

Protists are...

- ☐ First eukaryotes
- ☐ Unicellular

Eukaryotes

General characteristics:

- Unicellular eukaryotes
- Solitary or colonial
- Free-living or parasitic

Chlamydomonas
a photosynthetic eukaryotic cell.

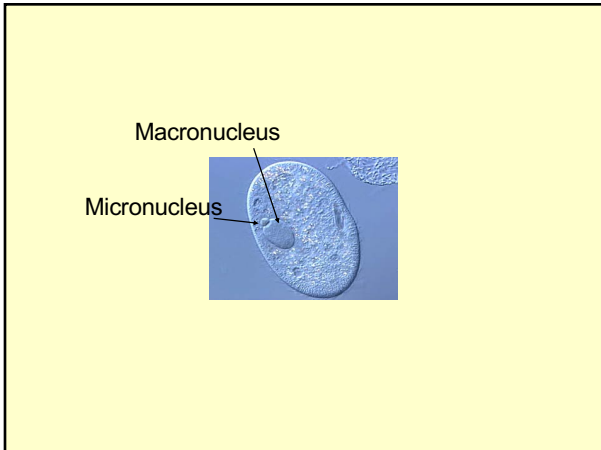
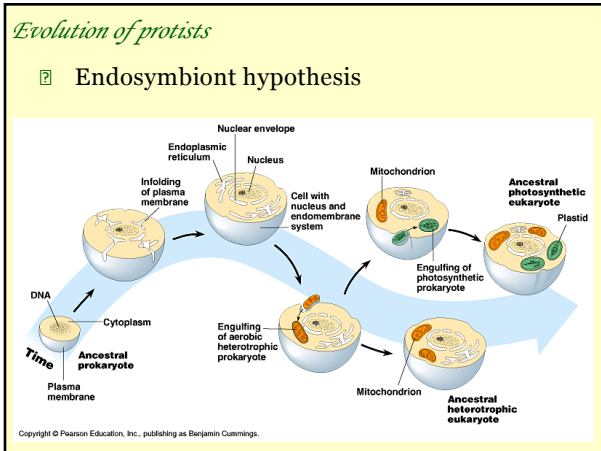
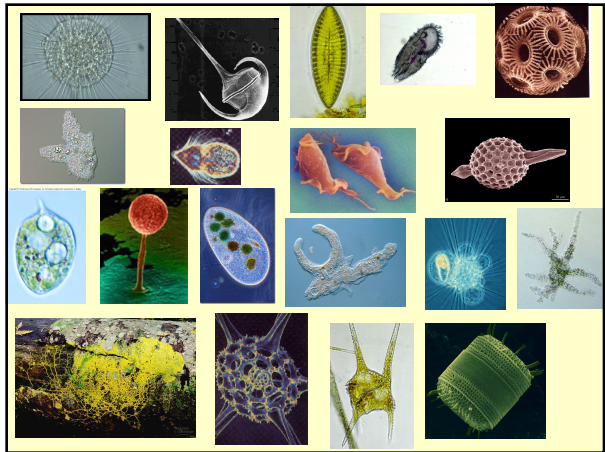
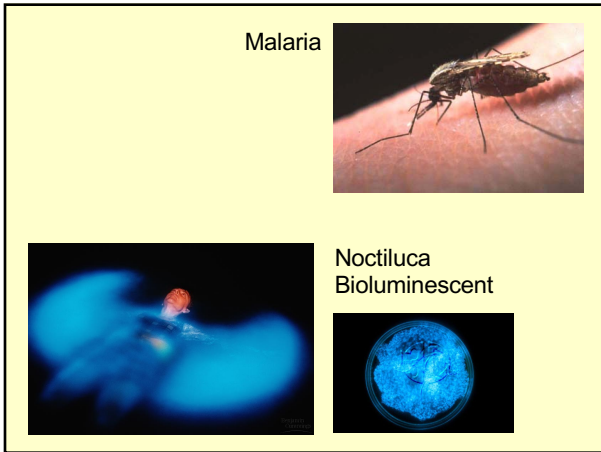
Kingdom Protista

