Name _____ Class _____ Date _____

SECTION 20-1 REVIEW

THE KINGDOM PROTISTA

VOCABULARY REVIEW Define the following terms.

1. Protista _____

_____

2. **protist** _____

_____

3. prokaryote _____

_____

4. eukaryote _____

_____

5. *Spirogyra* _____

_____

MULTIPLE CHOICE Write the correct letter in the blank.

_____ 1. Protists are members of the kingdom

a. Animalia. b. Plantae. c. Fungi. d. Protista.

_____ 2. One characteristic that is not found in any protist is

a. decomposer. b. flight. c. photosynthesis. d. parasitism.

_____ 3. According to the biologist Lynn Margulis, eukaryotic cells may have evolved from

a. a symbiosis of many prokaryotic cells.
b. chloroplasts that grew very large.
c. mitochondria that grew very large.
d. plants, animals, and fungi.

_____ 4. A protist is any organism that is not a plant, an animal, a fungus, or a(n)

a. eukaryote.
b. prokaryote.
c. eubacterium.
d. archaebacterium.

_____ 5. Protists are thought to have evolved from

a. early viruses.
b. early prokaryotes.
c. green algae.
d. modern fungi.

Name _____ Class _____ Date _____

SHORT ANSWER Answer the questions in the space provided.

1. What is a protist? (p.497)_____

_____

2. Why are some organisms that consist of thousands of cells considered to be protists? (p497)_____

_____

_____

3. What three categories are used to group protists by their method of obtaining food? (p.498)_____

_____

Complete the table below about protist classification.

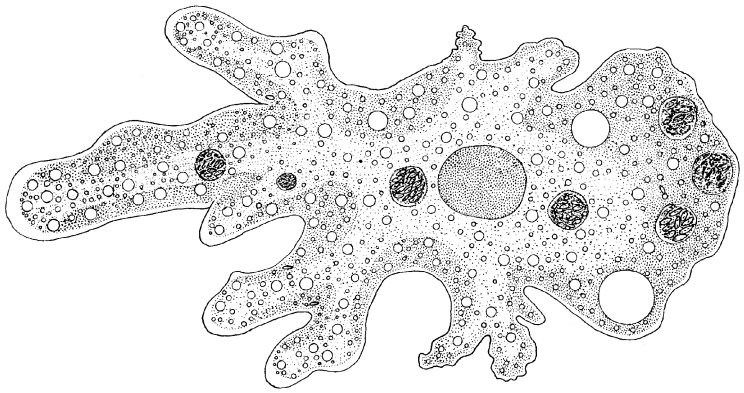
Group	Method of Obtaining Food
	Consume other organisms for nourishment
Plant-like	
Fungus-like	

4. Why is it easier to define protists by what they are not, rather than by what they are? (p.497)_____

_____

_____

STRUCTURES AND FUNCTIONS Use the diagram below to answer the following questions about the amoeba. (p.500)



1. Is this organism a single-celled or multicellular organism? _____

2. Is this organism a prokaryote or a eukaryote? _____

3. Can you tell if it is animal-like, plant-like, or fungus-like? _____

Name _____ Class _____ Date _____

SECTION 20-2 REVIEW

ANIMAL-LIKE PROTISTS: PROTOZOANS

VOCABULARY REVIEW **define the following terms.**

1. **food vacuole, contractile vacuole** _____

_____

2. **gullet, anal pore** _____

_____

3. **macronucleus, micronucleus** _____

_____

4. **cilia, pseudopodia** _____

_____

MULTIPLE CHOICE **Write the correct letter in the blank.**

_____ 1. Amoebas move by means of

a. cilia.
b. pseudopodia.
c. flagella.
d. They are incapable of moving.

_____ 2. Which of the following is formed from the shells of dead foraminiferans?

a. White Cliffs of Dover
b. igneous rock
c. lava
d. diamonds

_____ 3. Conjugation in a *Paramecium* involves

a. mitosis and cytokinesis.
b. the exchange of macronuclei between two individuals.
c. the exchange of micronuclei between two individuals.
d. the exchange of macronuclei and micronuclei between two individuals.

_____ 4. One disease caused by a zooflagellate is

a. AIDS.
b. the flu.
c. African sleeping sickness.
d. the common cold.

