Chapter 22

Protists are mostly unicellular, microscopic organisms.

What issues do you see with this statement?

Characteristics

Photosynthetic - use light to make energy

Ingest food

Absorb food

Found in water, damp soil, sand, and leaf liter

junk drawer

Protozoa-heterotrophic protists

↳ get energy from other sources

Algae- photosynthetic protist

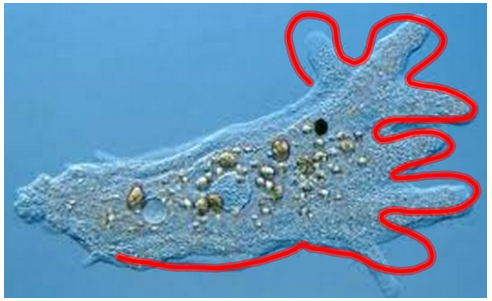
Distinguishing Features	Phylum	Mode of Nutrition
Move using pseudopodia	Rhizopoda (amoebas)	Heterotrophic
	Foraminifera (forams)	
Have double shells made of silica	Bacillariophyta (diatoms)	Photosynthetic
Photosynthetic protists; can be multicellular	Chlorophyta (green algae)	Photosynthetic
	Rhodophyta (red algae)	
	Phaeophyta (brown algae)	

Move using flagella	Dinoflagellata (dinoflagellates)	Photosynthetic
	Zoomastigina (unicellular flagellates)	Heterotrophic
	Euglenophyta (euglenoids)	Most are heterotrophic; some are photosynthetic
Move using cilia	Ciliophora (ciliates)	Heterotrophic
Funguslike protists	Acrasiomycota (cellular slime molds)	Heterotrophic
	Myxomycota (plasmodial slime molds)	
	Oomycota (oomycetes)	
	Chytridiomycota (chytrids)	
Form resistant spores	Sporozoa (sporozoans)	Heterotrophic

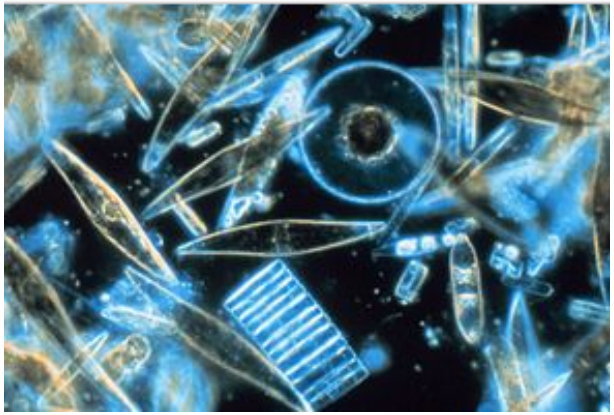
Common Name	Approximate Number of Species
Amoebas	300
Brown algae	1,500
Cellular slime molds	70
Chytrids	575
Ciliates	8,000
Diatoms	more than 11,500
Dinoflagellates	2,100
Euglenoids	1,000
Foraminiferans (Forams)	300
Green algae	more than 7,000
Plasmodial slime molds	500
Red algae	4,000
Sporozoans	3,900
Unicellular flagellates	3,000
Water molds	580

