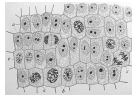


Cells!!



1.) What are cells? -the basic units of structure and function in living things

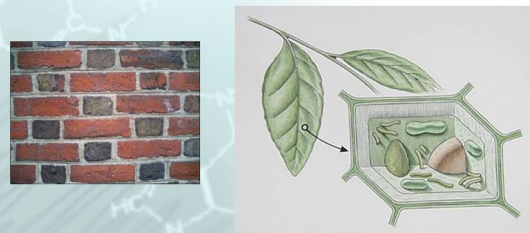
2.) What things are made up of cells? -all living things (organisms)

3.) What characteristics do living things have? -eat, breathe, move, reproduce...

Oct 31-3:15 PM

Cells and Structure


Cells are like the parts of a car, they are small parts of a whole. Like the bricks in a building, cells make up the structure of your body.



Mar 30-7:10 AM

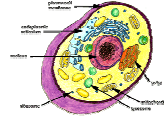
Cells and Function

Like the parts of a car, cells have jobs. The oil filter has the job of cleaning dirt from oil in the car, this is its only job and it is made to do it well. Cells are just like this, they are designed to do a specific job.



Mar 30-7:14 AM

Cell Theory



- All living things are composed of cells
- Cells are the basic units of structure and function in living things
- All cells come from other cells.

Nov 3-4:37 PM

Living Things

So what is the difference between living and nonliving things?


Click below to learn more about the 7 characteristics of life.

Living Things			Non Living Things		

Oct 30-7:12 PM

Living Collage Mini Project

- Create a small poster collage of living things
- Worth a quiz grade
- Due on Tuesday, November 5th.



Individual Activity: Living Things

- Complete worksheet on living things
- Turn into class tray when finished or complete for homework and turn in tomorrow

Oct 30-7:22 PM



vortex game

Warm Up


Turn in your homework!!

- 1.) What are some characteristics of living things?
 - eat, breathe, move, reproduce...
 - cells are basic unit of life
- 2.) What is the Cell Theory?
 - all living things are made of cells
 - cells come from other cells
- 3.) What piece of technology might we use to take a closer look at small things, like cells?
 - microscope

Oct 30-7:34 PM

Important People

- **Robert Hooke**- first discovered cells by looking at cork
- **Anton van Leewenhoek**- first person to observe live cells under a microscope
- **Schwann**- found out that all animals are made of cells
- **Schleiden**- found out that all plants are made of cells
- **Virchow**- found out that cells create other cells



Nov 3-5:17 PM

Timeline Activity

- Work in your table groups to create a timeline of the important events leading up to the development of the Cell Theory
- Use the instruction sheet to guide your work
- Use the textbook and print outs as references for your information.
- **Focus on their contribution to the Cell Theory -I don't need to know when/where they were born or went to college**
- **Make your timeline neat and organized (use the example in the book to help you)**
 - **Put all of your names on the back of your timeline**

Oct 30-8:07 PM


Warm Up

- 1.) Which two famous scientists were among the first to use microscopes to view cells?
- 2.) How should you always carry a microscope?
- 3.) Why do scientists need microscopes? Why do we need to see things that small?

Oct 31-3:41 PM

Light Microscopes

- Light microscopes are cheaper, smaller and easier to use, but they can only make objects look about a 1000x larger.
- They work by using lenses (curved pieces of glass) to bend light.
 - Simple microscopes have only one lens (think: magnifying glass)
 - Compound microscopes use two lenses to magnify the object
 - Compound microscopes are much better at magnifying objects



Click here to learn a little more about microscopes!

Mar 30-7:15 AM

Crossword Challenge!

Nov 3-8:27 PM

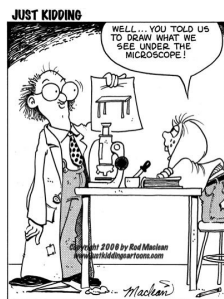
Warm Up

- 1.) How many lenses does a compound microscope have? -2 lenses
- 2.) How can you calculate the power of magnification? -multiply the power of the ocular lens by the power of the objective
- 3.) How should you always carry a microscope? -with 2 hands; 1 on the arm and 1 on the base

Oct 30-8:11 PM

Microscope Mania Lab

- You will be working in groups of 5-6.
- Each person is responsible for their own lab sheet.
- You will rotate through each lab station, completing 3 each day.
- This is a 2-day lab activity; groups will not change.
- This lab is worth a test grade!