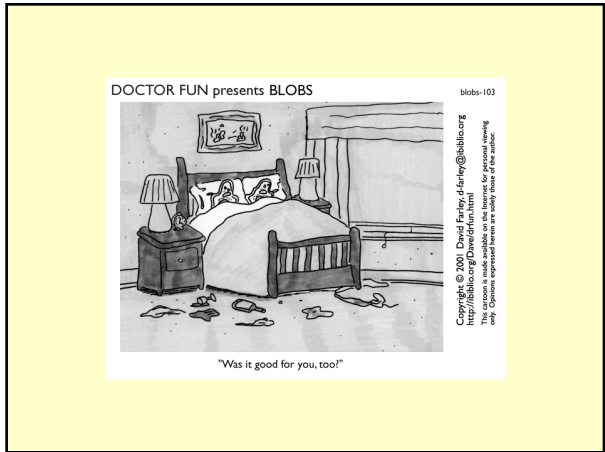
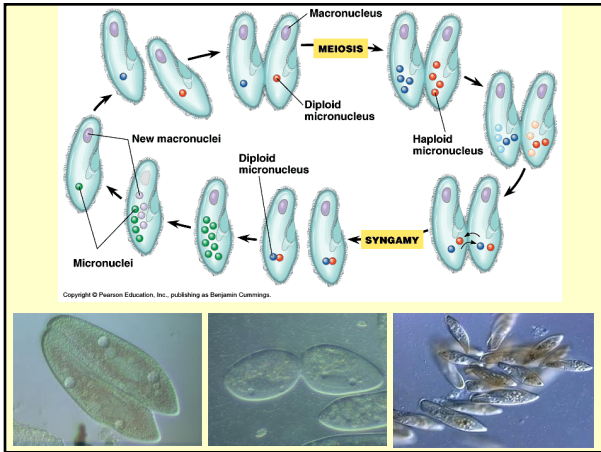
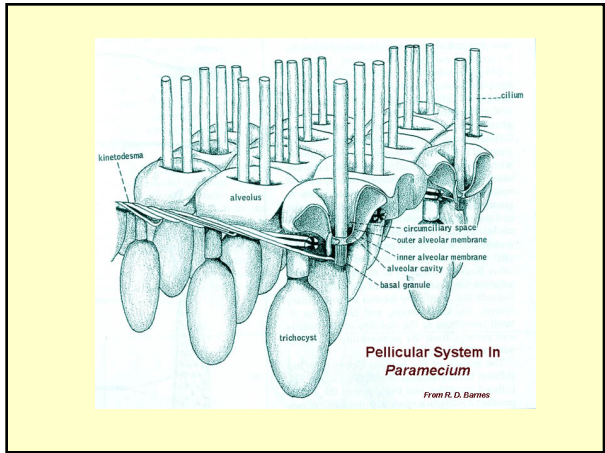
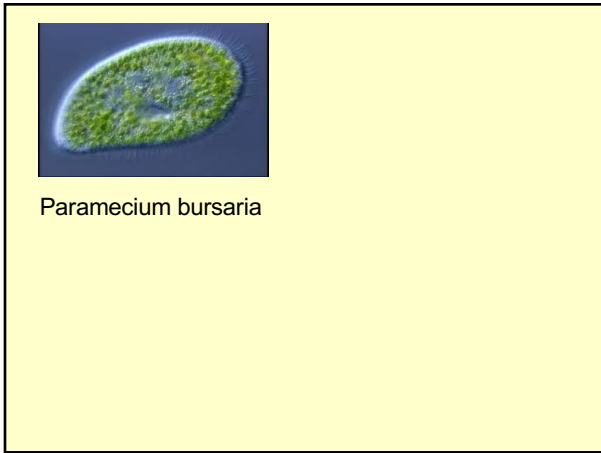
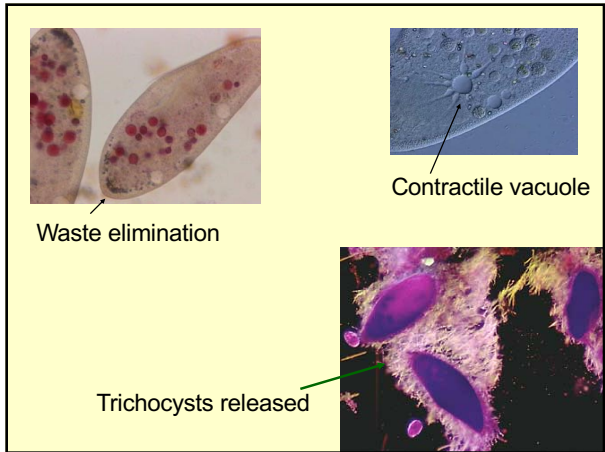
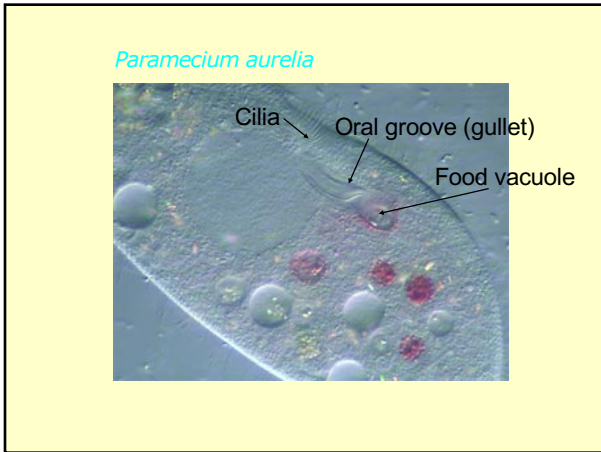
- ☐ Animal-like phyla
 - Ciliophora
 - Zoomastigina
 - Sporozoa
 - Sarcodina
- ☐ Plant-like phyla
 - Euglenophyta
 - Pyrrophyta
 - Chrysophyta
- ☐ Fungus-like
 - Acrasiomycota
 - Mysomycota

