

# VIRUSES AND MICROORGANISMS

Name \_\_\_\_\_

Section 15.1 Viruses

*In your textbook, read about the structure of viruses.*

**Complete the table by writing a word that describes the shape of the virus.**

Virus	Shape
1. polio	
2. AIDS	
3. bacteriophage	
4. tobacco mosaic	

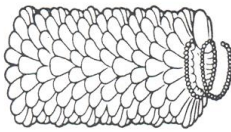
Use the information in the table above to identify the viruses shown below. Use these choices:

AIDS

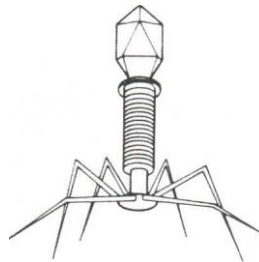
tobacco mosaic

bacteriophage

5 6.



7.



8. Order the steps for the lytic viral reproductive cycle from 1-5. Order the steps of the lysogenic cycle from 1-3.

**Lytic Cycle**

- \_\_\_\_\_ Replication
- \_\_\_\_\_ Attachment
- \_\_\_\_\_ Lysis and release
- \_\_\_\_\_ Assembly
- \_\_\_\_\_ Entry

**Lysogenic Cycle**

- \_\_\_\_\_ Provirus formation
- \_\_\_\_\_ Cell divides
- \_\_\_\_\_ Attachment and entry

## VIRUSES AND MICROORGANISMS

Section 15.2 Kingdom Monera

*In your textbook, read about the characteristics of bacteria.*

**Complete each statement.**

1. Monerans are \_\_\_\_\_ because they have no true nucleus.
2. \_\_\_\_\_ help protect the bacterium and help maintain osmotic balance between the bacterium and its environment.
3. A \_\_\_\_\_ may surround some bacteria, further protecting a bacterium
4. A typical bacterium may be shaped like a \_\_\_\_\_, a \_\_\_\_\_, or a \_\_\_\_\_.
5. A bacterium reproduces by a form of asexual reproduction known as \_\_\_\_\_.

*In your textbook, read about nutrition in true bacteria.*

**Complete the table by checking the correct column for each type or trait.**

True Bacteria				
	Type or Trait	Heterotroph	Photosynthetic Autotroph	Chemosynthetic Autotroph
6.	blue-green bacteria			
7.	saprophytes			
8.	trap energy released from the breakdown of inorganic materials			
9.	use light to obtain energy			
10.	parasites			
11.	absorb nourishment from their surroundings			

*In your textbook, read about nutrition in ancient bacteria.*

**Give an example of an environment in which each group of ancient bacteria could live.**

12. Methane-producing
13. Salt-loving
14. Heat- and acid-loving

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Section 15.3 Kingdom Protista

*In your textbook, read about plantlike protists: the algae.*

**For each item in Column A, write the letter of the matching item in Column B.**

### Column A

- \_\_\_\_\_ 1. phylum of algae that includes the unicellular *Chlamydomonas* and the multicellular *Spirogyra*
- \_\_\_\_\_ 2. a commercial source of iodine
- \_\_\_\_\_ 3. most common form, diatoms, are the source of diatomaceous earth, an abrasive
- \_\_\_\_\_ 4. pigments in this phylum of algae allow it to photosynthesize at great ocean depths
- \_\_\_\_\_ 5. unicellular algae that have plantlike and animal-like traits

