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Characteristics

- Range in size from microscopic to single celled organisms to large seaweed
- Autotrophic
- Form the reproductive structures gametangia or gamete chambers
- Aquatic and have flagella at some point in life
- Often contain pyrenoids, organelles that synthesis and store starch

STRUCTURE

- Thallus (haploid)
- Four types of algae
 –Unicellular
 - -Colonial
 - -Filamentous
 - -multicellular

IDENTIFY THE TYPE OF ALGAE









CLASSIFICATION OF ALGAE

- SEVEN PHYLUM BASED ON
 - COLOR
 - TYPE OF CHLOROPHYLL
 - FOOD-STORAGE SUBSTANCE
 - CELL WALL COMPOSITION

REPRODUCTION

MOST REPRODUCE BOTH SEXUALLY AND ASEXUALLY

- Most sexual reproduction is triggered by environmental stress
- Asexual Reproduction
 - Mitosis
- Sexual Reproduction
 - Meiosis
 - Zoospores
 - Plus and minus gametes
 - Zygospore



Reproduction in Multicellular Algae

- Oedogonium reproduction
 - Antheridium-release
 flagellated sperm that swim to
 the oogonium
 - Oogonium-houses the zygote which is a diploid spore
 - The spore undergoes meiosis and produces 4 haploid zoospores. One of the four cells becomes a rootlike holdfast the others divide and become a new filament.



holdfast

Spirogyra reproduce sexually by conjugation



Ulva Reproduces by Alternation of Generations

- Two distinct multicellular phasesone is haploid and the other is diploid
 - Gametophyte is haploid
 - Sporophyte is diploid

Phylum Chlorophyta

- Green algae
- 7000 diverse species
- Biologist reason that green algae give rise to land plants.
- Both green algae and land plants have chlorophyll a and B as well as carotenoids and store food as starch
- Both have walls made of cellulose

Phylum Phaeophyta

- 1500 species of Brown algae
- Mostly marine and include seaweed and kelp
- All are multicellular and large (often reaching lengths of 147 feet)
- Individual alga may grow to a length of 100m with a holdfast, stipe and blade
- Used in cosmetics and most ice creams



Phylum Rhodophyta

- 4000 species of RED Algae
- Most are marine
- Smaller than brown algae and are often found at a depth of 200 meters.
- Contain chlorophyll a and C as well as phycobilins which are important in absorbing light that can penetrate deep into the water
- Have cells coated in carageenan which is used in cosmetics, gelatin capsules and some cheeses

Phylum Euglenophyta



- 1000 species of Euglenoids
- Have both plantlike and animal-like characteristics
- Fresh water

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Other Phylum Representatives









Important in the formation of petroleum products

Funguslike Protist



Cellular Slime molds

Plasmodial Slime Molds



Water Molds



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