
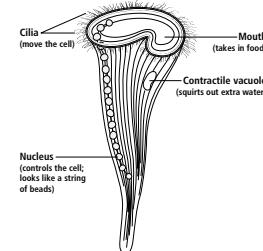


# Observing Microorganisms (continued)

Name \_\_\_\_\_ Date \_\_\_\_\_

**Stentor** STUDENT RESOURCE 1.5  
ACTIVITY SHEET 

Stentors are one-celled protozoans. A stentor can retract its body into a ball to hide. Look for a blue-green ball or a trumpet shape. When you see a stentor, look for the structures shown in the diagram.



**Movement** A stentor moves by beating the cilia that cover its body.

**Feeding** A stentor waves the cilia around its mouth and sweeps in food.

**Reproduction** When a stentor gets too large, it divides in half.

**Size** 1 to 2 mm (one of the largest protists)

**Answer the following question.**  
Green photosynthetic algae often live inside stentors. How could this help a stentor?

The stentor wouldn't have to find food because the \_\_\_\_\_  
algae would make food.

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### 3. Describe how microorganisms move.

Remind students that they will be looking at one cell that moves. Write the words cilia, 'false feet', and flagella on the board. Describe how each method moves the one-cell organism through the water. Cilia are like the hairs covering a dog, only each hair can move in any direction. Flagella are like a whip moving quickly. 'False feet', or pseudopods, are part of the cell membrane that stretches away from the cell with the insides flowing with it to move slowly to a new place.

### 4. Students view the microorganisms.

Circulate around the room as students visit the stations. Help students who are having trouble using a microscope. If euglena or paramecium slides cannot be focused because organisms are moving too quickly, make a new slide and add one drop of slowing agent. Also tell students that they can write notes or make additional drawings on the back of the Resource page.

### 5. Discuss the microorganisms.


Discuss the characteristics of each organism as described on the Resource pages and the answers to the questions. Ask: **What are some differences you noticed among the various microorganisms?** (*Students may suggest differences in size, methods of movement, and ways that the organisms feed.*) Ask: **Which organisms are producers? How did you know?** (*Euglena and volvox produce their own food. They are green.*)



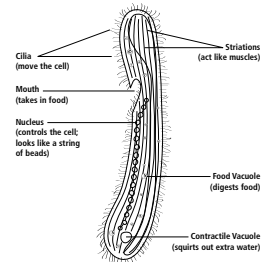
## Assessment

Ask: **What are three structures that microorganisms use for movement?** (*cilia, flagella, and pseudopods*)

Name \_\_\_\_\_ Date \_\_\_\_\_

**Spirostomum** STUDENT RESOURCE 1.6  
ACTIVITY SHEET 

Spirostomum is a one-celled protozoan with a central digestive tube. Look for a long cylinder-shaped cell. When you see a spirostomum, look for the structures shown in the diagram.



**Movement** A spirostomum's body has spiral rows of cilia. The cilia beat back and forth to move the organism with a snake-like wiggling motion.

**Feeding** Beating cilia sweep small organisms into the spirostomum's mouth.

**Reproduction** The organism divides in half. The nucleus splits, too.

**Size** 1 to 3 mm (the largest and most complex one-celled protist)

**Answer the following question.**  
Can a spirostomum make its own food? Explain


No, it does not contain chlorophyll so it cannot make its own food.

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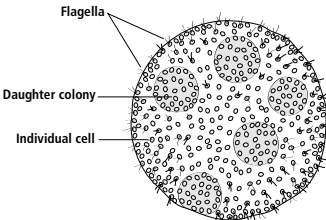
Student Resource 1.6 (p. 16)

# Observing Microorganisms (continued)

Name \_\_\_\_\_ Date \_\_\_\_\_

**Volvox** STUDENT RESOURCE 1.7  
ACTIVITY SHEET 

Volvox are one-celled algae that live together in a colony. The colony is a hollow ball with 500 to 20,000 individual cells. Look for rolling green balls on the slide. When you see a volvox colony, look for the structures shown in the diagram.



**Movement** Each volvox cell has two flagella. The flagella beat together to roll the ball through the water.

**Feeding** Volvox cells have chlorophyll and make their own food by photosynthesis.

**Reproduction** Daughter colonies are small, dark green balls inside the volvox colony. When the daughter colonies mature, the parent ball bursts open and releases the daughter colonies.

**Size** 350 to 500  $\mu\text{m}$  (Two or three volvox cells would fit in 1 mm.)


**Answer the following question.**  
Volvox cells have eyespots that sense light. How do the eyespots help volvox survive?

Volvox cells need light to make their own food by \_\_\_\_\_  
photosynthesis. The eyespots detect light.  
\_\_\_\_\_

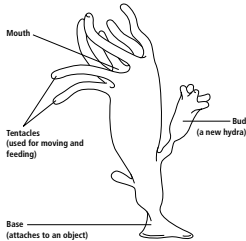
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Name \_\_\_\_\_ Date \_\_\_\_\_

**Hydra** STUDENT RESOURCE 1.8  
ACTIVITY SHEET 

A hydra is a many-celled animal. The cells are in two layers. The inside of the animal is hollow. Look for white stringy objects attached to the sides and bottom of the jar. When you see a hydra on the slide, look for the structures shown in the diagram.



**Movement** A hydra can stay in one place, glide on its base, or somersault using its tentacles.

**Feeding** A hydra stuns small organisms by shooting out stinging cells on its tentacles. Then the tentacles grab the food and stuff it into the mouth.

**Reproduction** A hydra grows a bud of cells on the outside of its body. When the bud develops into a small hydra with tentacles, it falls off and swims away.


**Size** 10 mm

**Answer the following question.**  
Where do you think a hydra digests its food?  
in its hollow body cavity  
\_\_\_\_\_

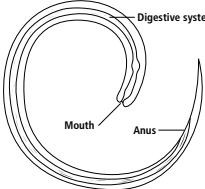
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Name \_\_\_\_\_ Date \_\_\_\_\_

**Vinegar Eels** STUDENT RESOURCE 1.9  
ACTIVITY SHEET 

A vinegar eel is a many-celled animal. Vinegar eels are also called nematodes or roundworms. They are easy to find wiggling in the vinegar culture jar because they are always moving. When you see a vinegar eel on the slide, look for the structures shown in the diagram.



**Movement** A vinegar eel moves with a whip-like motion. Muscles that run along the sides of the worm make the body whip back and forth.

**Feeding** Vinegar eels feed on the acid-loving bacteria that make vinegar from fermented apple juice. Vinegar eels are adapted to living in acid.

**Reproduction** Male vinegar eels produce sperm. Female vinegar eels produce eggs. A sperm and an egg combine and grow into a new vinegar eel.

**Size** 2 mm or larger

**Answer the following question.**  
What is the path of food in a vinegar eel?

Food enters the mouth, travels through the digestive \_\_\_\_\_  
system, and wastes leave through the anus.  
\_\_\_\_\_

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