

AQUATIC PLANTS:

Name: _____

- All have cell walls made of cellulose
- All have alternation of generations

Phylum Chlorophyta (Green Algae)

- Most likely gave rise to land plants

Answer these questions (**use vodcast or textbook**):

What type of chlorophyll is common to all three phylums of aquatic plants? _____

Unicellular chlorophytes

Explain how unicellular algae reproduce (asexually and sexually)

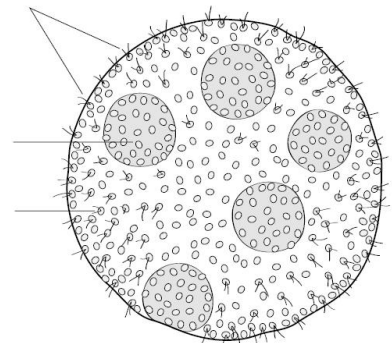
Name an example of a unicellular algae. _____

Draw and label the life cycle of *Chlamydomonas*.

Multicellular chlorophytes

How is **Volvox** able to move?

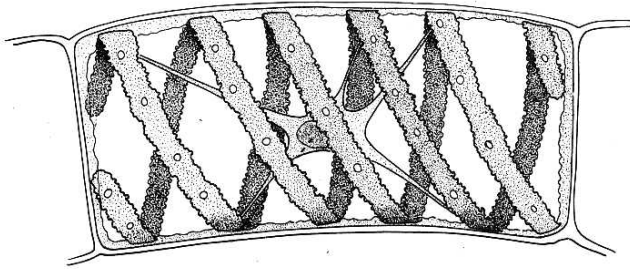
- Volvox is a colonial algae, made up of many individual cells that function as one unit.
- Volvox undergoes sexual reproduction where a few cells form eggs and others form sperm (known as heterogamy)
- Volvox also undergoes asexual reproduction where vegetative cells divide to form daughter colonies, which stay within the parent colony.
- Label the flagella, parent colony & daughter colonies on the volvox colony to the right.



Multicellular chlorophytes (continued)

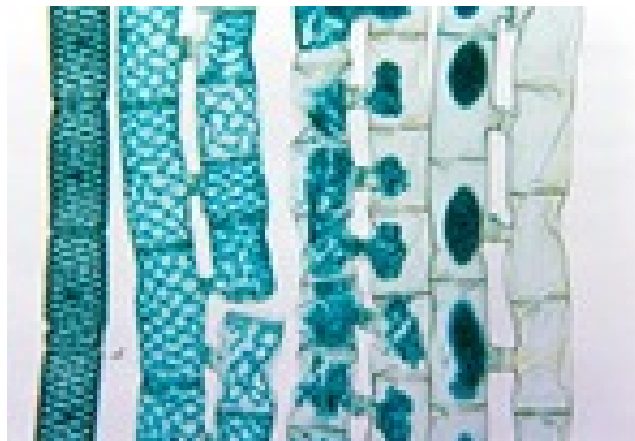
Spirogyra (filamentous algae)

Using the *Spirogyra* drawing below on the left, label the cell membrane, cell wall, cytoplasm, chloroplast. *Spirogyra* is a multicellular algae. Using the picture on the right, outline each cell.



Explain how *Spirogyra* can reproduce sexually or asexually.

In the conjugation diagram below, label the vegetative cell, nucleus, conjugation tube and zygospore



Ulva - multicellular sheets

Explain how *Ulva* can reproduce sexually and asexually

Phylum Phaeophyta (Brown Algae)

- Example(s): _____
- Multicellular
- Asexual reproduction = fragmentation of spores
- Sexual reproduction = heterogametes, egg and sperm, fuse to form a zygote = heterogamy

Draw a typical diagram of *Kelp* (brown algae) and label blade, holdfast, stipe and gas bladder.

What is the function and advantage of a gas bladder?

Phylum Rhodophyta (Red Algae)

- Multicellular
- Asexual reproduction = fragmentation
- Sexual reproduction = gametes fuse to form a zygote

Order Algae is found on the shoreline

_____ algae are found on and near the shore.

Brown algae are found on the shore and in deeper water.

_____ algae are found in the deepest water.

Brown and Red algae are commonly called seaweed.