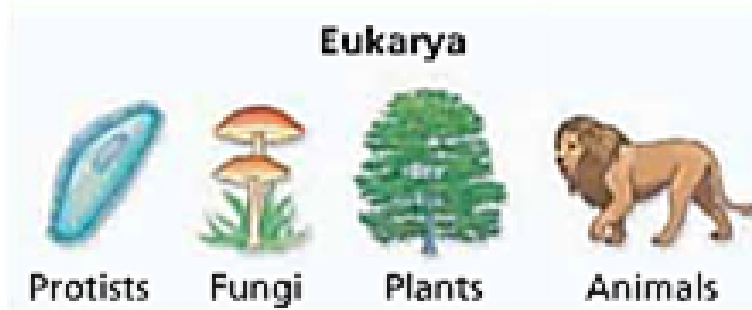


DOMAIN EUKARYA

- Kingdoms within the Domain Eukarya are include **Protista, Fungi, Plantae and Animalia**

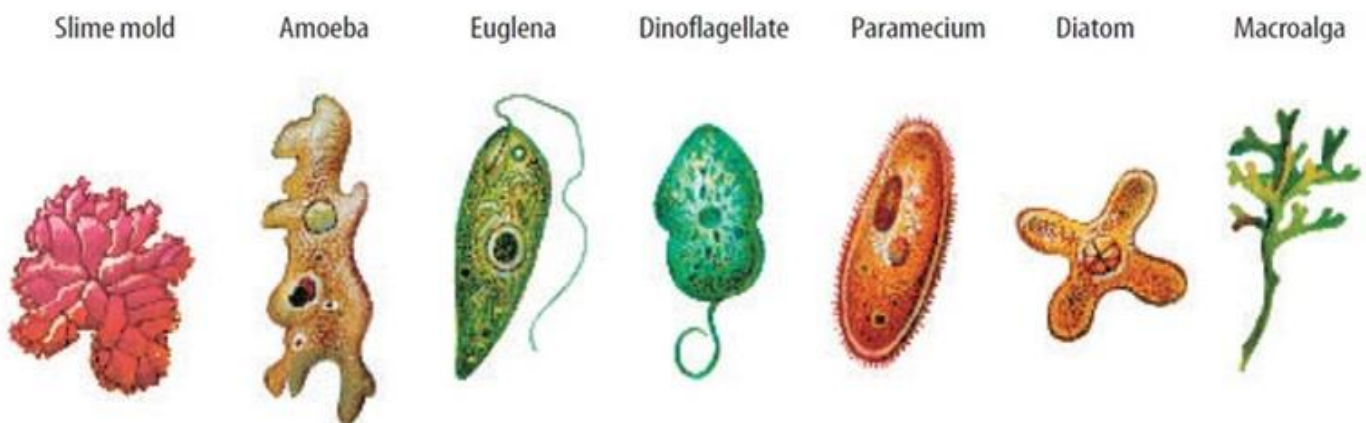


- All contain organisms composed of **eukaryotic cells**
= cells containing an organized membrane-bound nucleus and organelles which perform a variety of functions
- Most members of this domain are multicellular and macroscopic, however there are a few unicellular, microscopic groups

PROTISTA KINGDOM

The Basics of Biology - Protists <https://www.youtube.com/watch?v=-zsdYOgTbOk>

- Contains “plant-like”, “animal-like” and “fungi-like” organisms
= the JUNK DRAWER of taxonomy
- General Characteristics
 - **eukaryotic (true nucleus)**
 - **microscopic**
 - contain specialized ‘**organelles**’
 - most are **aquatic** (fresh water or marine)
 - most are **unicellular**, but may live in **colonies**



- Kingdom Protista is made up of 3 distinct groups based on nutrition

1. Animal-like Protists (Protozoans)

= **heterotrophs** (take in food)

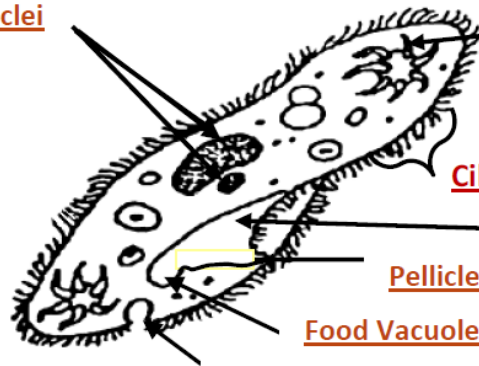
- 4 groups based on movement

- a) Ciliophorans: use hair-like cilia beating in unison to feed and move

- example: Paramecium



Nuclei



Contractile Vacuole

Collects and removes excess H₂O
(Maintains homeostasis)

