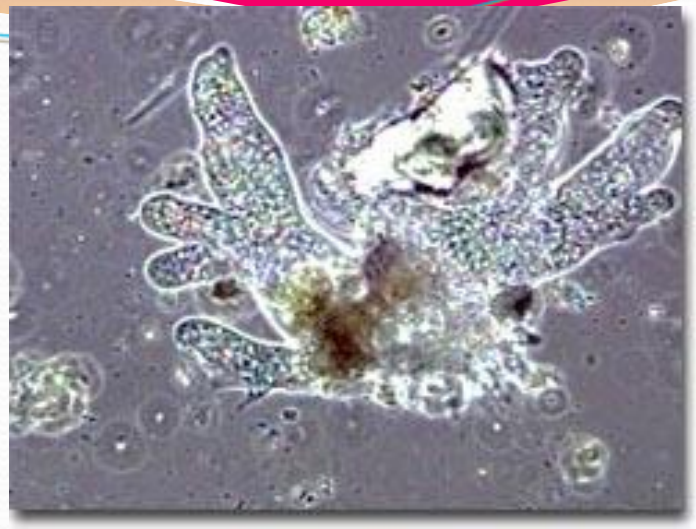
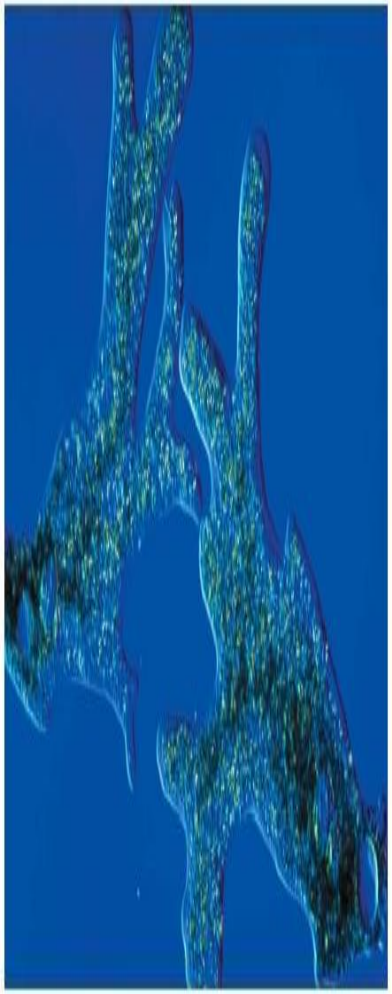


PROTISTS

The World of Amoeba, Euglena, and Paramecium Cells

Kingdom Protista Common Characteristics:

- Usually single celled organisms
- Live in moist environments
- Vary in how they move & obtain energy
  - Eukaryotic–Have a nucleus



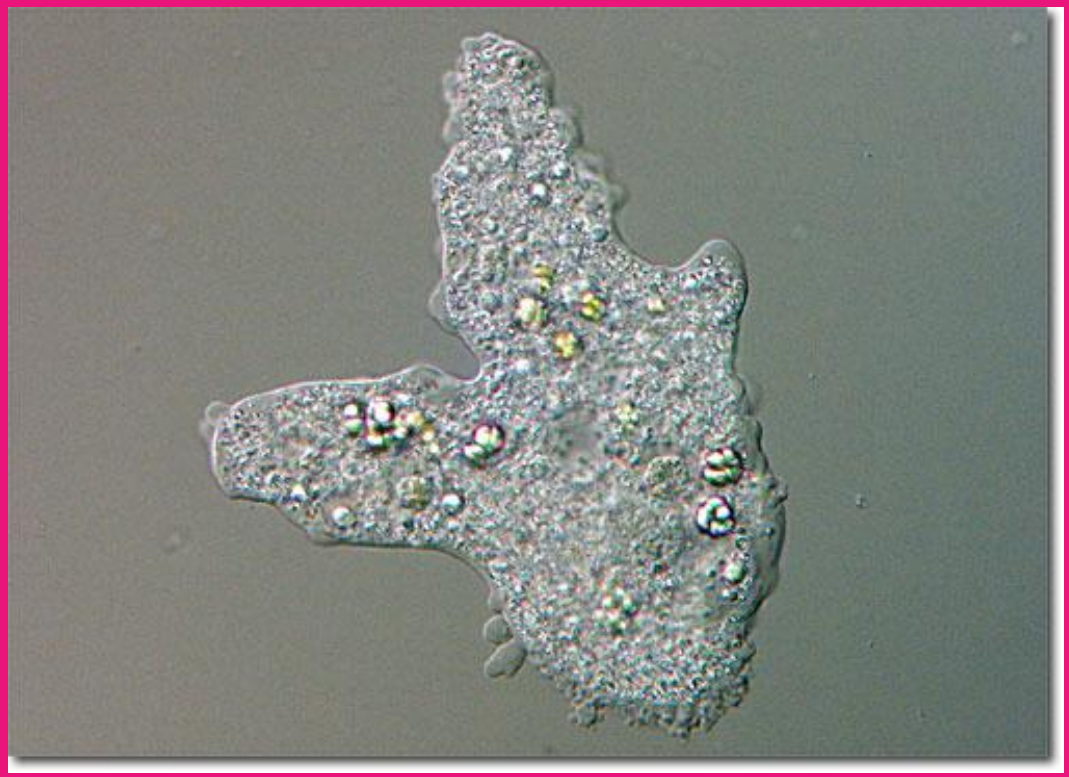
Obtaining Energy-Can be autotrophic or heterotrophic

