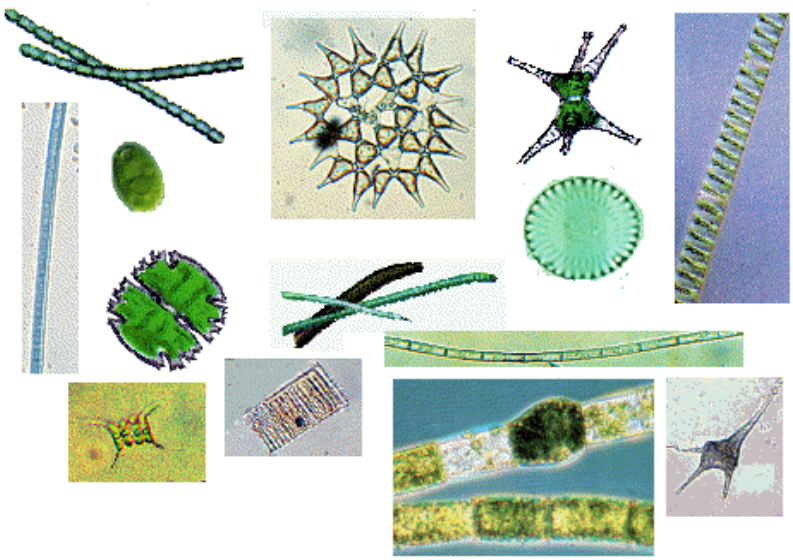
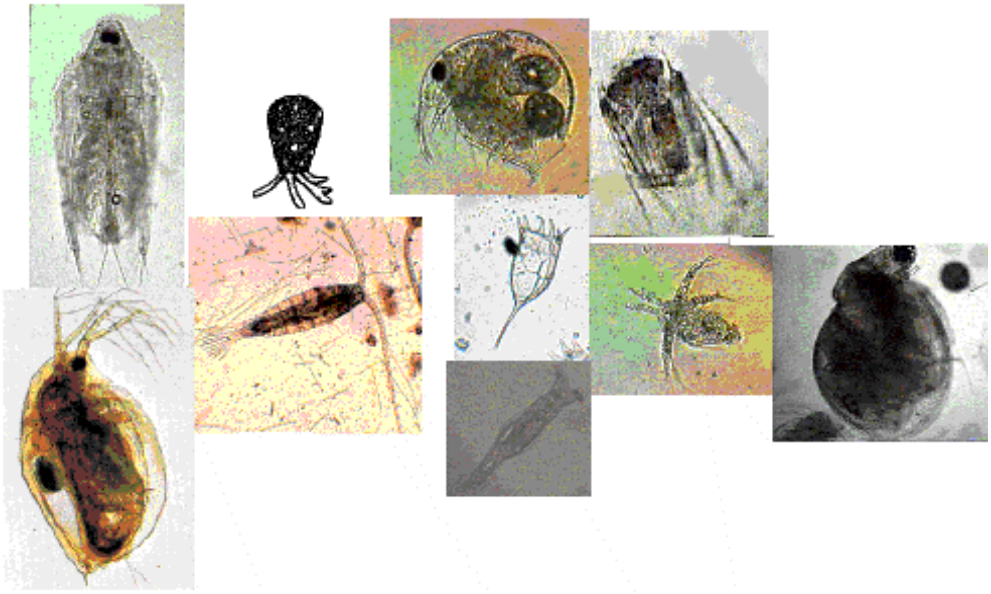
Key to Pond Water Organisms

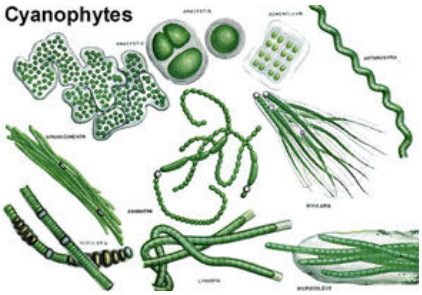
1a. Cells generally greenish or yellow brown in color (phototrophic) ALGAE……. Go to 2