_____ 5. Most species in the phylum Sporozoa are

a. aquatic and move by using cilia.
b. terrestrial and move by extending pseudopodia.
c. parasitic and do not move on their own.
d. free-living and reproduce only asexually.

Name _____ Class _____ Date _____

SHORT ANSWER Answer the questions in the space provided.

1. How have foraminiferans and radiolarians contributed to the formation of sedimentary layers on the ocean floor? (p.500)_____

2. Describe the process of feeding and digestion in a paramecium. (p.502)_____

_____

_____

3. Name a human diseases caused by a protozoan that can cause sever diarrhea and digestive problems? This protozoan can be found living in freshwater streams and lakes in Montana. (p.5040_____

_____

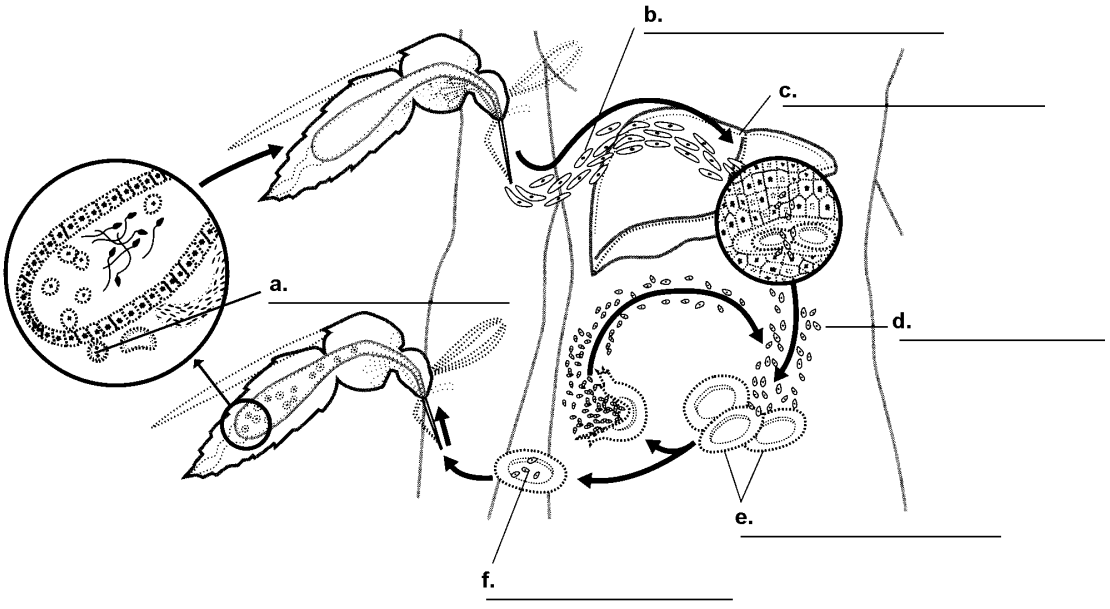
4. Although the protozoans that cause malaria are nonmotile, they parasitize two hosts during their life cycle. How do they accomplish this? (pp.502-503)_____

_____

_____

5. What characteristic is used to classify protozoans into their four traditional phyla? (p.499)_____

STRUCTURES AND FUNCTIONS Identify the structures labeled *a* - *f* in the diagram of the life cycle of the malarial parasite *Plasmodium* shown below. Use the following terms: sporozoites, merozoites, gametocytes, RBCs, liver, and zygote. (pp.502-503)



Name _____ Class _____ Date _____

SECTION 20-3 REVIEW

PLANT-LIKE PROTISTS: UNICELLULAR ALGAE

VOCABULARY REVIEW **Define the following terms.**

1. **accessory pigment** _____

_____

2. **phytoplankton** _____

_____

3. algae _____

_____

4. algae bloom _____

_____

5. red tide _____

_____

MULTIPLE CHOICE **Write the correct letter in the blank.**

_____ 1. Algae differ from other protists in that they are

a. heterotrophic.
b. photosynthetic.
c. always multicellular.
d. always unicellular.

_____ 2. As sunlight passes through sea water, the sea water

a. absorbs large amounts of red and violet light.
b. reflects large amounts of red and violet light.
c. absorbs large amounts of blue light.
d. All of the above are correct.

_____ 3. An algal bloom is

a. the clouding of water by sewage.
b. a poisonous condition called red tide.
c. an overpopulation of algae growth.
d. a symbiotic relationship between coral and algae.

