

Algae

lab7

Algae

- * All algae are eukaryotic except Cyanobacteria
- *found in freshwater ,marine and moist soil habitats.
- *Photo autotrophs that produce oxygen except for the water molds.
- *Contain chloroplast (which are structures that generate energy for the cell)
- *The pigment used for photosynthesis even vary, resulting in algae , that appear green, red, or brown.

Algae



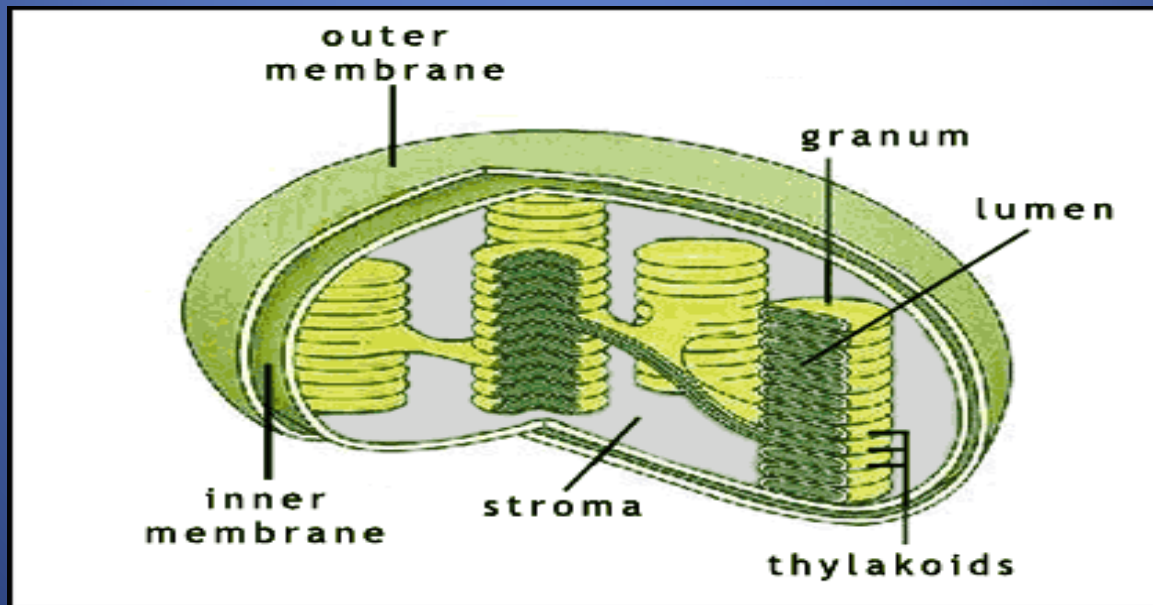
Micro algae



Macro algae

Eukaryotic algae structure

- * Distinct chloroplast ,nuclear region and complex organelles.
- * Thylakoids are grouped grana.



Cellular organization

*flagella:

Organs of locomotion

*Chloroplast:

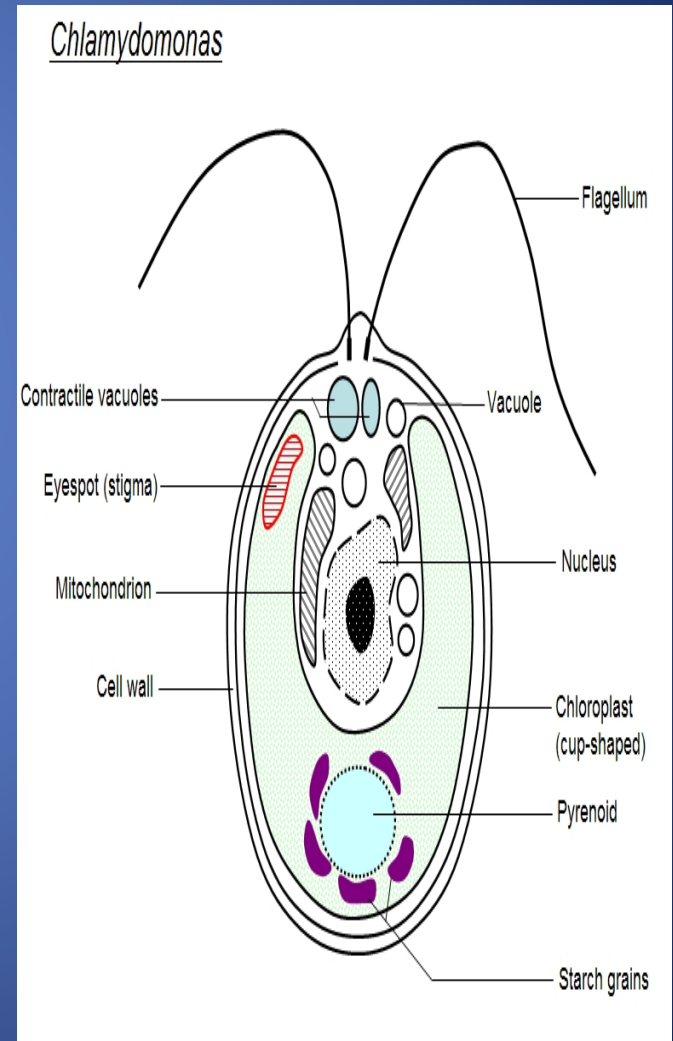
Site of photosynthesis. thylakoids are present in the chloroplast. The pigments are present in the thylakoids.