Animal-like: capture or trap food

Plant-like: produce food through photosynthesis

Fungus-like: external digestion as decomposers or parasites

Amoeba



Amoebas are single-celled organisms

They live in water, including lakes, ponds, streams, rivers, and puddles.

Special features of the Amoeba

- They spend most of their time attached to the bottom or to plants.
- All the amoebas of the same species will unattach from the bottom or plants and float around until they land in a new place and re-attach
- Amoebas are helpful when they control algae in ponds, lakes, and streams.

How does the Amoeba move?

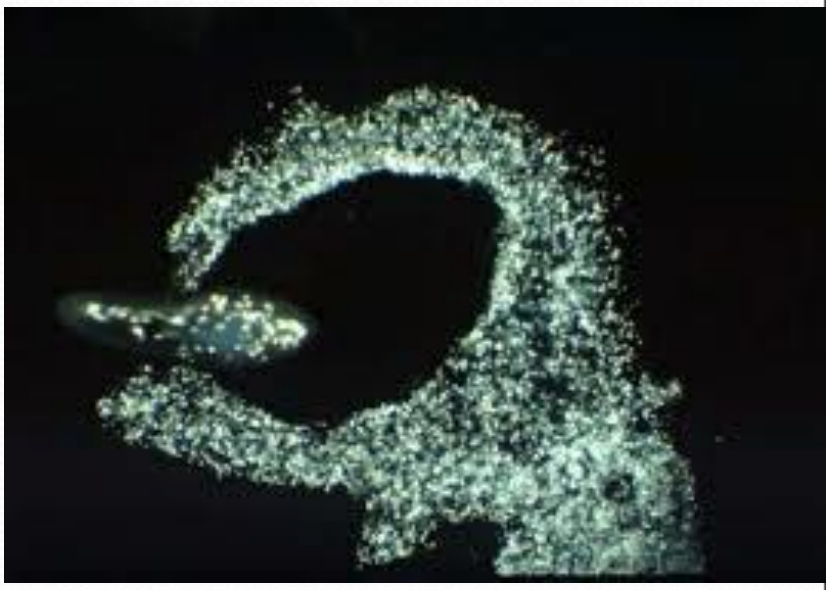
Pseudopod (false foot)

Finger-like projection of the cell membrane and cytoplasm used to catch food and move.