Oct 29-8:37 AM

Lab Safety

- Stay in your lab groups! Do NOT roam around the room visiting other groups.
- You shouldn't be carrying microscopes anywhere, but if you do, hold with both hands.
- Handle slides carefully! They are glass and may break.
- Report any broken materials or injuries to the teacher immediately!
- NO GUM!



Oct 29-8:47 AM

Warm Up

- 1.) What types of organisms, if any, did you find in the water samples used in the lab?
- 2.) Which objective lens (4, 10, 40) did you find it easiest to observe small specimens using the microscope?
- 3.) What is a microorganism?

Nov 5-11:46 AM

Microorganisms

- also known as microbes
- the study of microorganisms is microbiology
- can be unicellular, multicellular, or acellular (without cell structure -some viruses)
- Can be autotrophic or heterotrophic
- Microorganisms live in all parts of the Earth where there is liquid water, including soil, hot springs, on the ocean floor, high in the atmosphere and deep inside rocks within the Earth's crust.



Nov 3-5:27 PM

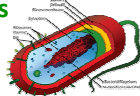
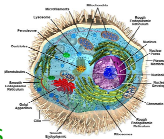
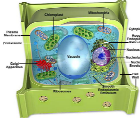
> There are **2 main categories of cells**

> Prokaryotic cells

- Cells that do not contain a nucleus
- Ex.) Bacteria & Archaea

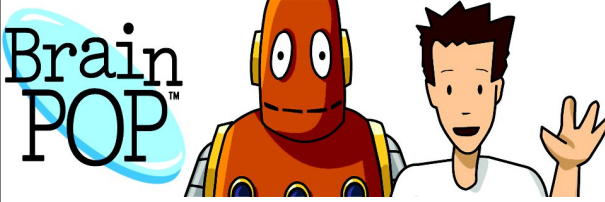
> Eukaryotic cells

- Cells that do contain a nucleus
- Ex.) Plant cells, animal cells, protists, & fungi

Nov 3-7:37 PM

Video on Protists




Nov 5-11:41 AM

Vocab - Single Celled Organisms -COPY ALL	
Amoebae	Amoebae are single-celled life-form characterized by an irregular shape and move using pseudopodia, or temporary projections of eukaryotes.
Autotrophs	Autotrophs are organisms that make their own food.
Cilium	Cilium (cilia) are "hair-like" structures that are on the outer membrane of some cells specialized for locomotion or movement.
Cytoplasm	Cytoplasm is a gel-like substance residing between the cell membrane holding all the cell's organelles, except for the nucleus.
Cytoplasmic Streaming	Cytoplasmic streaming is the directed flow of cytosol or the liquid component of the cytoplasm around plant cells.
Euglena	Euglena is a protist that can both eat food as animals by heterotrophy, and can photosynthesize, like plants, by autotrophy.
Eukaryotes	Eukaryotes are cellular organisms that contain nuclei.
Flagellum	Flagellum (flagella) are "tail-like" structure attached to the outer membrane of some cells specialized for locomotion or movement.
Heterotroph	Heterotrophs are organisms that cannot make their own food.
Multicellular	Multicellular organisms are composed of many cells.
Paramecium	Paramecium is a group of unicellular protozoa, which are commonly studied as a representative of the ciliate group, or cilia movement.
Phagocytosis	Phagocytosis is the cellular process of engulfing solid particles by reshaping the cell membrane.
Prokaryotes	Prokaryotes are cellular organisms that lack a nucleus.
Protists	Protists are eukaryotes that cannot be classified as animals, plants, or fungi.
Protozoa	Protozoa are a diverse group of single-cell eukaryotic organisms, many of which are motile.
Unicellular	Unicellular organisms are single-celled.
Volvox	Volvox is a type of green algae and forms spherical colonies of up to 50,000 cells who live in a variety of freshwater habitats.

Oct 31-3:31 PM

Quiz on Microscope Parts!


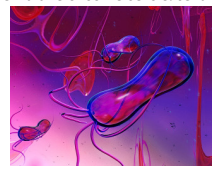
This is a timed quiz -- work quickly!



- Put away all notes.
- Write your name on the top of the quiz.
- Answer all questions to the best of your ability.
- Turn over when finished -we will quickly check in class.

Nov 5-12:18 PM

- **Methods of movement in some microorganisms**
 - > **Flagellum** (flagella, pl.)
 - A long cellular appendage specialized for locomotion or movement
 - "tail-like" structure attached to the outer membrane of some cells & cellular organisms.
 - Moves in a snake-like, side-winding motion.