☐ Unicellular, colonial

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Get the kids, Iris - the microscope is back!





Phylum Zoomastigina



1. Animal-like with flagella

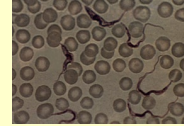
1. Absorb food
2. Asexual or sexual (form gametes)
3. Some parasitic
4. Some cause diseases
 - a) African sleeping sickness
 - b) Chagas disease
5. flagella are whip-like (1-4 flagella)

Example

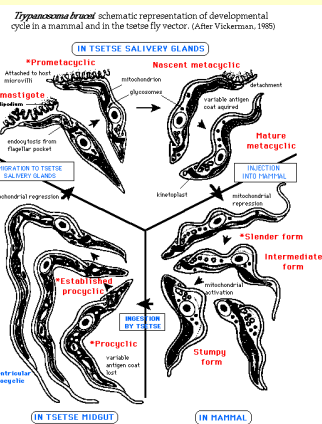
Trypanosomes (genus of Zoomastigina)
African sleeping sickness



Tsetse fly

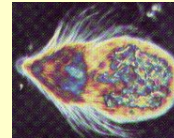


Trypanosomes in blood

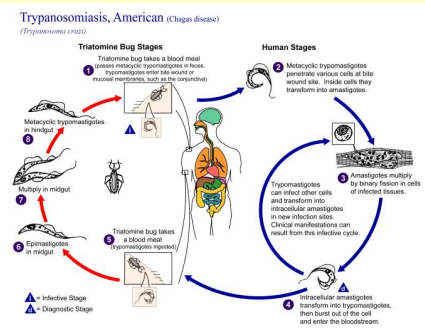


Trichonympha - beneficial protist

Lives in termite guts, allows it to digest cellulose

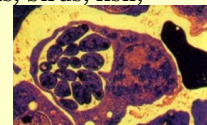


Chagas disease



Phylum Sporozoa

- ☐ Spore producing
- ☐ Non-motile
- ☐ Parasitic (on worms, insects, birds, fish, mammals)
 - Some disease causing
 - a) Plasmodium - malaria
 - b) Giardia - intestinal
 - c) Trichomonas - intestinal & venereal