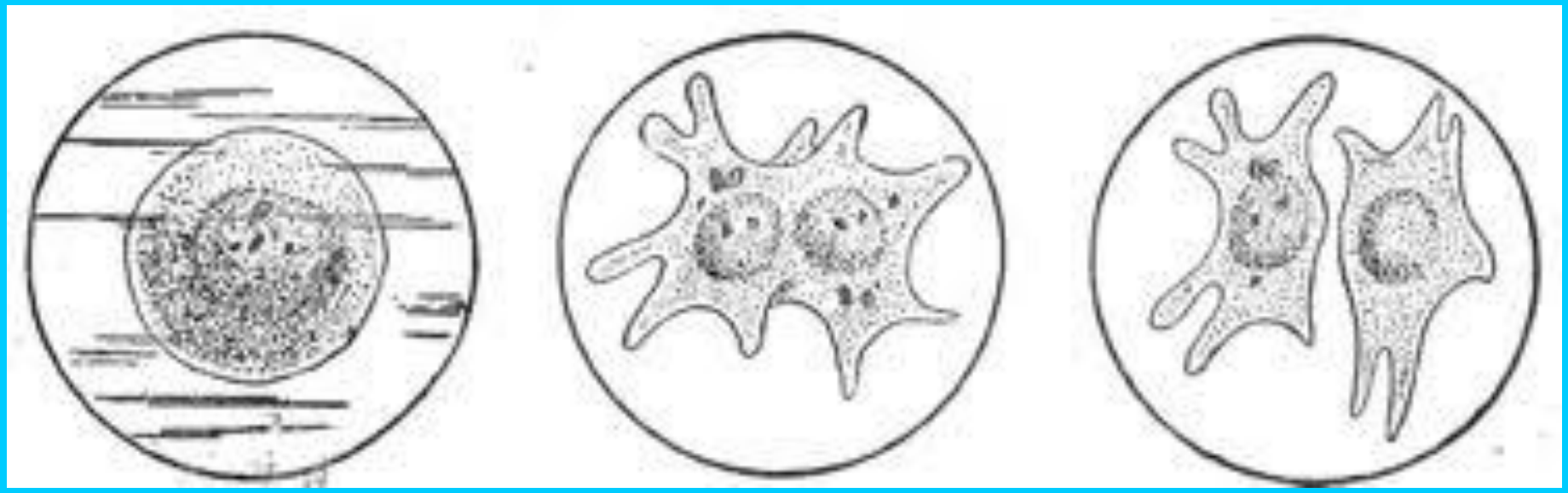
How does it eat?

- To eat, the amoeba stretches out the pseudopod, surrounds a piece of food, and pulls it into the rest of the amoeba's body.
- Amoebas eat algae, bacteria, other protozoans, and tiny particles of dead plant or animal matter.

Amoeba eating: Animal-like



Amoeba -Asexual Reproduction



Euglena

It looks slimy, a lot like algae. Some people say it looks like "pea soup." You will find them in water such as ponds or marshes.

Special Features

Euglena are interesting because they are a sort of combination of plant and animal.

Some Euglena are green because they have chlorophyll from eating green algae.

They can make their own food like a plant, but they can also eat other things, like an animal. They can also swim and move.

Movement

Flagellum (flagella) – A long whip-like tail used to move and catch food.

How and what does the Euglena eat?

It has a red eyespot that it uses its to locate light. Without light, it cannot use its chloroplasts (green parts inside the body) to make itself food. Algae is a source of chloroplasts.

When *Euglena* doesn't have enough light to make its own food, it looks for other things to eat. Swimming around, it preys on other tiny organisms, such as amoeba and paramecium.

The Euglena Reproduces:

Asexual Reproduction

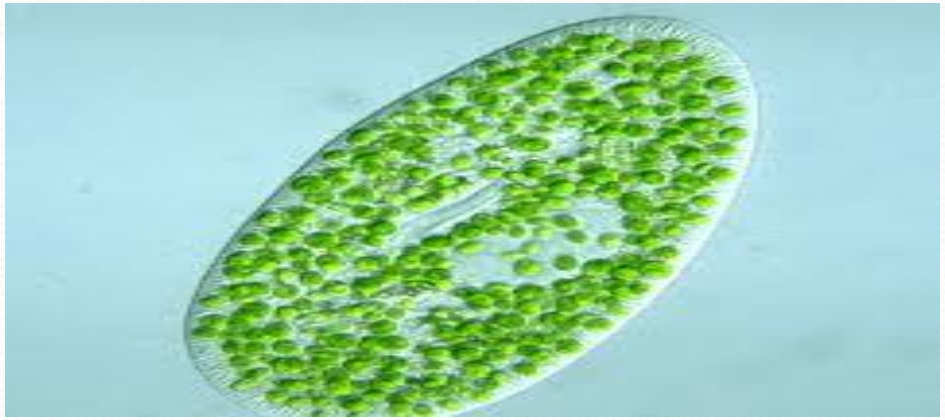
Splits itself in half

Paramecium

- ***An oval, slipper shaped micro-organism, rounded at the front/top and pointed at the back/bottom***
- ***They live in aquatic environments, usually in stagnant, warm water***

