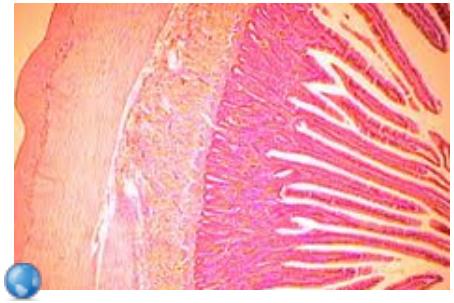
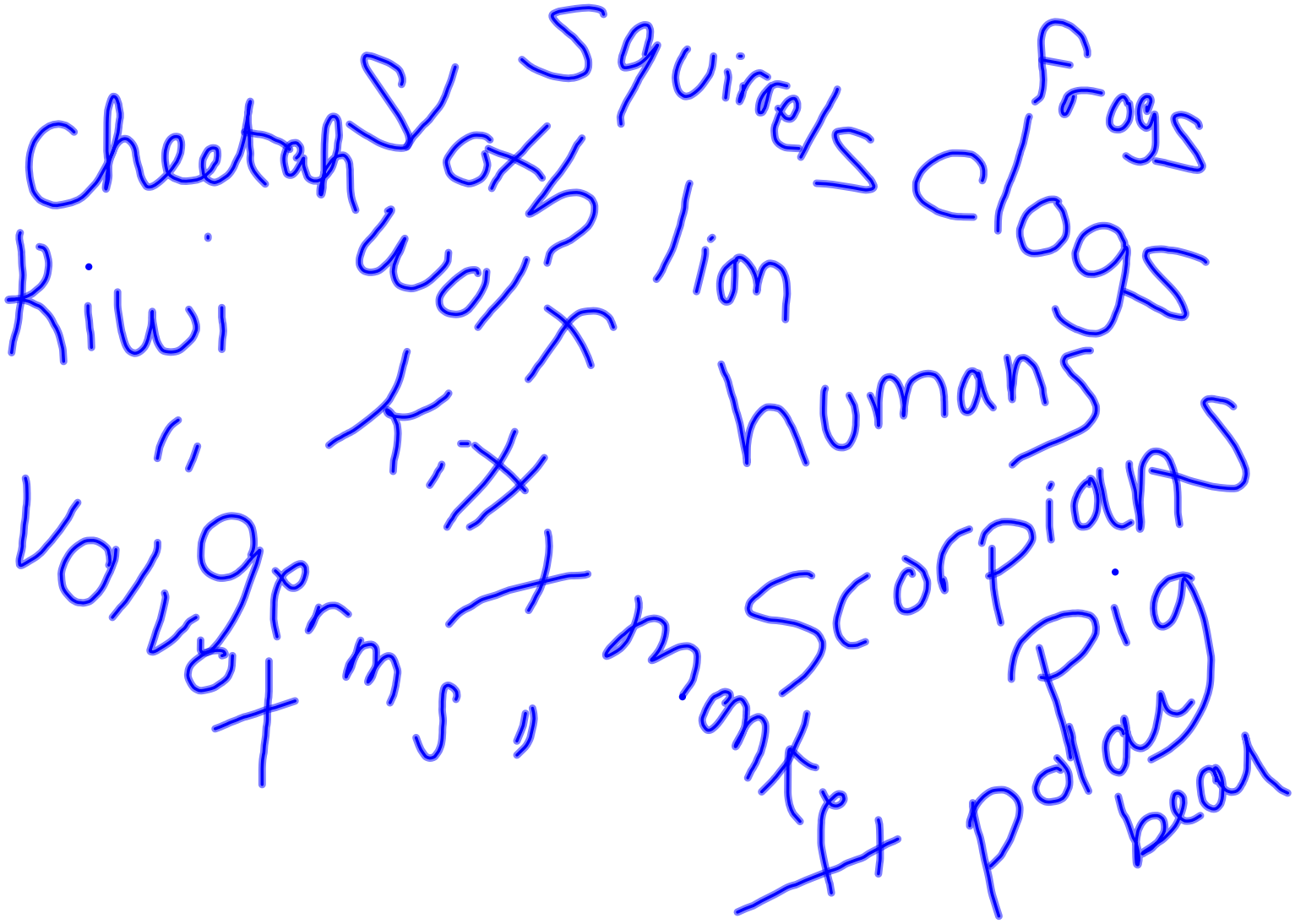
Chapter 20 Notes

What do all of these have in common?



