ORGANISMS AND ENVIRONMENT FILL IN NOTES:

Use the information at each station to complete the notes below.

The Cell Theory:

All living things are made up of _____-

Cells are the _____ working unit in all living things

All cells come from _____ _____

Types of Cells:

Prokaryote: organism that has no _____ and no ____ _____.

_____: organism that has a nucleus and a cell membrane.

Organisms are classified by:

- _____
- _____
- _____

_____organism made of only 1 cell (single celled organism)

Characteristics and examples of Eukaryotes include:

Very small – _____(cannot be seen without a microscope).

Examples: _____, _____, and _____, many others.

_____- an organism made of 2 or more cells.

Some characteristics / examples of multicellular organisms include:

- Most can be seen without _____.
- Examples: _____, _____, _____, and many others

Organism's ability to obtain Food / Nutrients:

_____make their own food using energy from the _____.

Plants conduct _____ using chloroplasts inside their cells that capture the Sun's energy.

Other types of organisms can do this as well sometimes such as some bacteria and fungi.

_____– depend on eating other organisms to get food and nutrients.
Animals, Fungi, Protists, Bacteria and some Archaea

Reproduction

Types of reproduction in organisms include:

_____ Reproduction – 1 parent replicates itself or divides into two identical cells.

_____ Reproduction – 2 parents, cell has half of the mom's material and half of the dad's material (DNA), cell is not identical to parents.

The largest and first level of classification is the _____. There are ____ major Domains that all organisms are categorized into. They are:

- _____
- _____
- _____

The next level of classification below the Domain is _____.

The Bacteria Domain has the _____ Kingdom.

The Archaea Domain has the _____ Kingdom.

The _____ Domain has _____ Kingdoms which are:

- Kingdom _____
- Kingdom_____
- Kingdom_____
- Kingdom_____

_____Kingdom includes _____, unicellular organisms that reproduce _____. Some are _____ and depend on food from others while some are _____ and make their own food. Some examples are ecoli, salmonella, and yogurt.

_____Kingdom includes unicellular, _____(no nucleus) organisms that are considered extremely small or _____. These organisms reproduce _____. Some are _____ while others are _____ and use the sun to produce their food.

_____ Kingdom includes small organisms that are _____ (have a nucleus and a cell membrane). Some are unicellular like the _____ or _____while others are _____.

A few protists are _____ (can produce their own food) while most others are _____ and depend on others for food.

Kingdom Protista has some organisms that can reproduce _____ while others need two parents to reproduce _____.

Kingdom _____ has _____ (nucleus and cell membrane) that are _____ (two or more cells).

Organisms in Kingdom Plantae are unique in that they all have a rigid outer layer called the _____ _____.

All plants are _____ and have a unique structure in their cells called a _____ which captures sunlight for photosynthesis that results in food for the plant.

The chemicals inside the _____ are also why most plants are _____ in color on their leaves and stems.

Kingdom _____ also has organisms that are Eukaryotes.

Animals are _____ organisms (having many cells).

Organisms in Kingdom Animalia are _____ and cannot make their own food using the sun. They must depend on eating other organisms for nutrients.

Animals reproduce _____ and produce offspring with _____ the dna material from the dad and _____ the dna material from the mom.

Kingdom _____ also includes only _____ (having a nucleus and cell membrane.

Organisms in Kingdom Fungi are _____ (more than one cell) and they are _____ which means they must depend on others for food.

Three common examples of Fungi are :

- _____
- _____
- _____

Vocabulary: Organism Unit

Prokaryotic/Prokaryote	**Eukaryote/Eukaryotic**
Abiotic	**Biotic**
Unicellular	**Multicellular**
Autotroph	**Heterotroph**
Organism	**Population**
Community	**Ecosystem**
Decomposer	**Cell**

- For each vocabulary word, write the definition and a picture.

• Word	• Definition	• Picture
•	•	•

- Create a new section in your journal called Organisms. This will be your activity number 1.

October 12, 2020 - Organisms Test Study Guide

Study and prepare for your test. **Your test is on October 12, 2018**. **This is two-page document. Scroll Down!**

- Study your **Organisms Vocabulary Terms** and your **Characteristics of Organisms Comparison Chart**
- **Examples of each type of organism**
- Study your Activities and notes in your lab journal**– be able to classify organisms (Kingdom and Domain)**
- Make sure you have **checked the answers to your textbook pages** and **classifying organisms chart**. The answers are located in the updated **Organisms 2020 PowerPoint.**
- **In-class REVIEW Day is October 13th and 14th! ☺ Your test days are October 15th and 16th**

The broadest level of classification is the Domain. The Domains are divided into 6 Kingdoms.