_____ 4. The population of small, photosynthetic organisms found near the surface of a body of water are called

a. chrysophytes. b. pyrrophytes. c. diatoms. d. phytoplankton.

_____ 5. Which substances allow algae to harvest and use the energy from sunlight?

a. cilia and fucoxanthin.
b. phycobilin and flagella.
c. chlorophyll and accessory pigments.
d. pellicle and eyespot.

Name _____ Class _____ Date _____

SHORT ANSWER Answer the questions in the space provided.

1. Name two ways that phytoplankton is important to other organisms. (p.509)_____

   _____

   _____

2. What is the function of chlorophyll and accessory pigments in algae? (p.506)_____

   _____

   _____

3. How do dinoflagellates obtain nutrition? (p.508)_____

   _____

   _____

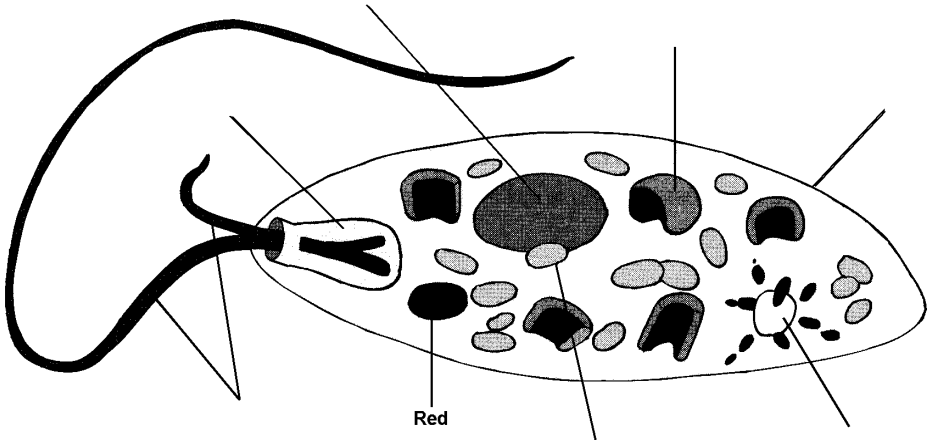
4. Diatoms are one of the most abundant algae in the world. Discuss their shape and the components that make up their cell walls. (p.507)_____

   _____

5. Why is it so difficult to classify the euglena strictly as an algae? (p.507)_____

   _____

STRUCTURES AND FUNCTIONS Label the illustration of a euglena. Use the following terms: nucleus, eyespot, contractile vacuole, chloroplasts, pellicle, gullet, carbohydrate storage body, and flagella. (p.507)



Name _____ Class _____ Date _____

SECTION 20-4 REVIEW

PLANT-LIKE PROTISTS: RED AND GREEN ALGAE

VOCABULARY REVIEW Define the following terms.

1. **phycobilin** _____

_____

2. **spore** _____

_____

3. **alternation of generations** _____

_____

4. **filament** _____

_____

MULTIPLE CHOICE Write the correct letter in the blank.

_____ 1. The wide range of colors in algae depends upon the presence of

a. chlorophyll a and b.
b. chlorophyll a and d.
c. chlorophyll a and c.
d. accessory pigments.

_____ 2. What characteristics do green algae share with plants?

a. photosynthetic pigments and cell wall composition
b. photosynthetic and accessory pigment composition
c. accessory pigments and cell wall composition
d. accessory pigments and cell membrane composition

_____ 3. What very large brown algae lives off the coasts of North America?

a. giant kelp b. sea lettuce c. rockweed d. *Spirogyra*

_____ 4. The switching back and forth between a diploid and haploid stage in a life cycle is called

a. fusion of opposite mating types.
b. alternation of generations.
c. sexual reproduction.
d. asexual reproduction.

_____ 5. An example of a multicellular green algae is

a. *Ulva*. b. *Spirogyra*. c. *Chlamydomonas*. d. *Volvox*.

Name _____ Class _____ Date _____

SHORT ANSWER Answer the questions in the space provided.