Name as many different living organisms as you can.



Eubacteria

- Prokaryotes
- Found in every environment on earth
- Cell wall- made up of peptidoglycan
- Gene structure- no introns
- Gene translation- very different from eukaryotes and archaebacteria

Used for/ Found In

- Processing food

yogurt
olives
vinegar
sour cream
cheese
sauerkraut

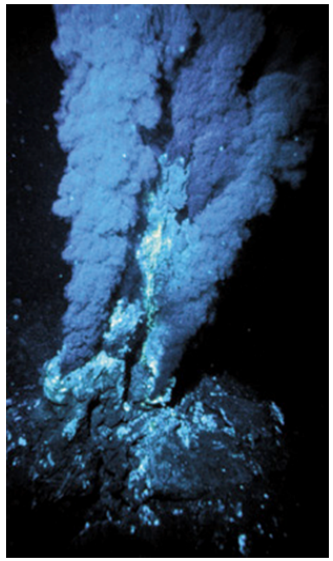
- Producing chemicals
- Human body

Archaebacteria

- Prokaryotes
- Cell wall and membrane that does not contain peptidoglycan
- Use different lipids than bacteria and eukaryotes
- Gene structure and translation - introns, proteins similar to eukaryotes

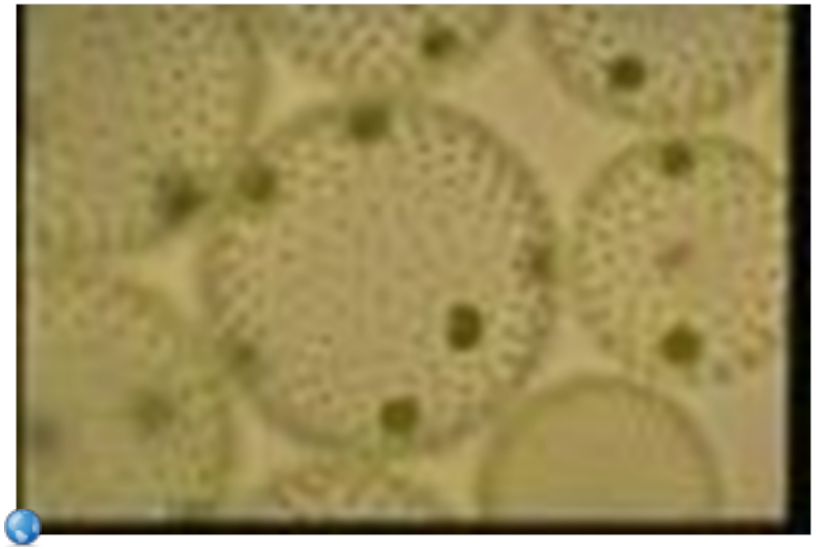
Three major groups

- Methanogens- get energy from methane gas, found in swamps
- Thermophiles- live in hot water 140-176 degrees
- Halophiles- salty place like Great Salt Lake



Half the biomass on the earth is single celled organisms

- Colonial organisms- group of cells that are permanently associated but do not communicate with one another.



Aggregation-Temporary collection of cells that come together for a period of time and then seperate

Multicellular organism- Composed of many cells and are permanently associated with one another.