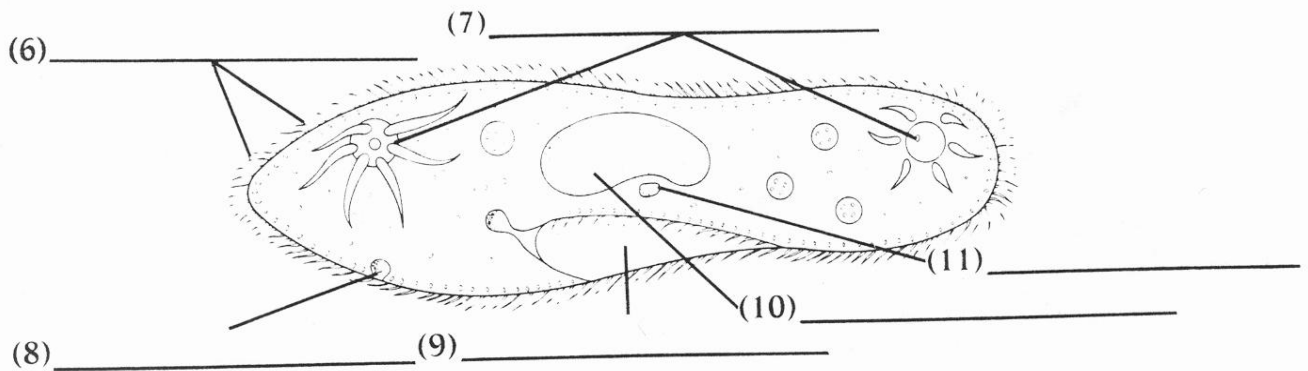
### Column B

- a. euglenoids
- b. red algae
- c. brown algae
- d. green algae
- e. golden algae

*In your textbook, read about animal-like protists: the protozoans.*

**Label the parts of the paramecium. Use these choices:**

**macronucleus    micronucleus    oral groove    cilia    anal pore    contractile vacuoles**



12. Use the following colors to shade in the paramecium diagram.

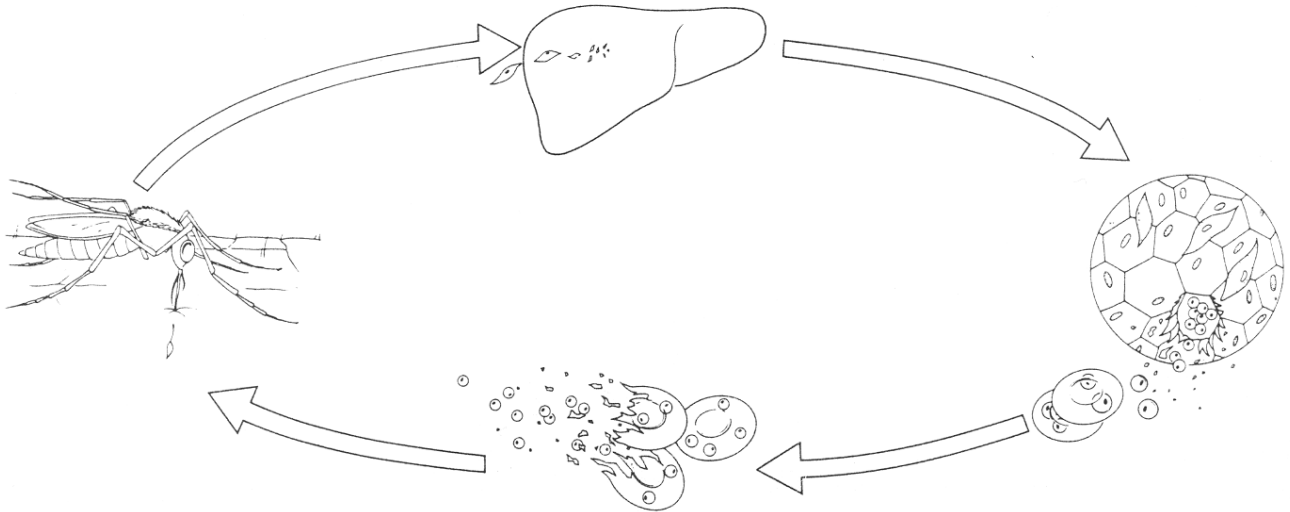
- a. yellow, for part(s) that sweep food into the cell
- b. blue, for part(s) that pump water out of the cell
- c. red, for part(s) from which undigested wastes leave the cell
- d. green, for part(s) that control the cell's metabolism

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## Section 15.3 Kingdom Protista continued

Sporozoans of the genus *Plasmodium* are responsible for causing malaria. Examine the diagram. Label the steps in the transmission of malaria from 1-4



- \_\_\_\_\_ Infected liver cells burst, releasing *Plasmodium* cells. *Plasmodium* then infects red blood cells.
- \_\_\_\_\_ *Plasmodium* spores travel to liver and infect liver cells.
- \_\_\_\_\_ Infected red blood cells burst, releasing toxins into the bloodstream.
- \_\_\_\_\_ Mosquito injects saliva containing *Plasmodium* spores into a healthy human.

your textbook, read about funguslike protists.