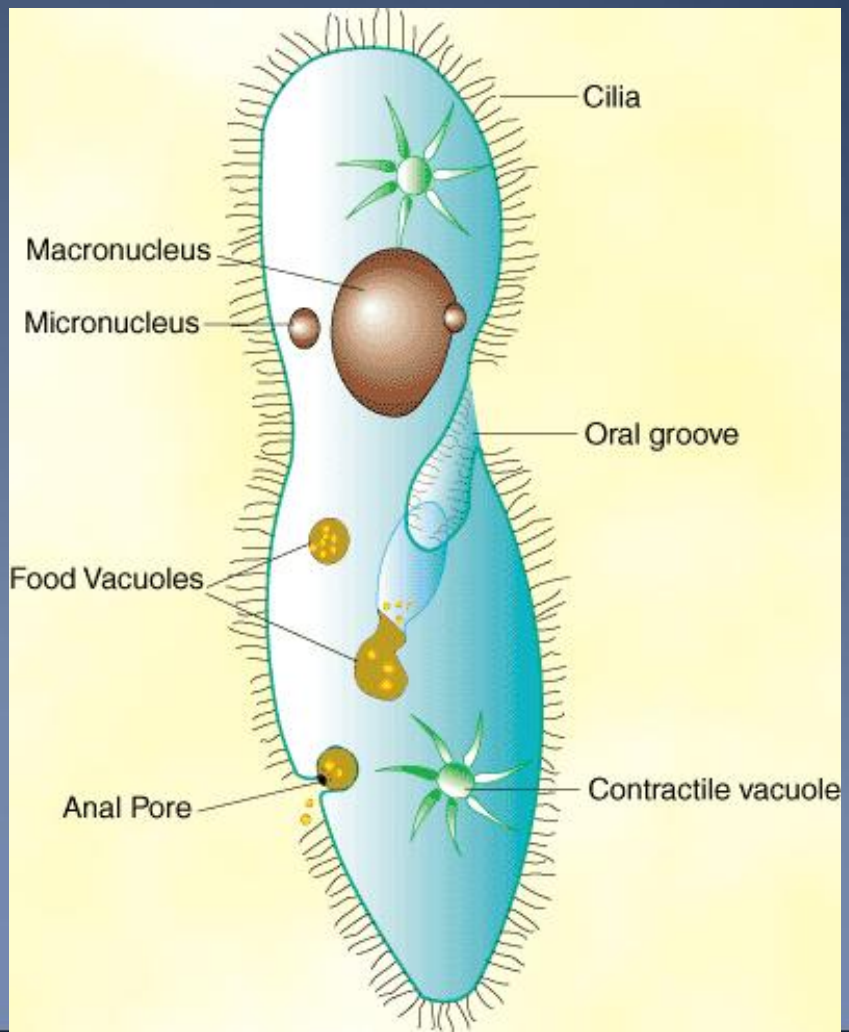
What's Special about the Paramecium?

- It has a slipper-like shape
- It follows a spiral path while rotating on the long axis
- It is known for its avoidance behavior. If it encounters a negative stimulus, it can rotate up to 360 degrees to find an escape route