Quick Lab Page 437

Protists

- Most diverse kingdom

- Defines as eukaryotes that are NOT fungi, plant, or animal

- Unicellular (All single celled eukaryotes are protists [except for yeast]

- Most important protist are the algae

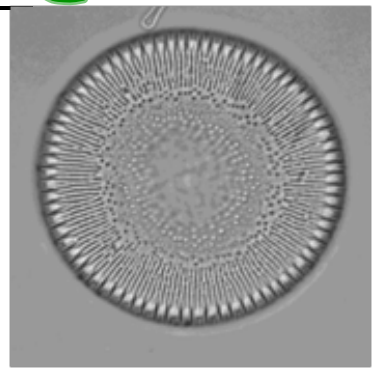
- They are the food basis for the ocean food web

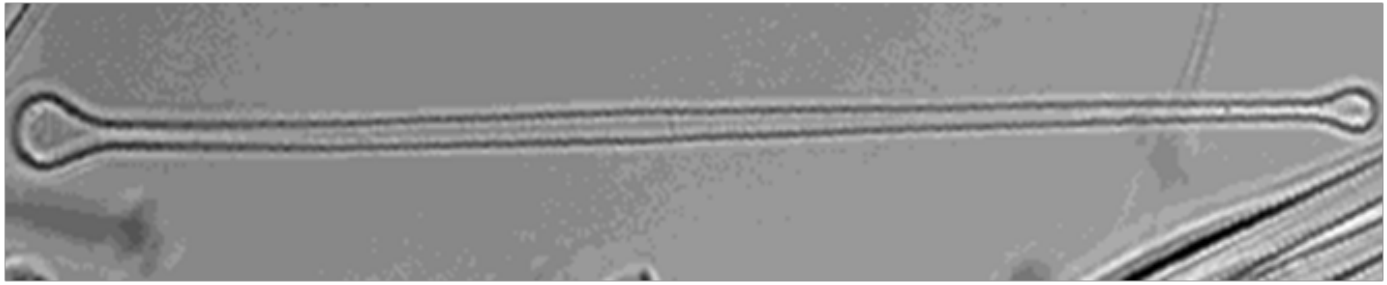
Protists the use pseudopodia

Protists that use flagella

Protists with double shells

- Diatoms are photosynthetic
- Double shells made of silica
- They are plankton

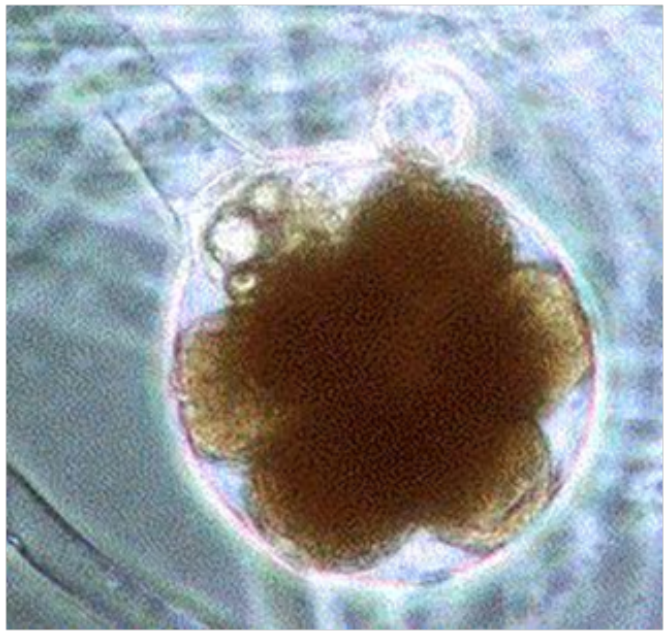




Photosynthetic algae

- Algae are divided by the types of Chlorophyll they contain
- Found in marine and freshwater