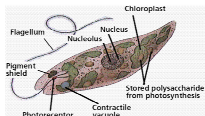



- > **Cilium** (cilia, pl.)
 - A short cellular appendage specialized for locomotion or movement;
 - "hair-like" structures that outer membrane of some cells & cellular organisms.
 - Moves in a back-and-forth motion moving at about 40-60 strokes per second.

Nov 3-7:44 PM

Protists

- Unicellular or multi-cellular organism without specialized tissues.
- Diseases caused by protists include...
 - « Malaria
 - « African sleeping sickness
 - « Amebic dysentery

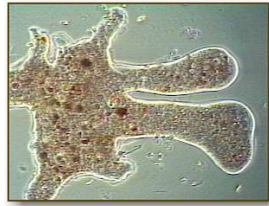
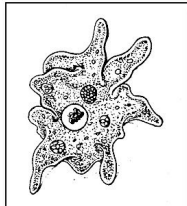


- Protists vary widely from species to species. Some call the protists the "catch-all" group because whatever doesn't fit into another group falls into this group.

Apr 27-8:44 AM

Amoeba

- The amoeba is a **single-celled organism**.
- It moves using **pseudopods**. This basically means that the amoeba extends parts of itself and uses these parts to pull it along.
- The amoeba eats by engulfing food that it encounters. This process is called **phagocytosis**.



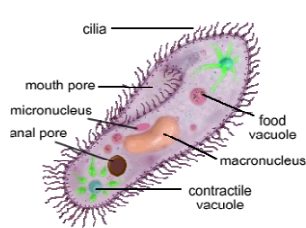
Apr 27-8:48 AM



Apr 27-8:33 AM

Paramecium

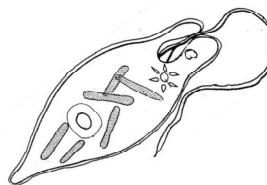
- Paramecium are **single-celled organisms**.
- They eat using a **mouth pore** that brings food into the cell.
- They move around using **cilia** (hair like things on the outside of the cell). They vibrate the **cilia** to move around in their environment.



Apr 27-8:49 AM

Euglena

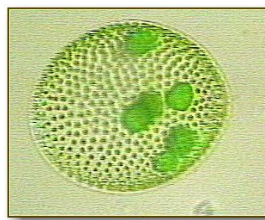
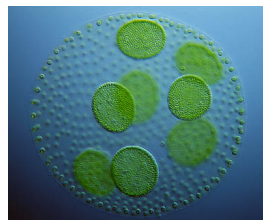
- Euglena are **single-celled organisms**.
- They eat using the process of **photosynthesis** (like a plant) and by eating food that they encounter.
- They move around using a whip-like structure called a **flagella**.



Apr 27-8:49 AM

Volvox

- Volvox are **single-celled organisms**...but they live in **colonies** and act almost like multi-cellular organisms.
- Volvox make food using **photosynthesis** (like a plant).
- Each cell has 2 flagella, but they do not move around much.



Apr 27-8:49 AM

Warm Up

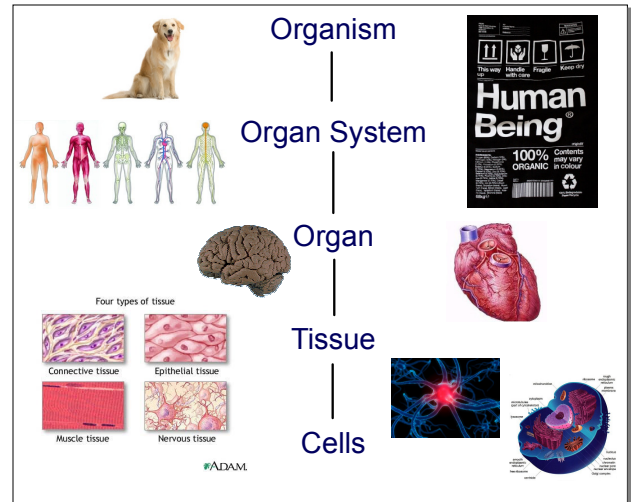
- 1.) What are 2 structures found on single-celled organisms that allow for movement? -cilia and flagella
- 2.) What does pseudopodia mean? -false feet
- 3.) What is phagocytosis? -the process of engulfing solid particles by reshaping of the cell membrane

Nov 3-4:31 PM

What makes a system?