*Pyrenoid:

structure associated with chloroplast . contains carboxylase. proteins and carbohydrates.

*Eyespot:

Part of chloroplast directs the cell towards light.



Reproduction

1- Vegetative cell (division/fragmentation)

2- Asexual Reproduction:

Zoospores after losing their flagella, form new filaments.

3- sexual gametes:

A- Isogamy :

Both gametes have flagella and similar in size and morphology.

B- Anisogamy:

gametes have flagella but are dissimilar in shape and size. One gamete is distinctly smaller than the other one.

C- Oogamy:

gametes with flagella (sperm), non flagellated gamete (egg)

Morphological characteristics

1- Unicellular algae

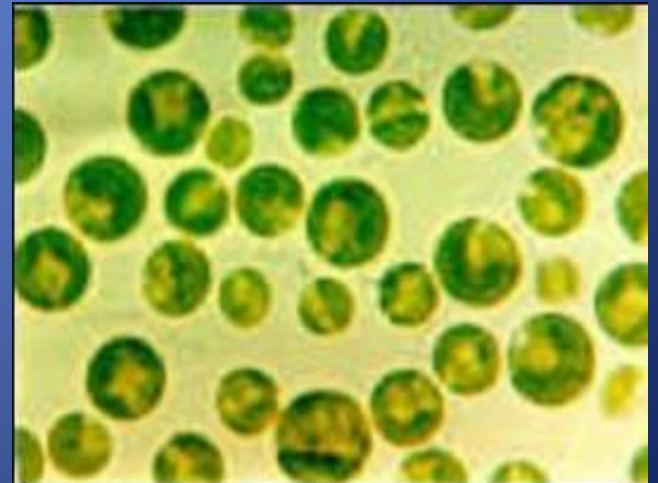
A- Motile :

ex : *Chlamydomonas sp*



B- Non motile :

ex : *Chlorella sp*



Morphological characteristics

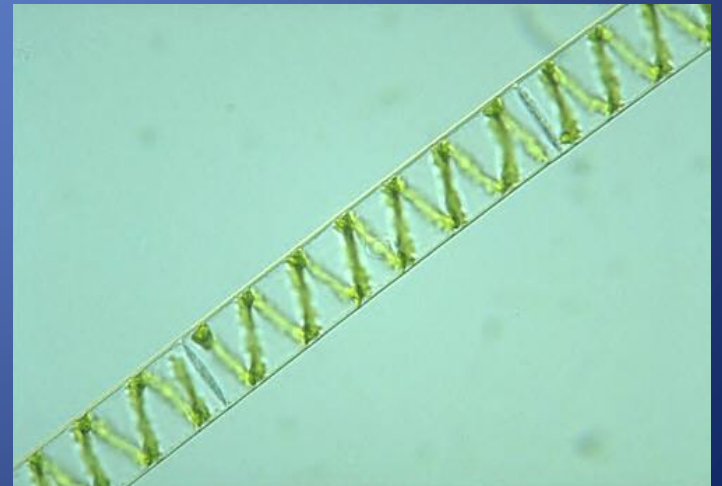
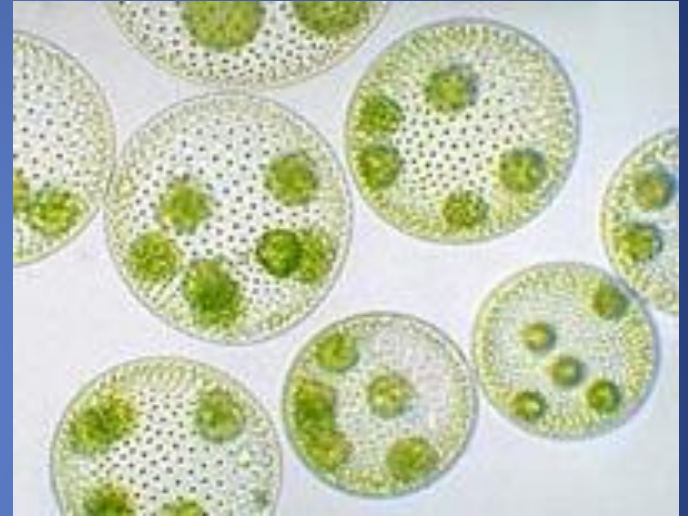
2- Colonies

ex: *Volvox sp.*

3-Filamentous algae:

Are single algae cells that
long visible chains.

ex: *Spirogyra sp.*



Morphological characteristics

4- Coenocytes :

Composed of one large cell without cross-walls

Ex: *Vaucheria* sp.



5- leaf-like (Thallus algae):

Have a large ,complex leaf-like thallus

Ex: *Ulva* sp.



Diatoms

Silica cell walls.