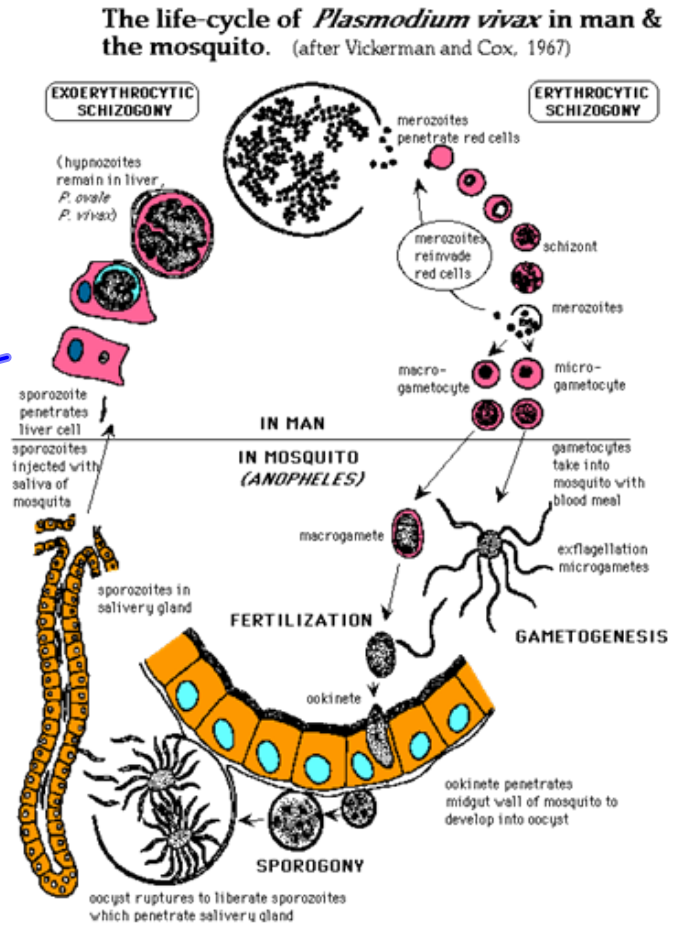
Funguslike protists



- Slime molds
- Water molds
- They aggregate in time of Stress
- Found in freshwater, damp soil, and forest floors

Spore-forming protists

- Nonmotile
- unicellular parasites
- Complex life cycles



Fungi

- Appear as slender filaments barley visible to the human eye (hyphae)

- In some species the hypyae weave together to for reproductive structures such as mushrooms

- The presence of septa are a key way the fungi differ.

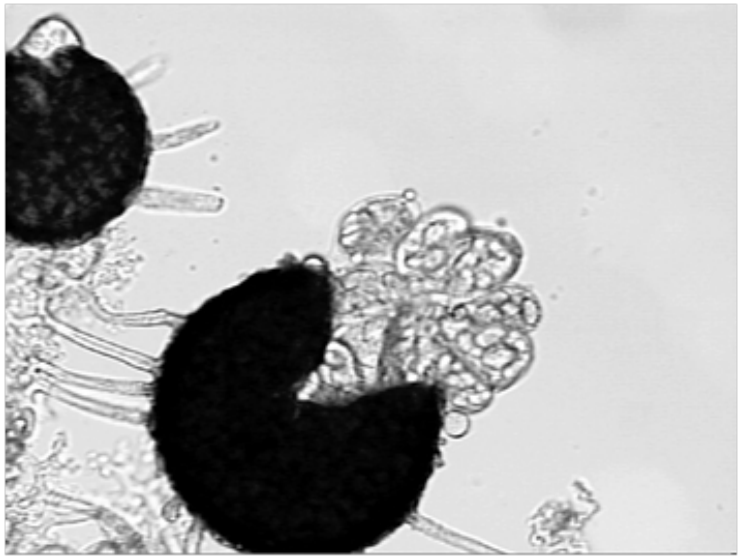
Zygomycetes

- Form structures for sexual reproduction called zygosporangia
- Common bread mold

Basidiomycetes

- Includes fungi that make mushrooms
- Mushrooms are the sexual reproductive structures of these

Ascomycetes



- Sexual reproductive sac like Structures called asci

Plants

- Multicellular ~~autographs~~ autotrophs
- Can not move from one place to ___another___
- Structures such as spores and seeds ___disperse___ the plants
- Primary producers on terrestrial web
- ___Release___ oxygen as gas
- Vascular tissue- a group of specialized cells that transport water and ___other___ nutrients

