery
- sporozoan, foraminifer, radiolarian, heliozoan

- B. Replace the underlined word or words in each sentence with a term from the list below.
- Flexible shape of the cell.
 - Slime rocks are made of organic material.
 - The old eukaryotic cell theory.
 - Diatom small p surface area.

CONCEPTS

Use your understanding of the following concepts to answer the questions.

- What is the function of the contractile vacuole in a paramecium?
- Are the cilia of a paramecium similar to the cilia of a funguslike protist? Explain your answer.
- Why are diatoms important to toothpaste?

CRITICAL THINKING

Discuss each of the following questions.

- Developing** a new antibiotic. A scientist observes that a certain antibiotic kills many protists. The scientist then tests the antibiotic on various protists. The results are affected.



Protist Be
Exposure
Antibiotic

B. Replace the underlined definition with the correct vocabulary word.

5. Flexible, active cells without cell walls, flagella, cilia, and even a definite shape engulf prey by using pseudopods.
6. Slime molds are heterotrophic organisms that feed on dead or decaying organic material.
7. The oldest fossils of members of the kingdom that consists of unicellular eukaryotic organisms are about 1.5 billion years old.
8. Diatoms, chrysophytes, and euglenophytes are an important part of the small photosynthetic organisms that are found in great numbers near the surface of the ocean.

CONCEPT MASTERY

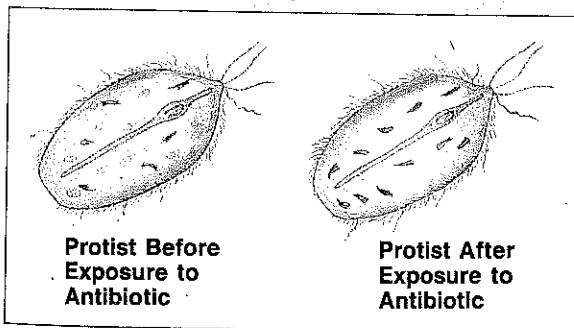
Use your understanding of the concepts developed in the chapter to answer each of the following in a brief paragraph.

1. What is the significance of the Endosymbiont Hypothesis?
2. Are the categories animallike, plantlike, or funguslike useful in classifying protists? Explain your answer.
3. Why are diatom shells often used in toothpaste and reflective paint?
4. Explain why protists are difficult to classify.
5. Make a table that contains the following information about each protist phylum: Name of Phylum; Animallike or Plantlike; Representative Members; Means of Locomotion; Relationships with Other Organisms.

CRITICAL AND CREATIVE THINKING

Discuss each of the following in a brief paragraph.

1. **Developing a hypothesis** A scientist observes that termites that are fed a certain antibiotic die of starvation after a few days. The scientist also notices that certain protists that live inside the termite's gut are affected by the antibiotic in a peculiar



- way: Although the protists continue to thrive, they lose a certain kind of structure in their cytoplasm. Develop a hypothesis to explain these observations.
2. **Relating cause and effect** How might water pollution result in a red tide?
 3. **Making predictions** Growing "holes" in the Earth's ozone layer may increase the amount of radiation that reaches the surface of the ocean. If this radiation were to affect the growth of phytoplankton, what long-term consequences might this have on the Earth's atmosphere?
 4. **Using the writing process** Imagine that you could shrink down to microscopic size and fit inside a paramecium. Describe the adventures you and the paramecium have in a small pond one summer day.