1. What are seaweeds? (p.510)_____

   _____

2. Which phylum contains algae that can live at greater ocean depths than other algae? (p.510)_____

   What color of light do these algae use for photosynthesis? _____

   _____

3. List the various body forms that green algae can have. (p.512)_____

   _____

4. List three environments in which green algae can be found. (p.511)_____

   _____

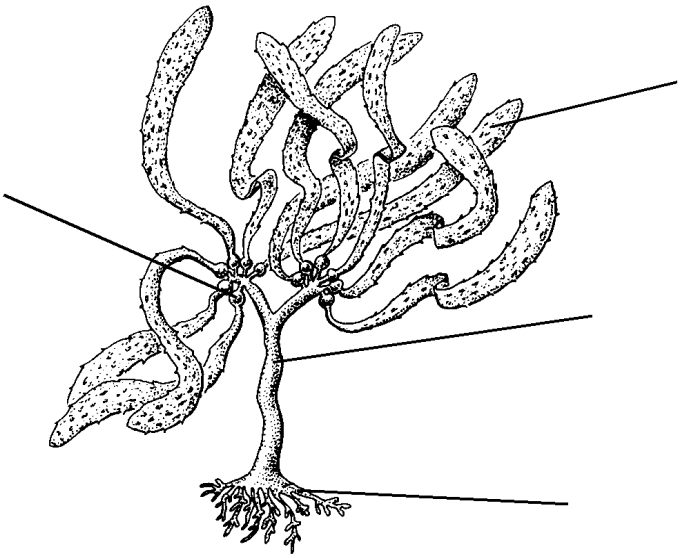
5. Why have algae been called "grasses of the sea"? (p.515)_____

   _____

6. What is the compound agar derived from, and how is it used? (p.515)_____

   _____

STRUCTURES AND FUNCTIONS Label each part of the figure in the spaces provided. The drawing below is a brown alga. Use the following terms: stipe, holdfast, bladder, and blade. (p.511)



Name _____ Class _____ Date _____

SECTION 20-5 REVIEW

FUNGUS-LIKE PROTISTS

VOCABULARY REVIEW Define the following terms.

1. **cellular slime mold** _____

_____

2. **acellular slime mold** _____

_____

3. **plasmodium** _____

_____

4. **antheridium** _____

_____

5. **oogonium** _____

_____

MULTIPLE CHOICE Write the correct letter in the blank.

_____ 1. What do slime molds have that fungi do not

a. cell walls
b. chlorophyll
c. centrioles
d. chitin

_____ 2. Slime molds are typically found

a. in moist rotting wood or compost piles.
b. in fast moving streams.
c. near the surface of the ocean.
d. in deserts.

_____ 3. A plasmodial slime mold will generally form a fruiting body when

a. its host dies.
b. the plasmodium becomes too large.
c. the environment becomes too cold.
d. food or water is scarce.

_____ 4. The thin filaments produced by water molds are

a. oogonia. b. antheridia. c. zoosporangia. d. hyphae.

_____ 5. Separate sperm-containing and egg-containing structures are produced by protists in the phylum

a. Acrasiomycota. b. Myxomycota. c. Oomycota. d. Chordata.

Name _____ Class _____ Date _____

SHORT ANSWER Answer the questions in the space provided.

1. What is the primary difference between cellular slime molds and acellular slime molds? (pp.516-518)

   _____

   _____

2. Why is it difficult to classify cellular slime mold as a unicellular or multicellular organism? (p.517)_____

   _____

   _____

3. What may be the end result in terrestrial and aquatic ecosystems if all decomposers, including slime molds and water molds, no longer existed? (p.519)_____

   _____

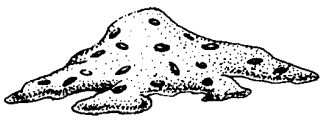
4. What produced the Great Potato Famine of 1846 and ultimately, what was the results of this historical event? (p.520)_____

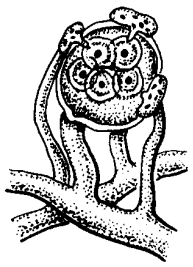
   _____

5. How are fungus-like protists like true fungi? (p.516)_____

   _____

STRUCTURES AND FUNCTIONS Name the fungus-like protists represented by each of the drawings below. Use the following terms: water mold, cellular slime mold, and acellular slime mold. (pp.517-519)





