

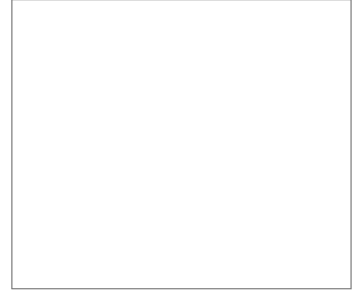
Protists are a diverse group of multicellular or unicellular eukaryotes that lack complex organ systems and live in moist environments; may be autotrophic or heterotrophic.

Animal-like Protists (protoza)

- reproduce asexually OR sexually
- grouped by the way in which they transport themselves

- *Amoebas*:

- obtain no cell walls
- form pseudopodia (cytoplasm-containing extensions of their plasma membrane)
- shape of the cell changes as it moves
- most live in moist or salt water places
- receive nutrients by diffusion into their cell membranes



- *Flagellates*

- move by whipping their flagella from side to side
- most are parasites



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- *Ciliates*

- use cilia to move
- live in aquatic habitats
- reproduce asexually

- *Sporozoans*

- produce spores - a reproductive cell that forms without fertilization; produces a new organism
- found in the blood or intestines of living animals (can cause malaria)
- All are parasitic

Plant-like Protists

- photosynthesizing protists (contain chlorophyll which causes different colors)
- unicellular and multicellular
- have no roots, stems, leaves

* Classified into six phyla:

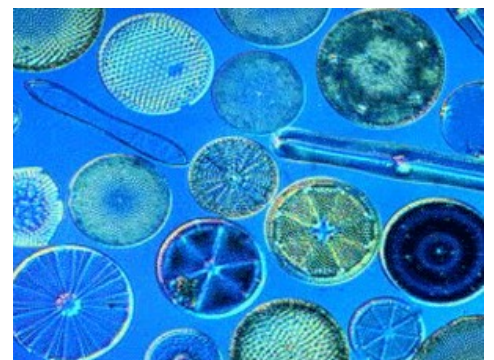
1.) Euglenoids (unicellular)

- do not have a cell wall made of cellulose, but do have flexible pellicle made of protein
- have chlorophyll and photosynthesize
- also can ingest food
- use flagella to move



2.) Diatoms (unicellular, golden-yellow, bacillariophyta)

- shells composed of silica
- freshwater and saltwater
- have chlorophyll
- have carotenoids
- buoyant
- asexual and sexual reproduction



3.) Dinoflagellates (dinoflagella)

- cellulose cell walls
- chlorophyll, carotenoids, red pigments
- flagella
- live mostly in salt water

- same are bioluminescent
- produce toxins

4.) Red Algae (rhodophyta)

- body is a thallus - lacks roots, stems, leaves
- tropical
- contains chlorophyll

5.) Brown Algae (phaeophyta)

- salt water
- chlorophyll
- have air bladders so they will float
- example: kelp

6.) Green Algae (chlorophyta)

- chlorophyll
- most in fresh water
- can be unicellular, colonial, or multicellular
- asexual and sexual reproduction
- during asexual reproduction - fragmentation - breaks into pieces and grows into a new individual
- very complex lifestyle

Life Cycles

* Alternation of generations

- gameotophytes produce gametes
- gametes form zygotes (called sporophytes)
- these cells undergo meiosis
- these form into a new gameotophyte

Fungus-like Protists

- slime molds, water molds, mildew

- decompose organic material

* Slime molds:

- like protozoans and fungi (classified by the way they reproduce)
- live in cool, moist places
- plasmodial slime molds (myxomycota)
 - no cell wall or membrane
 - like an amoeba
 - can become spore producing (meiosis can take place)
- cellular slime molds
 - independent
 - divides by cell division
 - when food is scarce, they join together to reproduce
- water molds (oomycota)
 - live in moist places
 - feed on dead organisms (others are plant eaters)
 - fuzzy white growths
 - produce flagellated reproductive cells