Unicellular heterotrophs with a unique form of locomotion

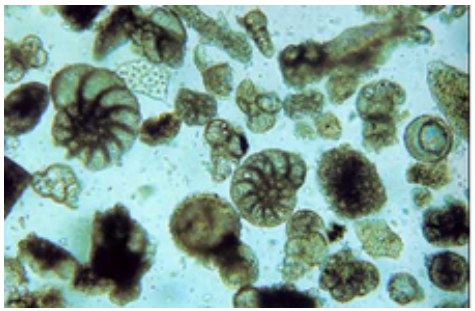
Amoebas
Foraminifera
Diatoms



Mic-UK [site A]- Amoebas are more than just blobs



Biogenic silica - Wikipedia, the free encyclopedia



foraminifera - ClimateSight

Amoebas

Move by pseudopodia

Long flexible cytoplasmic extension

Puedo= false

Podium= foot

It has no cell wall or flagella making it very flexible

Stretches out, anchors, cytoplasm flows in

The pseudopodia can help “eat” food

Live in fresh and salt water especially soil

Asexual reproduction

Reproduce by fission -diving into two cells

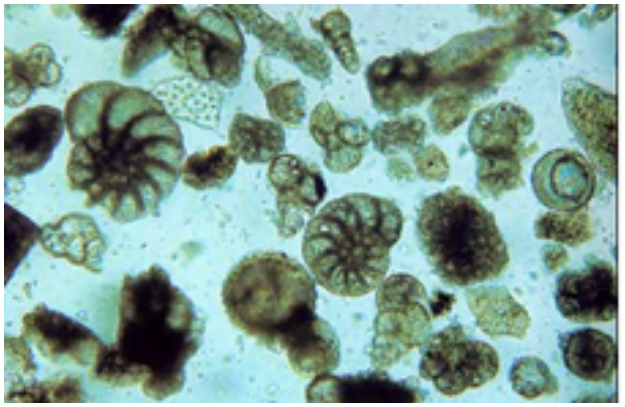
Some can be parasites like causing amebic dysentery-
Transmitted by contaminated food and water

Foraminifera

Live in sand or attach themselves to rocks

Have porous shells and a spiral shape

Look like a tiny snail



foraminifera - ClimateSight

Some catch prey others use algae that live under their shells known as tests.

The shells of dead forams accumulate on sea floor and make limestone

The Carbon Cycle - Feature Articles

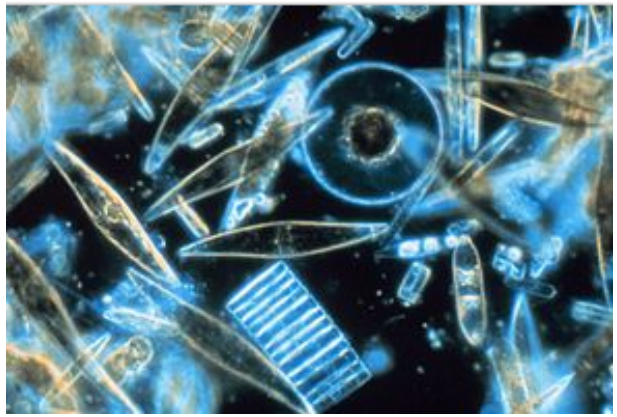
Diatoms

Photosynthetic, unicellular with double shells

Shells are like small boxes with lids

Producers in the food chain

Have either radial or bilateral symmetry



Biogenic silica - Wikipedia, the free encyclopedia

Empty shells are mined and used as an abrasive or adding sparkle to paint

Also sold as a natural pest control because they cut into the body of the organism

Cat Fleas - Cat Flea Facts

They secrete chemicals that help in their movement and gliding

Asexual reproduction- the halves separate and then each regenerates

Diatoms tend to get smaller with each generation

When a diatom gets to small for its shell it slips out, grows to full size, and makes a new shell

Multicellular algae

Green algae
Brown algae
Red algae

NOAA Ocean Explorer- Estuary to the Abyss

Blue-Green-Algae.jpg (3600×2700)

File-Red Algae on bleached coral.JPG - Wikimedia Commons

Green algae

Most are freshwater

Contain same pigments as chloroplasts.

Sexual and asexual reproduction

Blue-Green-Algae.jpg (3600×2700)

Red algae

Muticelluar found in ocean

red pigments absorbs light that penetrates into deep waters

Some are used to make agar (bacteria food)

File-Red Algae on bleached coral.JPG - Wikimedia Commons

Brown algae

kelp

Multicellular, marine environments

Grow on coasts

Among the largest organism on earth

NOAA Ocean Explorer- Estuary to the Abyss