Female *Anopheles* mosquito (definitive host) bites human (intermediate host) injecting *Plasmodium* spores in mosquito saliva into human bloodstream.



<http://www.uu.edu/class/malaria/Plaslife.htm>

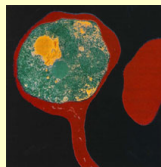
Infect liver where they mature, divide & multiply



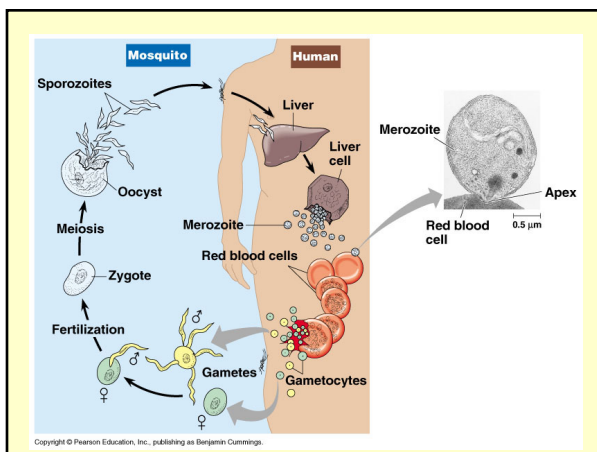
<http://www.uu.edu/class/malaria/Plaslife.htm>

The resulting merozoites invade red blood cells where they feed upon the cell hemoglobin, they grow & cause cells to burst every 48-72 hours

(Causing malaria symptoms – loss of red blood cells, chills and fever)