Circle the letter of the choice that best completes the statement.

1. Funguslike protists are all
  - a. autotrophs.
  - b. slime molds..
  - c. heterotrophs
  - d. unicellular.
2. A slime mold would most likely be found
  - a. near rotting wood piles or compost.
  - b. along the forest floor or beside a pond.
  - c. in a forest or field.
  - d. in the ocean or in another body of water.
3. Some species of slime molds begin their life cycle as masses with many nuclei, called
  - a. amoebae.
  - b. decomposers.
  - c. spores.
  - d. plasmodia.
4. At different stages in its life cycle, a slime mold may resemble
  - a. fungi and more complex organisms.
  - b. fungi and protozoans.
  - c. protozoans and ,monerans.
  - d. fungi, protozoans, and viruses.

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Section 15-4 Kingdom Fungi

*In your textbook, read about the Kingdom Fungi.*

**Complete each statement.**

1. Some fungi, like \_\_\_\_\_, are foods that you eat; whereas others, like \_\_\_\_\_, eat the food that you want to eat.
  
2. Many fungi play an important role in nature by \_\_\_\_\_  
\_\_\_\_\_
  
3. Like plants, fungi are \_\_\_\_\_; like animals, they are \_\_\_\_\_

*In your textbook, read about zygote, club, and sac fungi.*

Complete the table by checking the correct column for each sexual structure.

Classification of Fungi				
Sexual Structure		Zygote	Club	Sac
4.	ascus			
5.	basidium			
6.	zygospore			

For each answer given below, write an appropriate question.

7. Answer: Mushrooms, shelf fungi, and rusts are some of the members of this phylum.

Question:

8. Answer: This member of the sac fungi phylum is unicellular and lacks hyphae.

Question:

9. Answer: They are the hyphae that anchor zygote fungi to their food source.

Question:

*In your textbook, read about lichens.*

For each statement below, write true or false.

\_\_\_\_\_ 10. A lichen consists of a fungus and a green organism.

\_\_\_\_\_ 11. A lichen is an example of a living arrangement based on parasitism.

\_\_\_\_\_ 12. Lichens can help/create soil.

## VIRUSES AND MICROORGANISMS

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Chapter 15 vocabulary

*Review the new words in Chapter 15 of your textbook.*

**Match the definition in Column A with the correct term in Column B.**

### Column A

- \_\_\_\_\_ 1. Binary fission
- \_\_\_\_\_ 2. Type of virus that transcribes RNA into DNA
- \_\_\_\_\_ 3. Bacterium that feeds on dead organisms or organic wastes
- \_\_\_\_\_ 4. Early stage of slime molds
- \_\_\_\_\_ 5. Structure in which the sexual spores of club fungi are formed
- \_\_\_\_\_ 6. Protective state that helps bacteria survive unfavorable conditions
- \_\_\_\_\_ 7. Filament out of which most fungi are made
- \_\_\_\_\_ 8. Type of organism that lives in or on another organism
- \_\_\_\_\_ 9. Symbiotic relationship between two organisms beneficial to both
- \_\_\_\_\_ 10. Mat of filaments in a fungus
- \_\_\_\_\_ 11. Part of plasma membrane used by amoebae to move and feed
- \_\_\_\_\_ 12. Type of viral DNA that integrates into the chromosome of a host cell
- \_\_\_\_\_ 13. Filament anchoring a fungus to a food source
- \_\_\_\_\_ 14. Process by which a virus uses a host cell's metabolism to reproduce itself

### Column B

- a. lytic cycle
- b. pseudopodium
- c. provirus
- d. mycelium
- e. retrovirus
- f. basidium
- g. plasmodium
- h. mutualism
- 1. endospore
- j. hypha
- k. saprophyte
- l. rhizoid
- m. parasite
- n. asexual reproduction