

## Unicellular Organisms

what are they?

write down some key characteristics of each

Unicellular organisms are one-celled organisms or microorganisms . Although they are living things that are only one cell, they still need to carry out all 6 characteristics of life. For example, they must feed, digest, excrete wastes and reproduce.

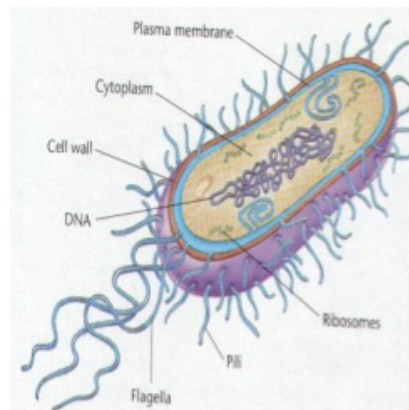
They are very small and surround you every day by the millions. They are on your skin, in the soil and even in water. Some are harmful and cause diseases yet others are beneficial to us. For example, dairy products such as buttermilk, cottage cheese and yogurt are produced by the action of microorganisms.

## Bacteria

The most primitive and plentiful organisms on earth. They are successful because they are plentiful and have changed very little over billions of years.

Some bacteria, like plants, make their own food while others are parasites. Parasites live by invading the body of a plant or animal. Bacteria are different from animal and plant cells because they have no nucleus, no mitochondria and no ribosomes. Their chromosomes float freely in the cytoplasm.

They move through their environments using a flagellum or tail or pili which are hairlike structures. Disease causing bacteria sometimes have a capsule which is a sticky coating that makes it difficult for white blood cells to destroy them.

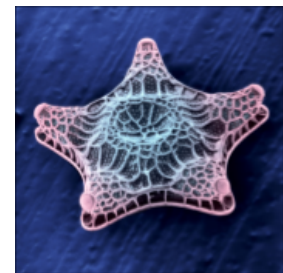
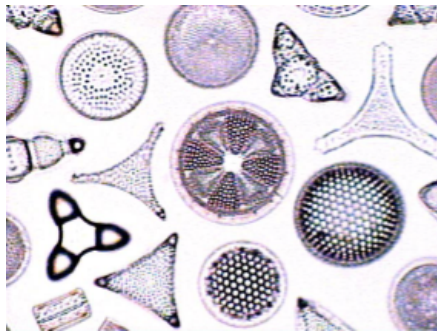
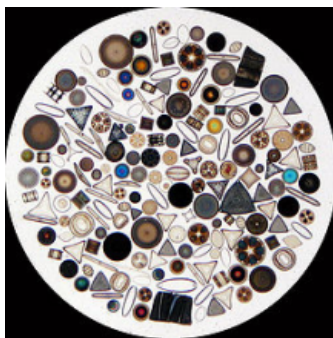


## Protists

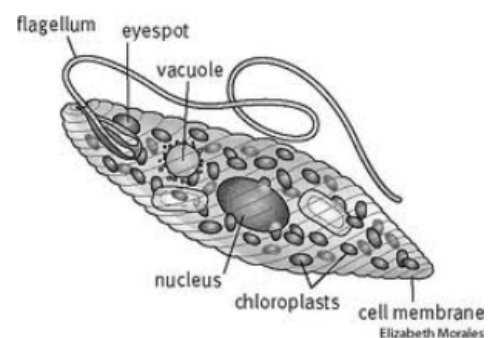
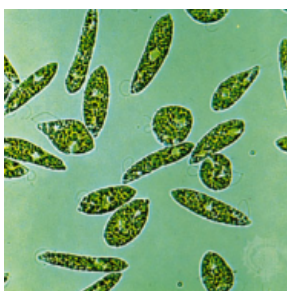
A protist is a unicellular organism that lives in moist environments, such as water, soil, rotting leaves. Protists can be plant-like and make their own food or animal like and feed on other microorganisms. Unlike bacteria, protists DO have a nucleus, mitochondria and ribosomes.

### Plant Like Protists

Diatoms - found in fresh and salt water. They contain chlorophyll and make their own food. They are encased in thin shells joined together. They often show symmetry in their shells.



Euglena: is both like a plant cell and an animal cell. It contains a special organelle called the eyespot that directs it towards light and it will make it's own food via photosynthesis. When there is little light available, the euglena will feed upon smaller cells. The euglena has a special vacuole called a contractile vacuole which expels excess water. It also differs in that it has a PELLICLE which is a firm covering that covers the cell membrane. Unlike a cell wall, it is flexible.

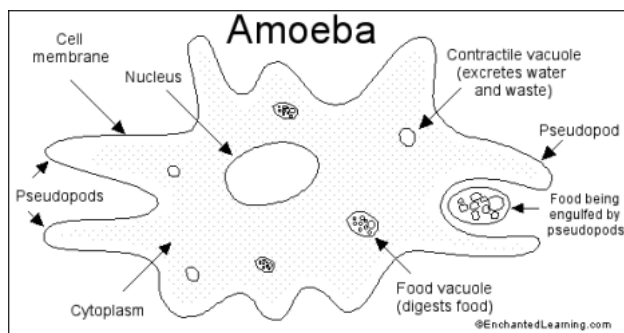
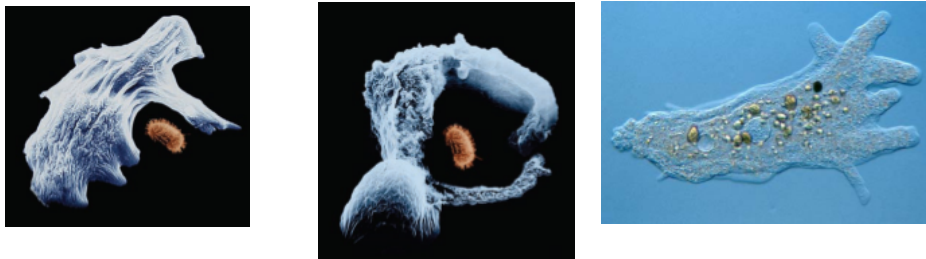


## Animal Like Protists

They cannot make their own food and must feed on other microorganisms. They have all the organelles of an animal cell and a contractile vacuole to expel excess water just like the euglena.

### Amoeba

found in fresh and salt water. It is blob-like organism that moves by stretching out a branch of cytoplasm called a pseudopod (false foot). The pseudopod anchors to an object and the rest of the cell moves toward it. Your white blood cells move in a similar manner. They feed by moving and engulfing or surrounding a smaller cell.



### Paramecium

is also found in fresh water. It moves by beating cilia or tiny hairs to 'swim' through the water. It feeds by drawing smaller cells into its oral groove with the help of its beating cilia.