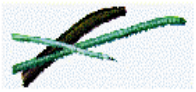
1b. Greenish pigment absent, cilia or flagella, or other appendages may be present ….. Microscopic Invertebrates…… Go to 10



2a. Blue-green pigment diffuse through cells (no chloroplasts present)….
Cyanobacteria (Blue Green Bacteria) Blue Green Algae



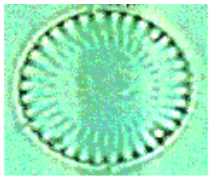
Anabena



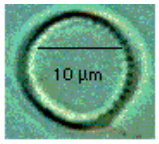
Oscillatoria

2b. Pigment grass-green, yellowish-green, or brownish, localized in chloroplasts…**3**

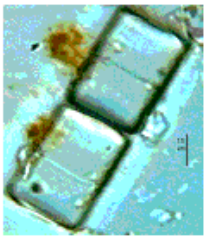
3a. Pigment yellowish-green or brownish, cell wall composed of two nearly equal halves (made of glass) with ornamentation……..**Diatoms (Bacillarophyta)**



Cyclotella

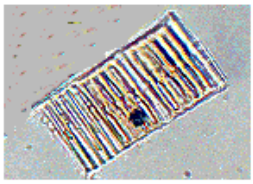


Stephenodiscus



Melosira

Fragilaria



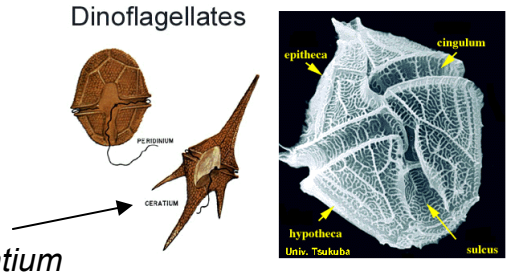
Diatom sp.

3b. Pigment grass-green or brownish, cell wall if present is different…… **4**

4a. Cells motile, flagella present……..**5**

4b. Cells non-motile, with no flagella …… **9**

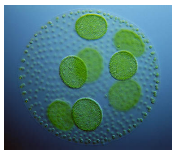
5a. Transverse furrow generally present, body usually with armored plates color usually brown **……. Dinoflagellates (Pyrrophyta)**



Ceratium *Peridinium*

5b . Flagella not in a transverse furrow ……**6**

6a. Color Bright green, cells in colonies or single, flagella in pairs, cells with cell walls so their shape is constant**…. Flagellated Green Algae (Chlorophyta)**


Volvox

Chlamydomonas


Pandorina

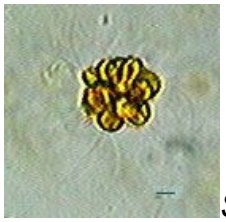
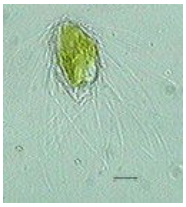
6b. Cells not as above……**Go to 7.**

7a. Color Bright green or sometimes red. Cells single, flagella single, cells with **no cell walls** so their shape flexible **……..Euglenophyta**

Phacus

Euglena

7b. Color golden brown or yellow, single or colonial, with two unequal flagella. Cells may be enclosed in a loose case (lorica), or may have plates…. **(Golden Algae)** .**Chrysophyta.**


Synura

Mallomonas

Dinobryon

9. Cells grass green… **Non flagellated Green Algae - Chlorophyta :** Includes:

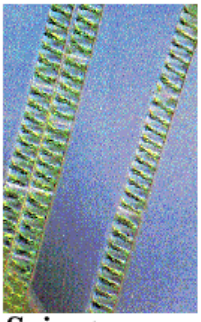
a. Cells divided into distinct halves by median constriction**…DESMIDS**

Staurastrum

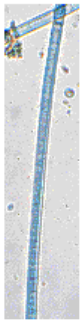
Mirasterias

Cosmarium

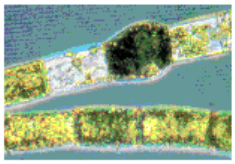
b. Cells arranged in long filaments…… **FILAMENTOUS GREEN ALGAE**