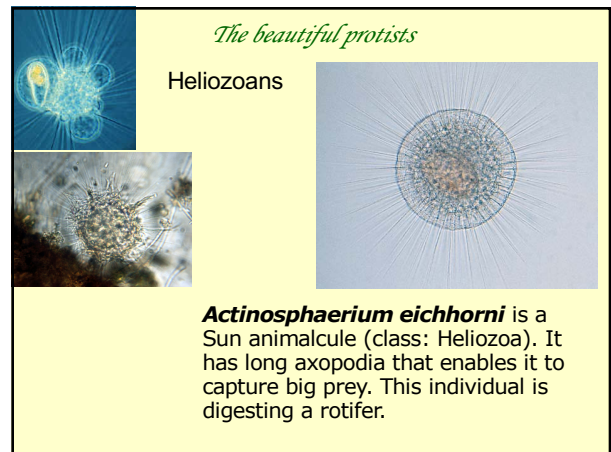
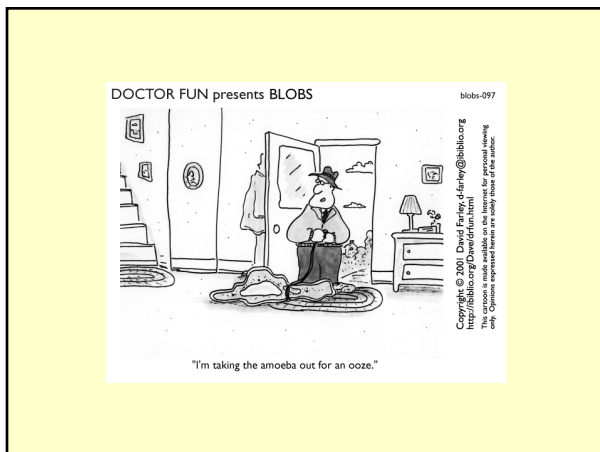
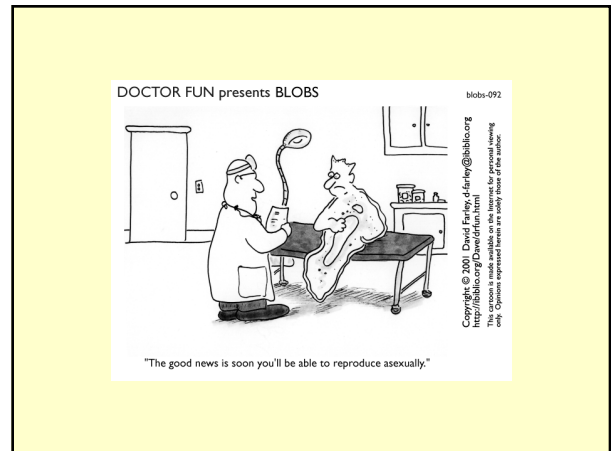
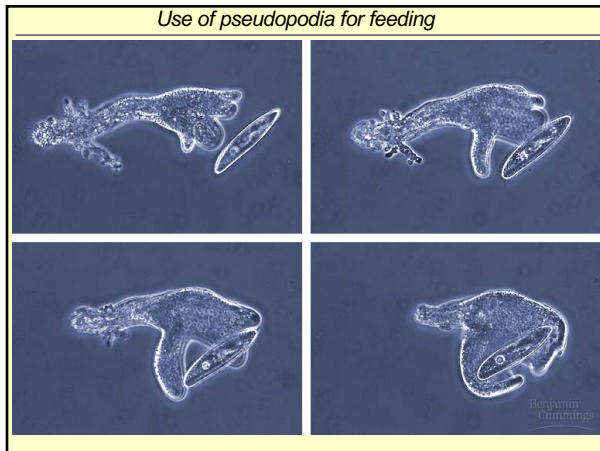
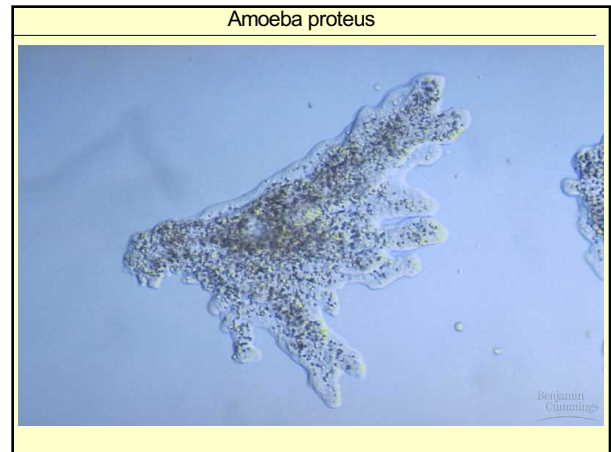
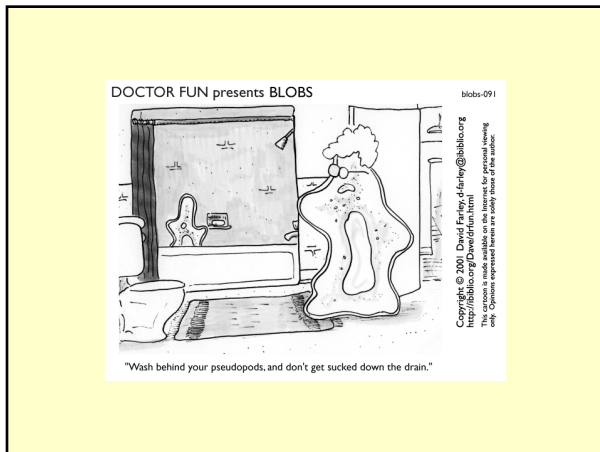


Some of the merozoites develop into male and female gametocytes which are ingested by a mosquito when she takes a blood meal