- Living things are made up of cells.
- A group of similar cells form a tissue
- A group of tissue performing the same task form an organ
- Organs working together to carry out a job form organ systems.
- Organ systems working together form an organism

Feb 25-8:35 AM



Nov 25-2:54 PM

ORDER OF ORGANIZATION IN THE BODY

Edit

Check

Reset

Solve

?

Mar 3-9:23 AM

Jigsaw Activity -Single Celled Organisms

Each person should have a "Multicellular and Unicellular Organism" worksheet

- Each person will become an "expert" on their assigned protist using the handouts provided. (10 minutes)
- As a group, share what you've learned by teaching each other about the protist you researched. (10-15 minutes)
- Fill out the bubble maps on the back of the worksheet as you go.
- As a class: discuss findings and fill in any missing holes in the bubble maps. (10 minutes)

Red = amoeba

Blue = volvox

Green = euglena

Yellow = paramecium

Oct 30-12:54 PM

Warm Up

- 1.) What are the smallest building blocks of an organism?
- 2.) What are organs made up of?
- 3.) What makes an organ system?

Nov 25-2:43 PM

Extra Journal Entry: 11/13/13

In one well written sentence, explain how the two pictures below are related to our current topic.

Amoeba hugs...

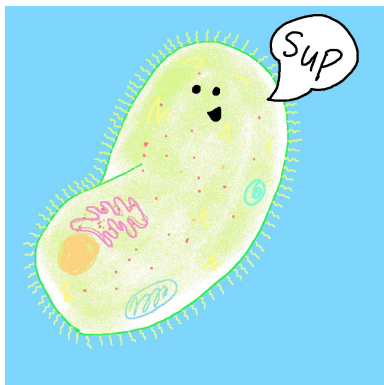
amoeba cat

absorbs its prey

are often fatal.

Nov 12-7:06 PM

Let's listen to a fun song about Protists...

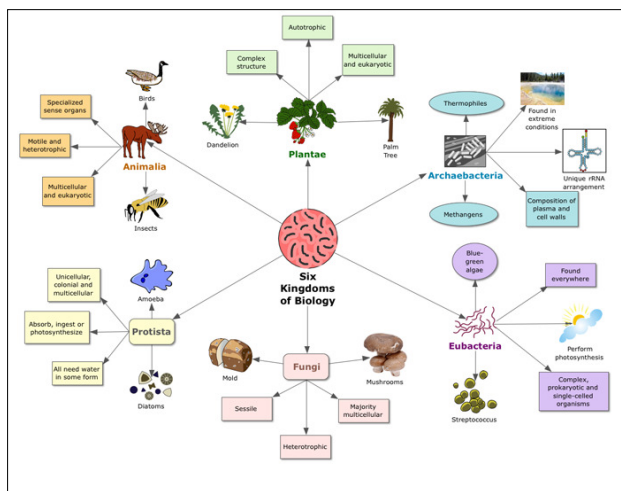


Nov 12-6:56 PM

Let's see just how small these microorganisms are...



Nov 12-6:50 PM



Nov 1-10:11 AM

Continuation of Jigsaw Activity

Use the handouts from yesterday and your 4 bubble maps to help you complete this activity.

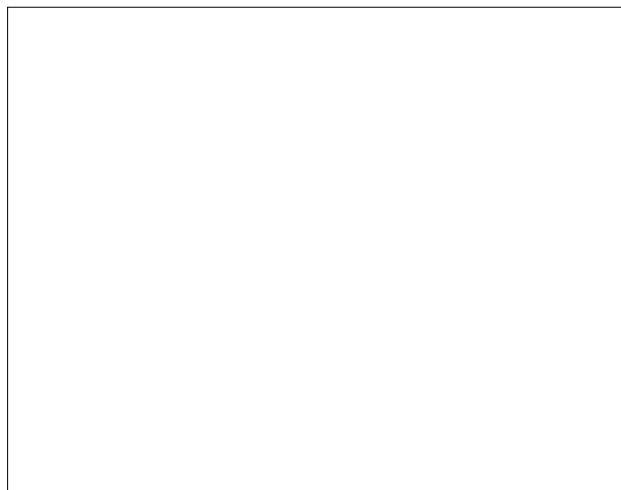


First, let's mix up these groups. Grab all of your stuff and get ready to move.

- In your new groups, combine all information you have to create one large flow chart or bubble map.
- All 4 unicellular organisms must be on the chart.
- Connect bubbles/boxes with lines and make it organized.
- Organisms should be connected when same characteristics are shared.



Nov 12-7:12 PM



Nov 12-7:19 PM