

KINGDOM PROTISTA

After the microscope was improved scientists were able to see inside living cells. Living cells have parts inside called organelles. Organelles are tiny structures inside cells that help the cell carry out life processes. The most important organelle of most cells is called the **nucleus**. The nucleus can be thought of as the brain of the cell. It **directs the cell's activities**. Cells **with a nucleus** are called **Eukaryotic Cells** and cells **without a nucleus** are called **Prokaryotic Cells**.

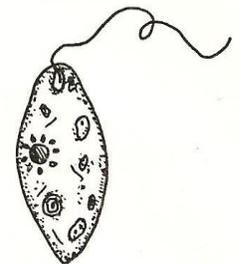
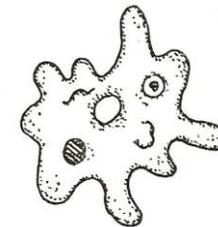
The protists are a kingdom of very simple organisms. Most protists are made up of only one cell. Some are many-celled. Unlike bacteria, all protists have a nucleus so they are Eukaryotic Cells. Some protists live in water. They live in lakes, streams, ponds and in the ocean. Some live in moist soil. Some even live in the bodies of animals.

With its single cell, a protist does everything that you do in order to keep alive. A one-celled protist moves. It eats. It breathes. It excretes wastes. It reproduces. It senses what is going on around it. These are all the functions that all living things must do.

Like other cells, a protist has a cell membrane, cytoplasm, and a nucleus or several nuclei. Because the protist has to do everything with its single cell, there are many other structures within the cell as well.

Read the descriptions of the protists below. Match them with the pictures. Write the name of the protist on the line.

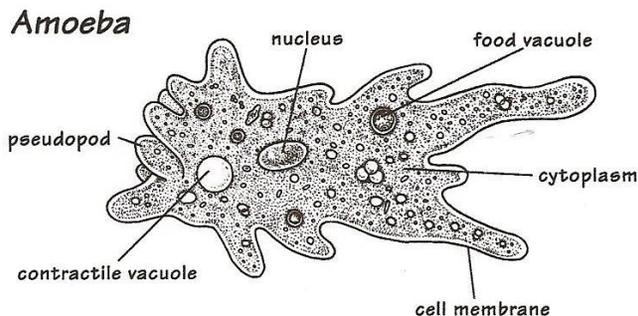
- The **euglena** has a whip like structure to help move in the water.
- The **paramecium** is slipper shaped and has short hairs to it move in the water.
- The **amoeba** looks like a blob of jelly.



The amoeba has no definite shape and no cilia. It moves by stretching out **pseudopods** or “false feet” and flowing into them. This shapelessness helps the amoeba eat. The amoeba flows around bacteria, smaller protists, or small plants. Then it encloses the food in a vacuole and digests it.

What structure does an amoeba use to move?

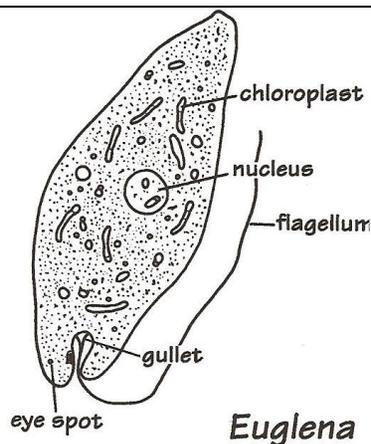
What structure does an amoeba use to capture food?



The euglena swims by twirling a long whip called a **flagellum** that stretches out in front and pulls it through the water. The protist is very colorful. It has green **chloroplasts** just like a plant cell. With these chloroplasts it can make its own food. It also has a red **eyespot** that helps it detect light.

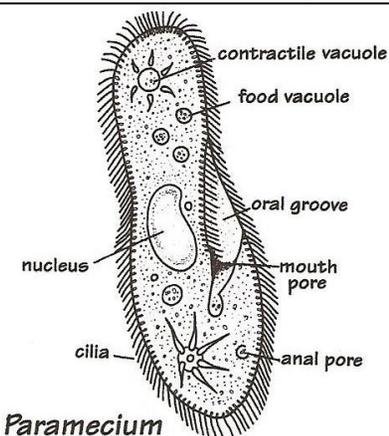
What structure does a euglena use to move?

What structure does a euglena use to make food?



Paramecium is one of the most common protists. Look at the picture to the right and find the tiny little hairs called **cilia**. It swims with the cilia. It also spins, bends and flops around.

Paramecia also eat with their cilia. They sweep food into their mouth opening and into bubbles called vacuoles. The food is digested in these vacuoles. Then the vacuole bursts and the wastes pass out. Notice the star-shaped vacuoles. They are called contracting vacuoles. They fill with water and then squeeze the water out.



PROTISTA REVIEW

Based on the reading, choose the best answer to each question.

- What does a nucleus do?
 - Directs cell activities.
 - Carries food for the cell.
 - Gets rid of waste materials.
 - Makes oxygen.
- Which of the following functions do all organisms carry out?
 - They make their own food.
 - They must get rid of waste material.
 - They must hunt and chase their food.
- How are the amoeba, paramecium, and euglena similar?
 - They all move the same way.
 - They all get their food the same way.
 - They are all made of a single cell.
- How is the euglena different from the paramecium?
 - It can make its own food.
 - It can move.
 - It can get rid of waste materials.
- Which of the following structures is NOT used for movement?
 - Cilia
 - Flagellum
 - Chloroplast

Fill in the information comparing protists and humans.

How does it eat?

Paramecium:	Human:
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How does it sense light?

Euglena:	Human:
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Color coding organelles – follow the directions to correctly color the parts of the protists.

- Color the **nucleus** in each of the protists **purple**.
- Any **food vacuoles** should be colored **brown**.
- Use a highlighter to mark each protist’s part for moving (amoeba = **pseudopod**, euglena = **flagellum**, paramecium = **cilia**).
- The euglena has **chloroplasts** to make its own food; color them **green**. The **eyespot** should be **red**.
- Color the **contractile vacuoles** in the amoeba and paramecium **orange**.