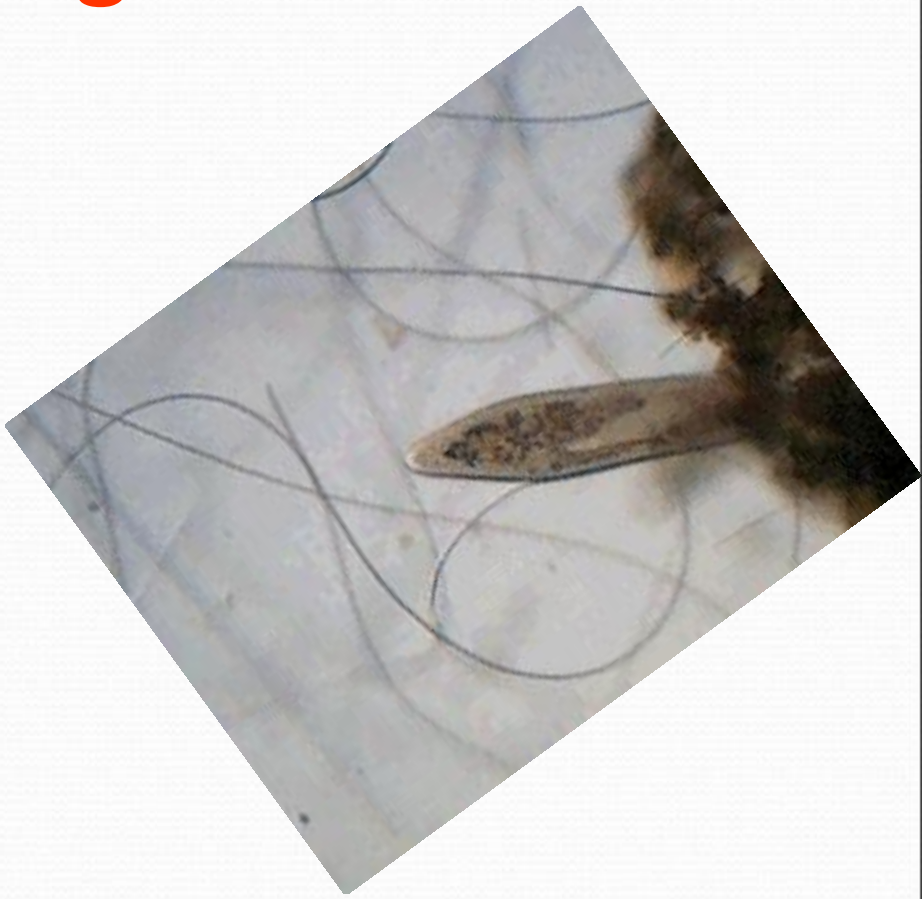


Movement of the Paramecium

Cilia-small hair-life projections used to sweep food into its mouth or move.



Paramecium feeding habits include:



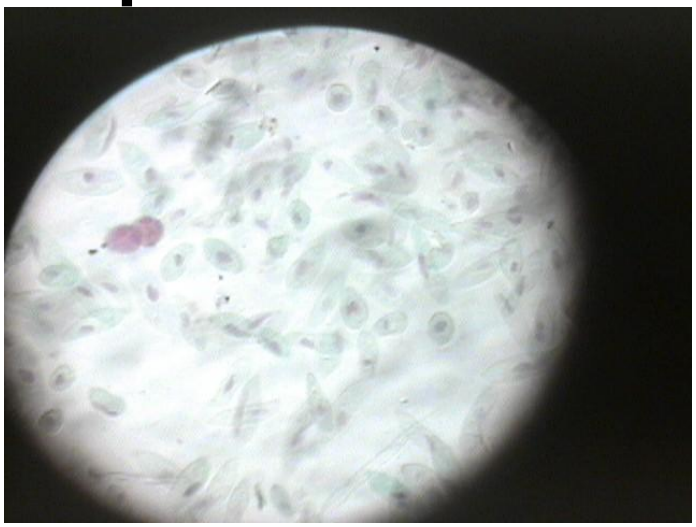
Paramecium feed on microorganisms like bacteria, algae, and yeasts

They play a role in the carbon cycle because the bacteria they eat are often found on decaying plants.

They will also eat the decaying plant matter further aiding decomposition.

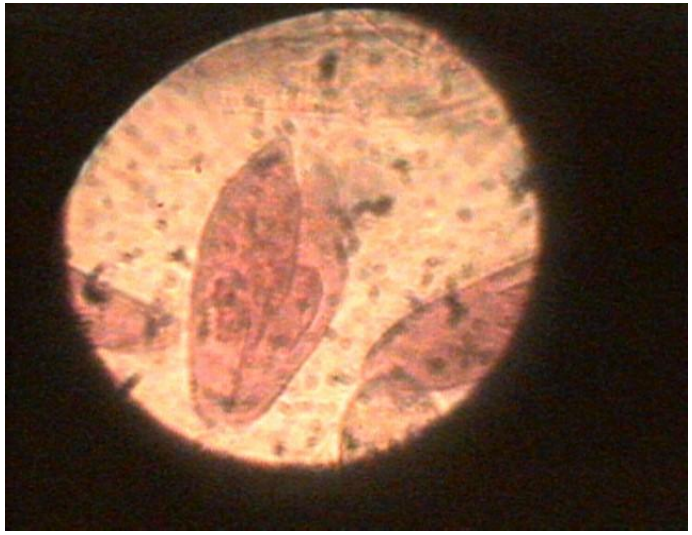
How the Paramecium Reproduces

Paramecium are capable of both sexual and asexual reproduction.



Paramecium can reproduce asexually two or three times a day.

Paramecium only reproduce sexually under stressful conditions.



Flip your paper over and use your notes/graphic organizer to answer the questions on your paper