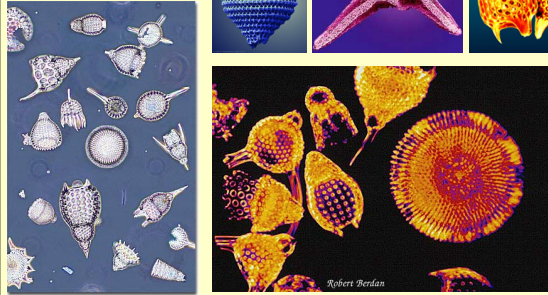


Phylum Sarcodina

- ❑ False feet called pseudopods
- ❑ Amoebas
- ❑ Heliozoans, radiolarians, foraminifers



Radiolarians



Foraminifers

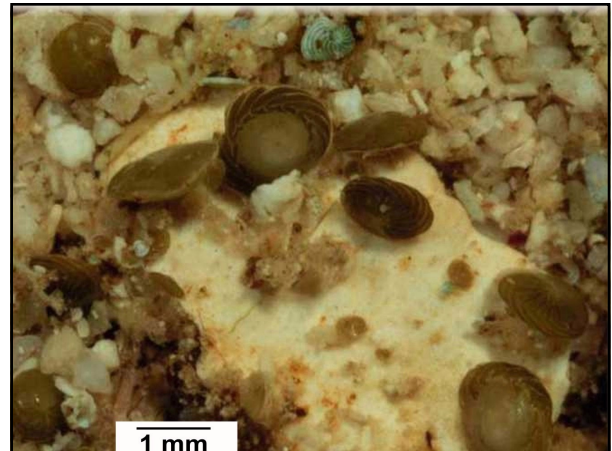


>1000x magnification

Orbitoides is an index fossil. This 'small coin' of a diameter of a few millimetres only occurs in rocks of late Cretaceous age. The same holds true for Siderolites, the 'little star'.



