# Chapter 22

Protists are mostly unicellular, microscopic organisms.

What issues do you see with this statement?

**Characteristics**

Photosynthetic

Ingest food

Absorb food

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

**Protozoa**-heterotrophic protists

**Algae**- photosynthetic protist

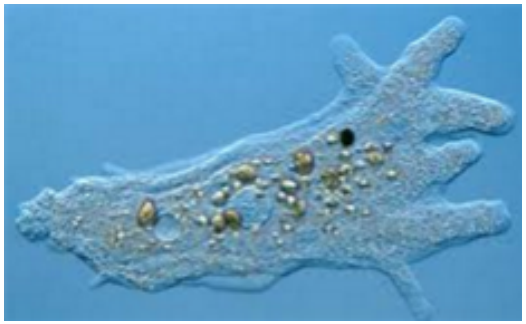
| Distinguishing Features | Phylum | Mode of Nutrition |
|---|---|---|
| **Move using pseudopodia** | Rhizopoda (amoebas) | Heterotrophic |
| | Foraminifera (forams) | |
| **Have double shells made of silica** | Bacillariophyta (diatoms) | Photosynthetic |
| **Photosynthetic protists; can be multicellular** | 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 |

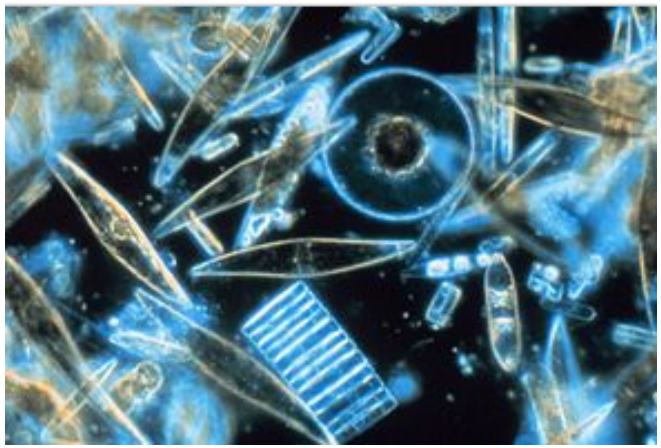
| Common Name | Approximate Number of Species |
|---|---|
| **Amoebas** | 300 |
| **Brown algae** | 1,500 |
| **Cellular slime molds** | 70 |
| **Chytrids** | 575 |
| **Ciliates** | 8,000 |
| **Diatoms** | more than 11,500 |
| **Dinoflagellates** | 2,100 |
| **Euglenoids** | 1,000 |
| **Foraminiferans (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

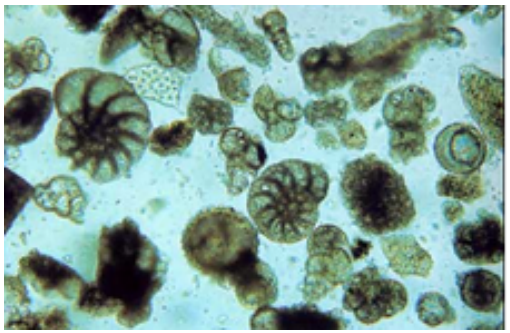
## Amoebas
## Foraminifera
## Diatoms



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= _____

Podium= _____

It has no cell wall or _____ making it very flexible

Stretches out, anchors, _____ flows in

The pseudopodia can help “eat” food

Live in fresh and salt water especially soil

Asexual reproduction

Reproduce by _____ -diving into two cells

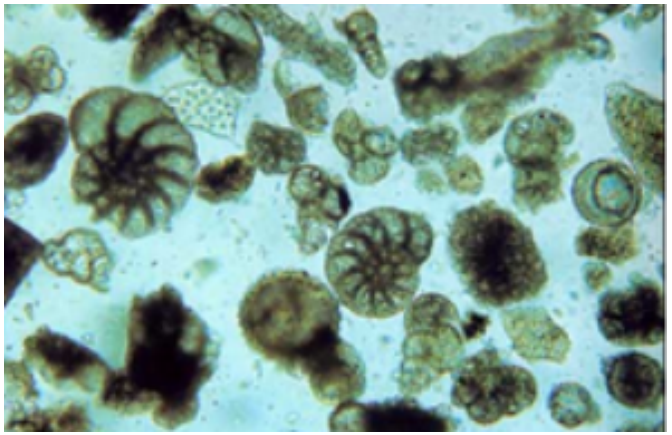
Some can be parasites like causing amebic dysentery-
Transmitted by contaminated _____ and _____

# Foraminifera

Live in sand or attach themselves to _____

Have porous shells and a _____ shape

Look like a tiny _____



foraminifera - ClimateSight

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

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

The Carbon Cycle - Feature Articles

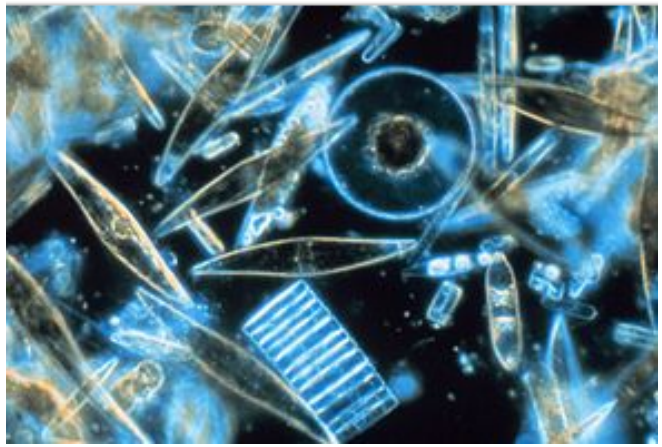
# Diatoms

Photosynthetic, unicellular with _____ shells

Shells are like small boxes with lids

Producers in the food _____

Have either _____ or bilateral symmetry



Biogenic silica - Wikipedia, the free encyclopedia

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

Also sold as a natural _____ 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 _____ and then each regenerates

Diatoms tend to get _____ with each generation

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

# 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 _____

Sexual and asexual reproduction

Blue-Green-Algae.jpg (3600×2700)

# Red algae

Muticelluar found in _____

red pigments absorbs light that penetrates into deep waters

Some are used to make agar (_____ foo

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

# Brown algae

Multicellular, _____ environments

Grow on coasts

Among the largest organism on _____

NOAA Ocean Explorer- Estuary to the Abyss