

## PLANT GROUPS

(6)

### Euglenophyta

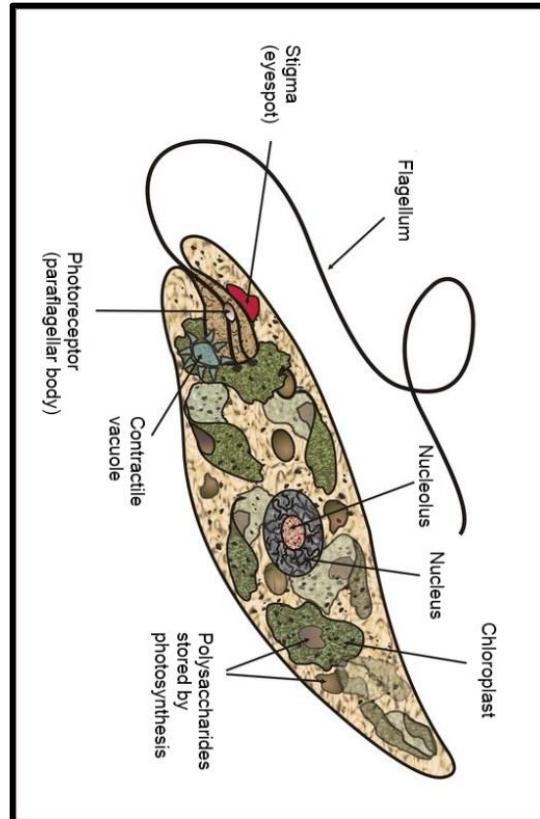
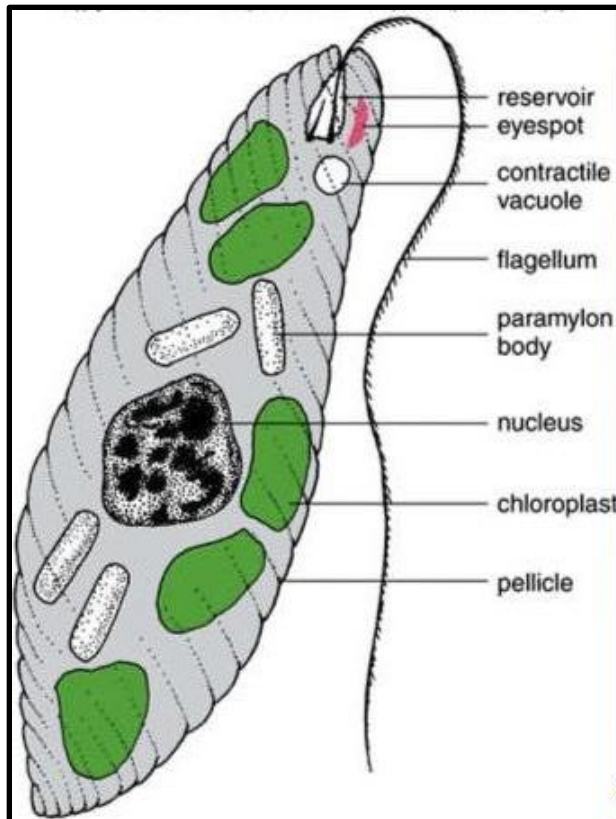
#### General characteristic of the Euglenophyta

<b>Habitat</b>	Fresh water, Brackish water, a few marine water
<b>Pigments</b>	Chlorophyll (a & d), $\beta$ -carotene
<b>Food reserve</b>	Paramylum ( $\beta$ 1, 3 glucose polymer)
<b>Cell wall</b>	No cell wall but have Pellicle
<b>Growth form</b>	Unicellular flagellate
<b>Flagella</b>	Two but only one emerging from the gullet
<b>Reproduction</b>	Sexual not found, Asexual by longitudinal binary fission

<b>Division</b>	Euglenophyta
<b>Class</b>	Euglenophyceae
<b>Order</b>	Euglenales
<b>Family</b>	Euglenaceae
<b>Genus</b>	<i>Euglena</i>

The longer flagellum extends forward, and is covered by two distinct kinds of fine hairs. Eyespot is in cytoplasm near the gullet, not in plastid. A contractile vacuole is present at the apical end of the cell, empties into reservoir. Pellicle lies within the cytoplasm, at the surface of the cell, Composed of spiral strips of protein that overlap slightly. In many species, these can slide with respect to each other, this produces a distinctive mobility called euglenoid movement, or metaboly.

*Euglena* grown at high temperature will lose its plastids, in studies of the herbicide diquat, *Euglena* was found to grow slightly faster in presence of high concentrations of the herbicide, Chloroplasts were completely inactive, but *Euglena* was growing heterotrophically, using diquat as food.



## Bacillariophyta (Diatoms)

### General characteristic of the Bacillariophyta

<b>Habitat</b>	Aquatic & Terrestrial
<b>Pigments</b>	Chlorophyll (a & c)
<b>Food reserve</b>	Fat & Chrysolaminarin
<b>Cell wall</b>	Hemicellulose & Silica
<b>Growth form</b>	Unicellular & Colonial
<b>Reproduction</b>	Asexual, Sexual (Isogamy, Oogamy)

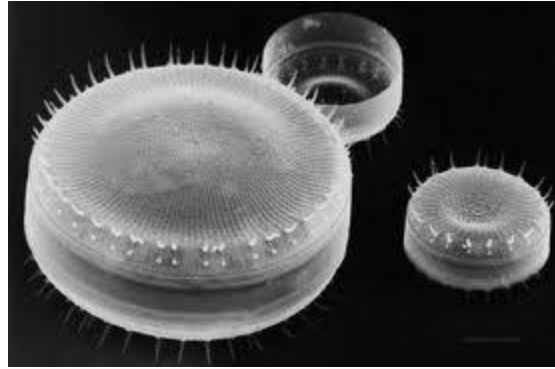
The cell wall of diatoms consists of two parts which overlap like halves of a petridish.

### Classification of Diatoms

On the basis of symmetry & secondary structure on the valve surface, diatoms divided into two orders:

- 1) Centrales: Radial symmetry, Oogamous**
- 2) Pennales: Bilateral symmetry, Isogamous**

The siliceous walls resist dissolution & decay after the death of organism & accumulate as fossils.



**Centrales**



**Pennales**