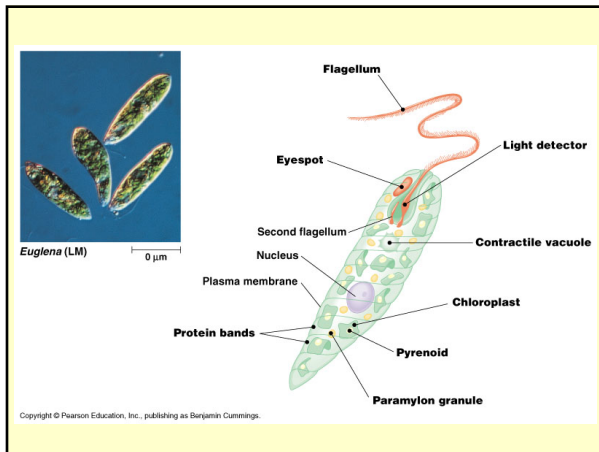
White cliffs of Dover



Plant-like protists Phylum: Euglenophyta

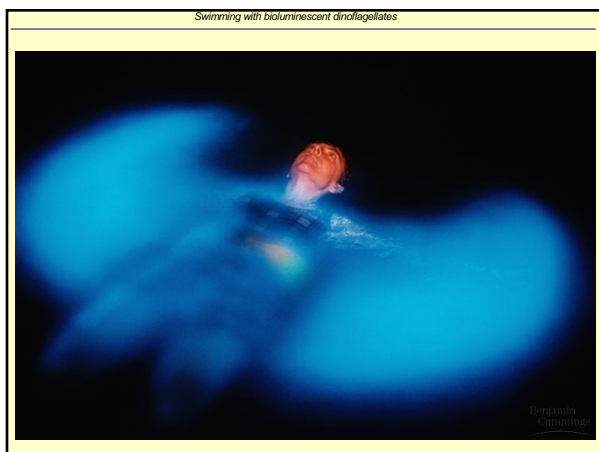
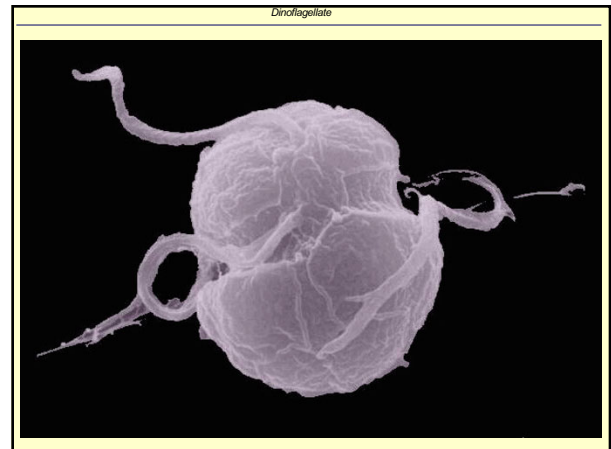
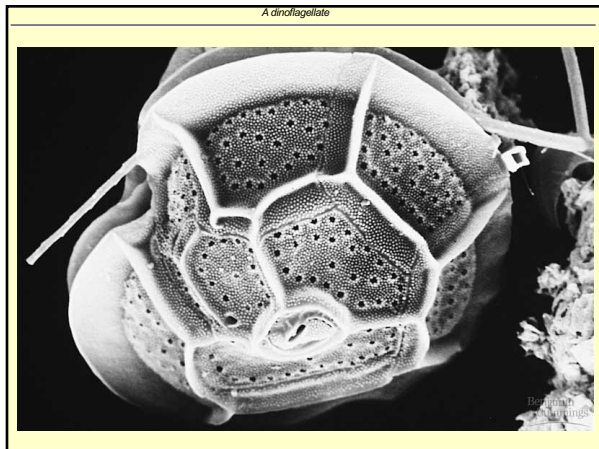


Euglena



Phylum: Pyrrophyta

- ☐ Fire protists
- ☐ aka Dinoflagellates
- ☐ Most photosynthetic



Two chemicals are required.
a Luciferin (a protein that produces light)

Two chemicals are required.

a Luciferin (a protein that produces light)

a Luciferase (an enzyme - catalyst)

Two chemicals are required.

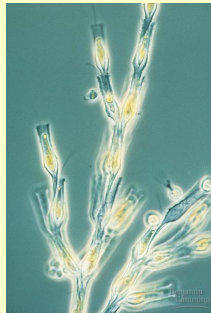
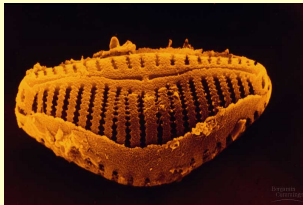
a Luciferin (a protein that produces light)

a Luciferase (an enzyme - catalyst)

With oxygen they produce light and oxyluciferin (an inactive product)