1. What are the 3 Domains and 6 Kingdoms? (Look at your foldable)

2. Cells are the basic building block of all _____? All organisms are made up of _____.
3. What the difference between a multicellular and a unicellular organism?

4. How many Kingdoms only have prokaryotes?

5. How many Kingdoms have eukaryotes?

6. What do we call a cell that has a membrane-bound nucleus?

7. What do we call a cell that lacks a nucleus?

8. How is Archea different from Bacteria?

9. A description of the Protist Kingdom= This is known as the 'catch-all' kingdom. Some are unicellular (ex. paramecium) and some are multicellular (ex. algae). Some are autotrophs and some are heterotrophs. They are ALL eukaryotic and have a nucleus in every single cell.

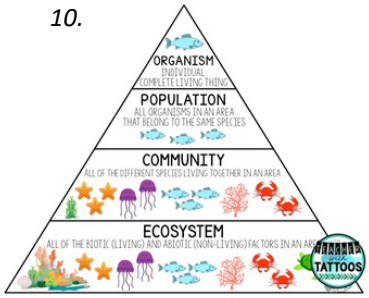
10. List the levels of organization within an ecosystem:

11. How is a community different from an ecosystem?

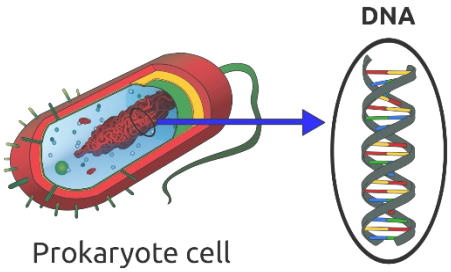
12. How is a population different from a community?

Answers:

1. *3 Domains = Bacteria , Archaea, Eukarya*
   6 Kingdoms: Eubacteria , Archaebacteria, Protista, Plantae, Fungi, Animalia
2. *Organisms , cells*
3. *A unicellular organism has one cell that carries out all life functions. In other words, that one cell is responsible for everything. A multicellular organism have tons of cells that specialize in different areas. Therefore, different cells will be responsible for different life functions.*

4. *Two Kingdoms have Prokaryotes : Eubacteria and Archaea*
5. *Four Kingdoms have Eukaryotes: Protista, Plantae, Fungi, Animalia*
6. *Eukaryotic Cell*
7. *Prokaryotic Cell*
8. *Archaea's can live in very harsh extreme conditions that most bacteria could not survive in.*
9. *Number 9 is information so that you understand a Protista.*
10. 

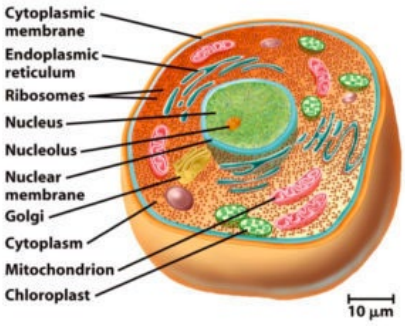
11. *Communities include all **organisms** only (biotic factors). The living things = community. An ecosystem includes the biotic and abiotic factors. Abiotic factors = nonliving. Abiotic factors include sunlight, water, soil, sand, rocks, air, etc.*
12. *Population = 1 particular species living in a particular area. (ex. = 34 grey wolves in the forest) Community = more than one species living close enough together to interact within the ecosystem. (ex. field mice, wheat grass, snakes, frogs, and dragonflies)*



Prokaryote cell

Remember: in a eukaryotic cell, the DNA is located inside of the Nucleus. The Nucleus is like the skull protecting the DNA.

A eukaryotic cell



Microscope Lab – Different Types of Cells

All organisms are made up of cells. A cell is the simplest collection of matter that can live. Most cells are very small, so we need to use a microscope to see them.

Each cell can live alone, doing everything it needs, or it can live together with other cells by forming many-celled organisms like humans, other animals, and plants. Our bodies consist of more than a billion cells, with each type of cell having its own special function. All the different cells communicate and cooperate with each other to accomplish all the functions that our bodies need.