Cilia

Oral Groove Used to collect food

Pellicle

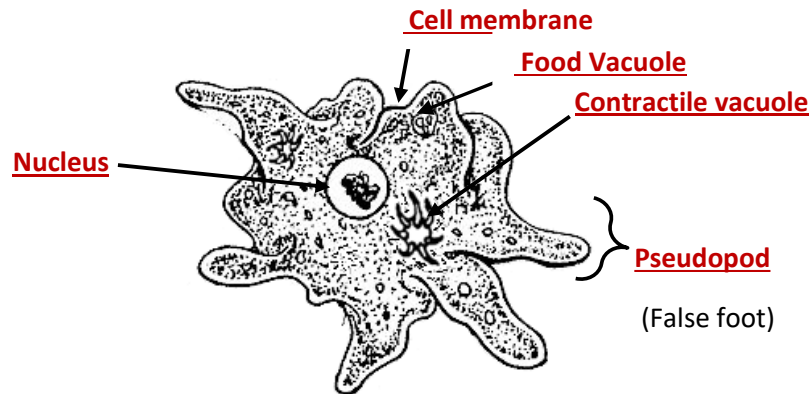
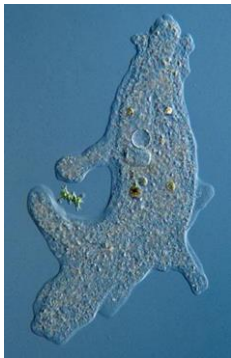
Rigid outer covering for protection & maintains shape

Food Vacuole

Anal Pore Used for removing wastes

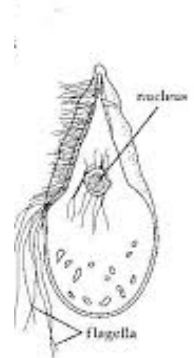
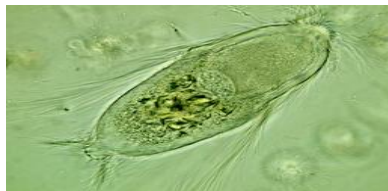
- b) Sarcodinians: move using cytoplasm pushing against cell membrane

- pseudopod: extension of cytoplasm used to move & obtain food
- example: Amoeba



- c) Zooflagellates: move using a whip-like flagella

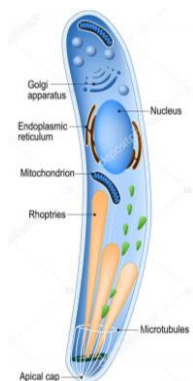
- example trichonympha



Trichonympha

- d) Sporozoans => no structure for movement, use host to survive

- example Plasmodium (causes malaria)



2. Plant-like Protists

= **autotrophs** (contain chlorophyll and photosynthesize)

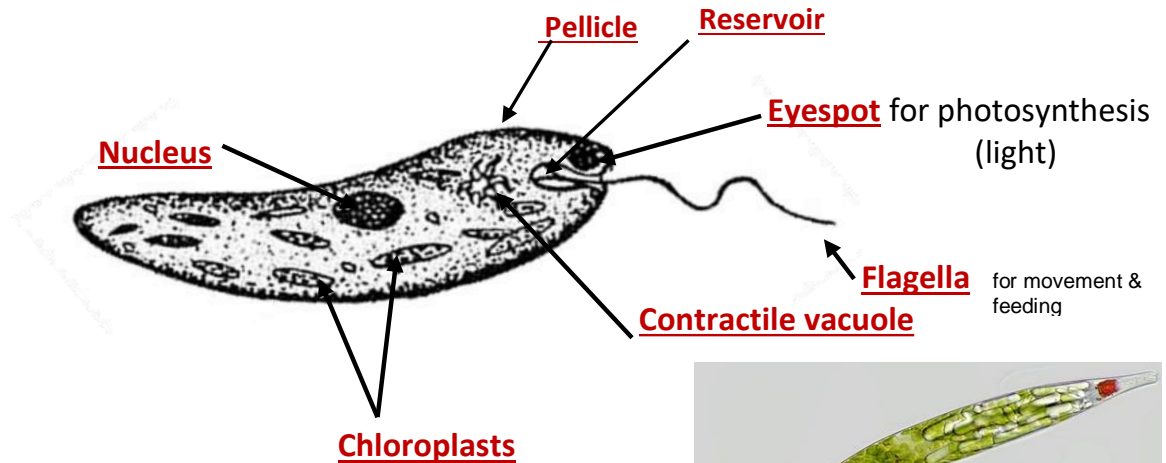
- includes many of the algae phyla

a) Unicellular algae

i) Dinoflagellates => algae with **2 flagella**, usually marine

ii) Diatoms => Cell walls have **silica**, abundant in Oceans

iii) Euglenoids => no cell walls, perform **photosynthesis & heterotrophic**



b) Multicellular Algae

: similar to land plants, but different because of its reproduction

: Grouped based on color

(ALL have chlorophyll, but **masking pigments** affect color)

a. Green algae

b. Red algae

c. Brown Algae



- Fungi-like Protists

= heterotrophs (**saprophytes or parasites**)

- **reproductive structures** like fungi

- example Slime Molds

• Roles of Protists

a. **Food** for others (plankton)

b. Some eat **bacteria**

c. Help produce **oxygen**

d. Breakdown dead plants and animals
(**decomposers**)

e. Some cause **diseases**