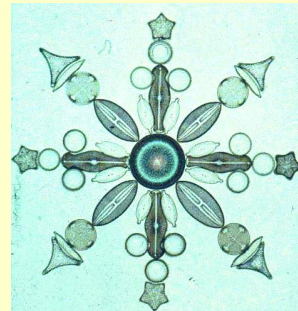
Phylum Chrysophyta

Diatoms

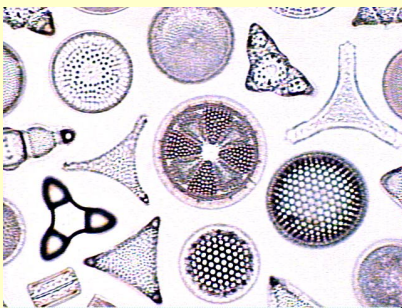


Golden algae

Diatom art

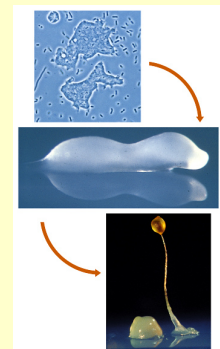


Diverse

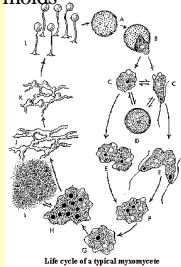


Fungus-like protists *Slime molds*

- Phylum Acrasiomycota
 - cellular slime molds

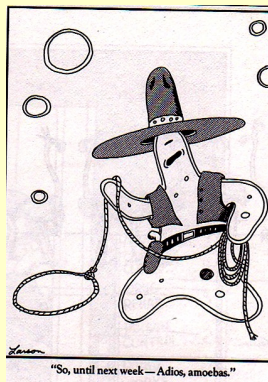


Phylum: Myxomycota
Plasmodial acellular slime molds



sporangia

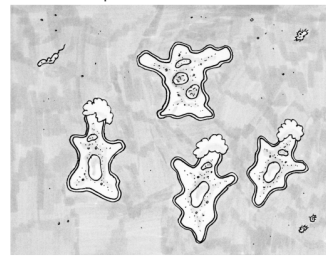




"So, until next week—Adios, amoebas."

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blobs-098

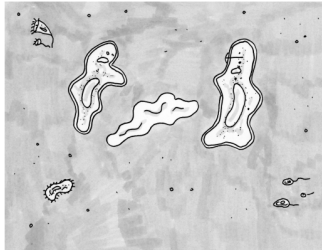


The Blob With Two Nuclei

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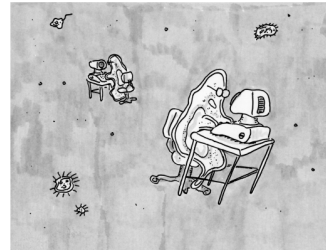


"You fool! You're in love with a wad of gum!"

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Micro microcomputers needs

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"And just for that remark, young man, you can go wash out your vacuole with soap."

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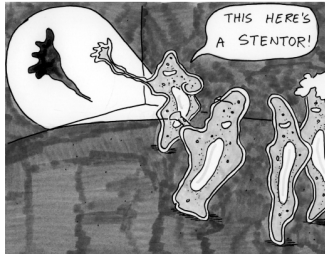


Little did Donald know he was being observed.

blobs-101

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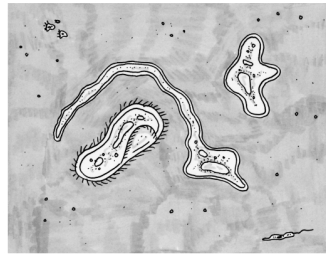


Teeny-tiny amusements

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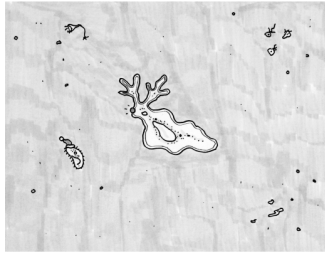


"Go for it, Wally!"

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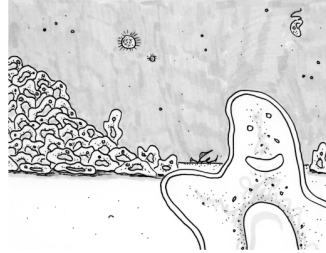


Rudolph the Red-nosed Amoeba

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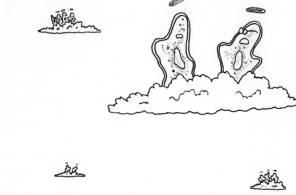


"Hey everybody - slime mold!"

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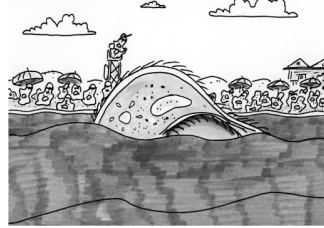


"The last thing I remember seeing, in letters that seemed a mile high,
was the word 'Lysol'."

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"Out of the water! Everybody out of the water! Paramecium!"

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