- Plants vary in Size
- Duckweed
- Redwood Tree

Nonvascular plants

- Do not have a well-developed system of vascular tissues

- Small plants

- Lack roots, stems, and leaves

Seedless Vascular Plants

- They have roots, stems, and leaves
- Waxy covering on surface to prevent water loss
- Reproduce with spores that are resistant to drying
- Ferns

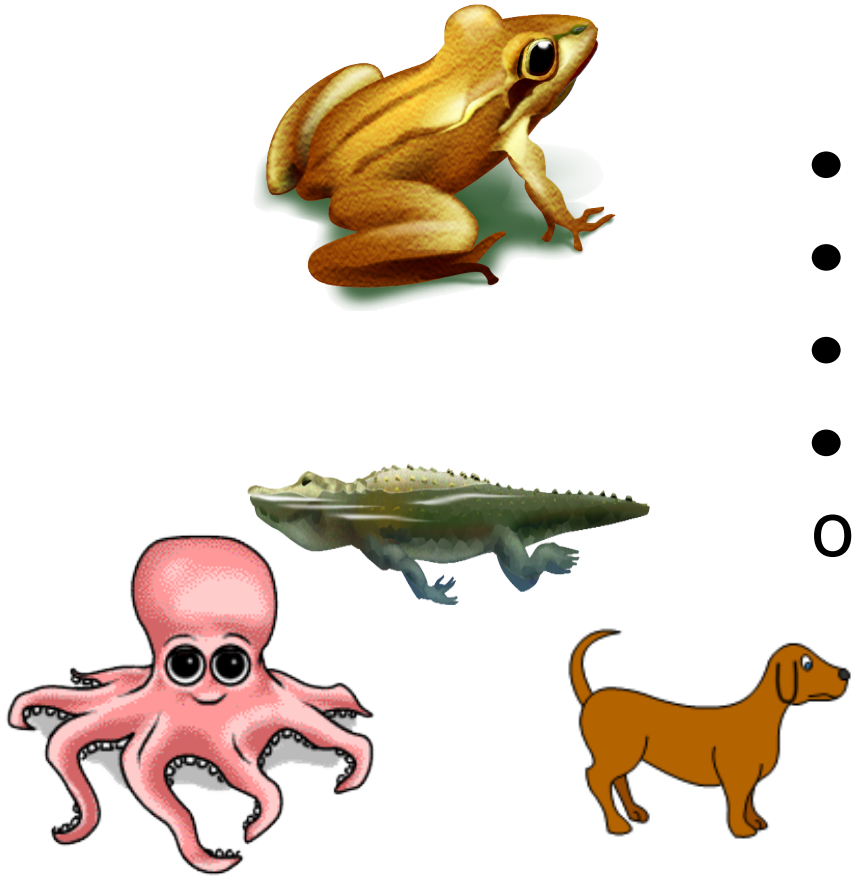
Nonflowering Seed Plants

- Gymnosperms vascular plants that reproduce by making seed but not flowers.
- Seeds might be in the pine cones.
- Seeds survive long and harsh conditions.

Flowering Seed Plants

- Produce seeds in fruits called angiosperms
- Fruits are structures that enable plants to spread their seeds.

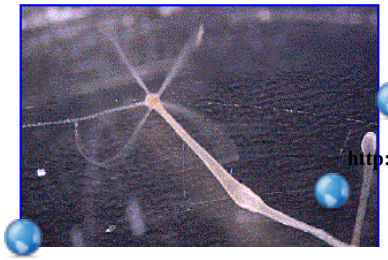
Animals



- multicelluar
- diploid
- lack a cell wall
- have tissues and organs

Sponges

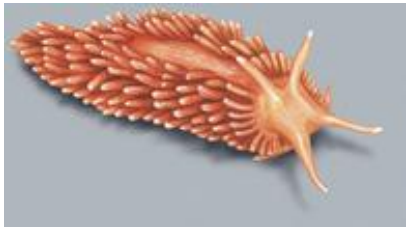
Cnidarians



http://www.cyhaus.com/marine/anemone.htm

http://www.ucmp.berkeley.edu/cnidaria/hydrozoa.html

Mollusks



Worms

Arthropods

Echinoderms