- Mass of cytoplasm many nuclei

a. _____

- Fertilization tubes between antheridia and oogonia

b. _____

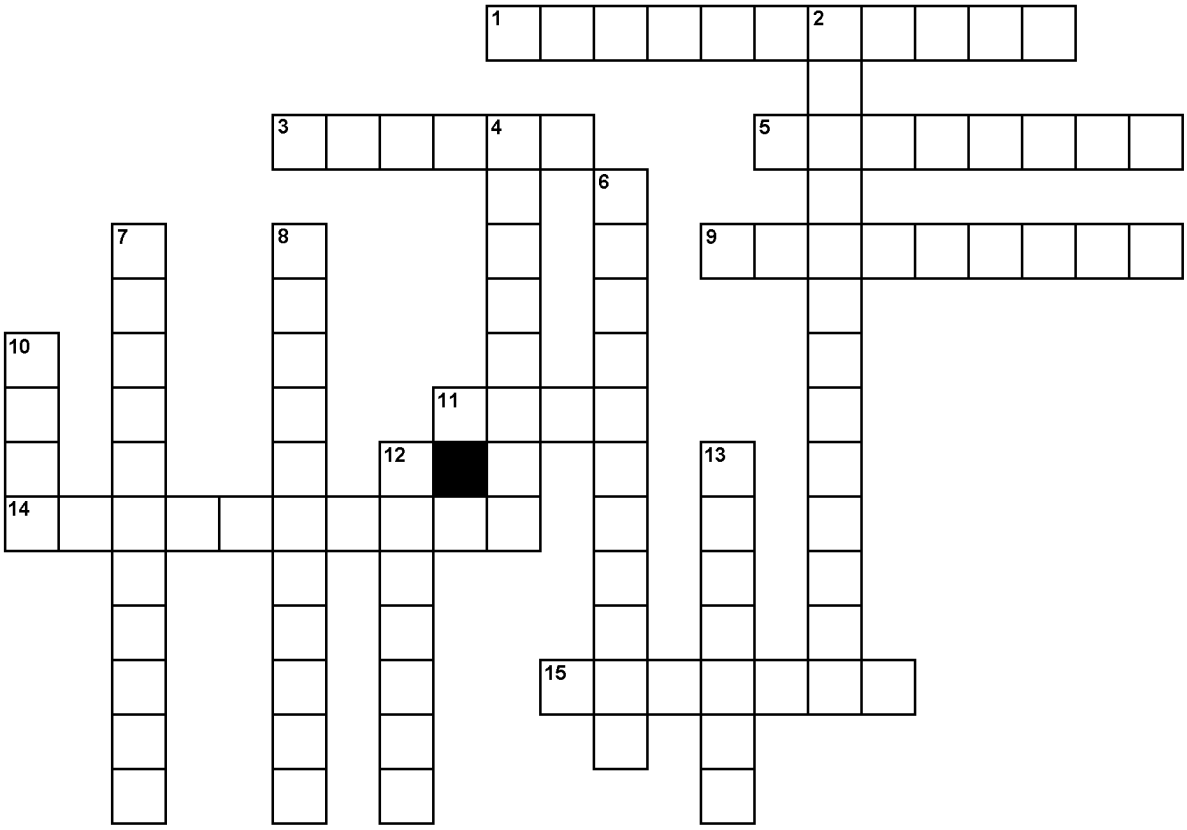
- Slug-like colony of many cells

c. _____

Name _____ Class _____ Date _____

VOCABULARY - CHAPTER 20

The crossword puzzle is a simple way to master some of the more important vocabulary terms in this chapter.



Across

1. all algae contain the pigment _____ "a" and some other accessory pigment
3. a spherical, colonial green algae
5. a starch forming structure in some algae
9. asexual reproductive spores that have flagella and are capable of movement
11. red _____ results from an overpopulation of a type of algae in the phylum Dinoflagellata
14. the relatively large, multinucleated cell body of an acellular slime mold
15. a flagellated, unicellular algae that lacks a cell wall; may be autotrophic or heterotrophic

Down

2. the photosynthetic, unicellular algae that serve as the first link in an aquatic food chain
4. a cell that produces an egg in some types of water molds
6. a cell that produces sperm in some water molds
7 brown algae contain an accessory pigment called _____
8. the phylum representing green algae
10. a brown algae that may grow to lengths of 60m; it is called Giant _____
12. _____ are unlike other algae in that they have shells made of silicon dioxide (SiO_2)
13. the body form of algae which may be single, spherical, filamentous, or a multicellular form

The following terms are **not** found in this chapter. Use a reference source and look up their meaning: **pyrenoid**, **zoospores, and thallus**.