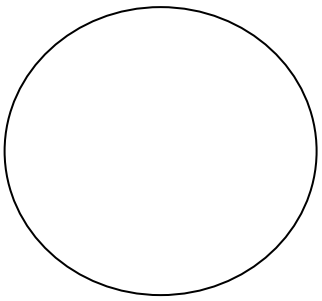
In this lab, we will be using a microscope to look at different types of cells. A **microscope** (micro = tiny or small; scope = to see) is really just two magnifiers or lenses working together. The **objective lens** (near the object) is down near the slide and the other is inside the cylinder that you look into (it is called the **eyepiece**, being near your eye). Together, these lenses are able to magnify an object much more than a single lens can. You can change how much you magnify an object by using different objective lenses.

Part I:

Materials:
Prepared slide (skin cells or blood cell)

Procedure:
1. Look at a prepared slide of skin cells. Observe the specimen on the smallest objective first, then on low power (yellow/10) and finally on high power (blue/40). Remember: *Never use the coarse adjustment when focusing the high-power objective lens. This could break your slide or damage the lens.* Use fine adjustment when slide is in place.

2. **Sketch what you see and label your diagram.** The circle represents the field of view seen in the microscope.



Slide name_____

Magnification_____

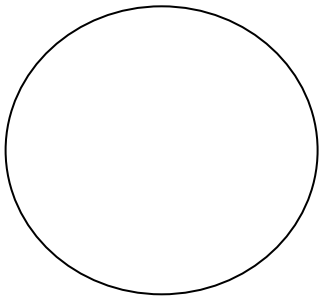
Part II:

Materials:
Prepared slide (leaf plant cell)

Procedure:
Look at a prepared slide of plant cell. Observe the specimen on the smallest objective first, then on low power (yellow/10) and finally on high power (blue/40). Remember: *Never use the coarse adjustment when focusing the high-power objective lens. This could break your slide or damage the lens.* Use fine adjustment when slide is in place.

The blood cells have been stained with a dye similar to methylene blue. Find the red cells; they are the ones you see everywhere. What do they do for us? Look carefully: do the red blood cells have nuclei? See if you can find some other cells with nuclei between the red cells.

Draw a few red blood cells and any cells that you see that have nuclei. The circle represents the field of view seen in the microscope.



Slide name_____

Magnification_____

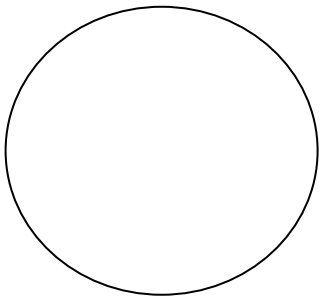
Part III:

Materials:
Prepared slide (e.g., amoebas, euglena, and paramecium)

Procedure:

1. Observe the specimen on the smallest objective first, then on low power (yellow/10) and finally on high power (blue/40). Remember: *Never use the coarse adjustment when focusing the high-power objective lens. This could break your slide or damage the lens.* Use fine adjustment when slide is in place.

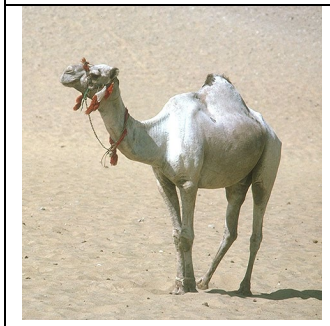
2. Draw the specimen in the circle below. The circle represents the field of view seen in the microscope.
Draw only 2 or 3 cells and draw them carefully and exactly as you see them. **Label** the nucleus (if you see it).

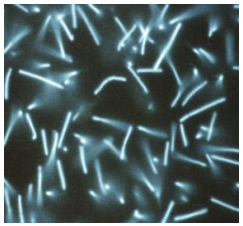


Slide name_____

Magnification_____

Characteristics of Organisms

Organisms	Domain	Kingdom	Cell Type	Unicellular or Multicellular	Autotroph or Heterotroph	Sexual or Asexual Reproduction
 Flower						
 Camel						
 Scorpion						

Organisms	Domain	Kingdom	Cell Type	Unicellular or Multicellular	Autotroph or Heterotroph	Sexual or Asexual Reproduction
 **Mushroom**						
 **Paramecium**						
	**Bacteria**					
	**Archaea**					