Spirogyra

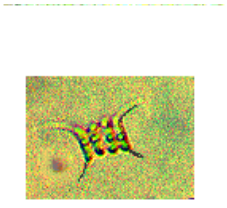


Ulothrix

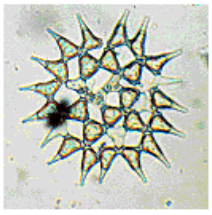


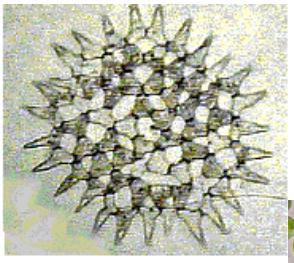
Oedogonium

c. Cells not arranged in filaments but in small colonies or single ……..**OTHER GREEN ALGAE**

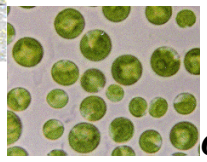


Scenedesmus





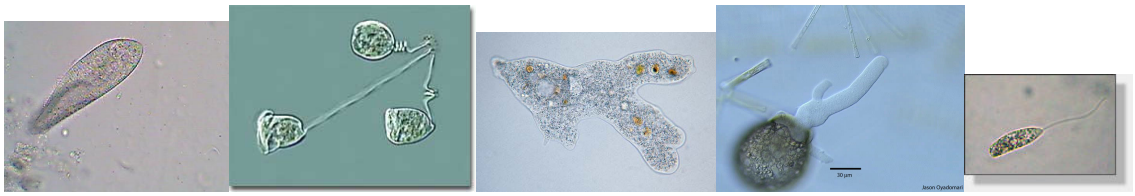
Pediastrum spp.



Chlorella

10. Microscopic Invertebrates

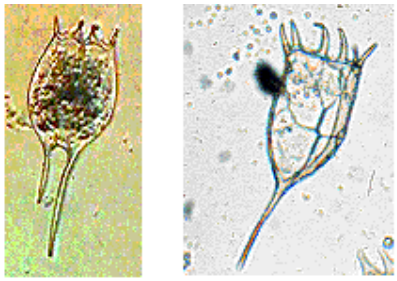
10a. Body organization unicellular…… PROTOZOA (Protista) … CILIATES, AMOEBAS, FLAGELLATES



Paramecium *Vorticella* *Amoebae* *Difflugia* *Paranema*

10b. Body Organization multicellular **……..11**

11a. Jointed appendages absent, body with ciliated rings, may be encased in a shell…….**Rotifers**



Kellicotia ***Keratella***

Brachionus

Polyarthra

Philodina

11b. Not as above, jointed appendages present or absent, no ciliated rings…**12**

12a. Body **worm** like with no jointed appendages …**Nematodes, Oligochaetes**

Nematode

(not segmented)

Oligochaete

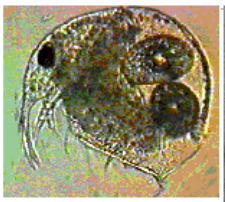
(segmented)

12b. Jointed appendages present……**Crustacea…..13.**

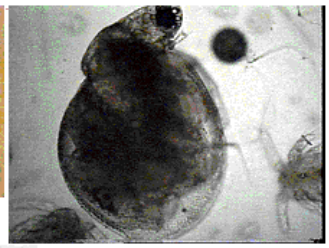
13a. Entire animal, including the head, encased in opaque paired valves**…….. Ostracoda.**

13b. Trunk appendages flattened and mostly encased in paired usually transparent valves, head visible with dark eyes, body bird-like…..**Cladocera (Water Fleas)**

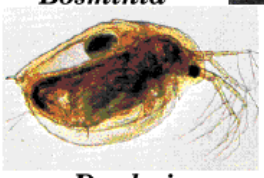
Monia



Bosminia



Ceriodaphnia



Daphnia

13c. Body not enclosed in paired valves, segmentation obvious, body elongated, appendages for swimming…….**Copepoda**

Calanoid Copepod

Nauplius

Cyclopoid copepod