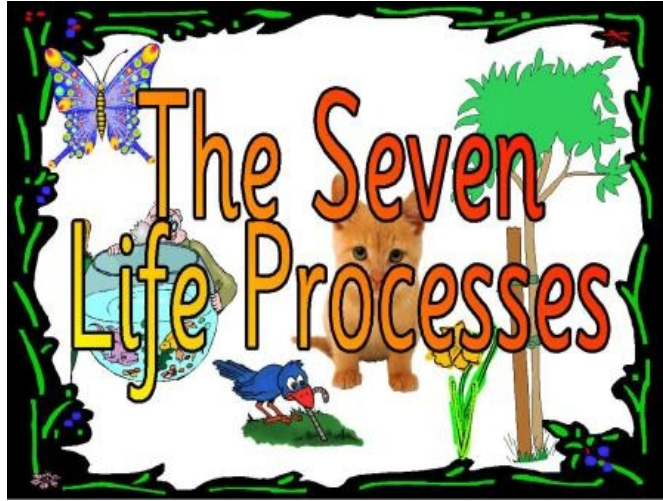


## CHAPTER 2 - Living Things:



ALL Living Things have Seven Life Processes:

M - \_\_\_\_\_

R - \_\_\_\_\_

S - \_\_\_\_\_

N - \_\_\_\_\_

E - \_\_\_\_\_

R - \_\_\_\_\_

G - \_\_\_\_\_

All living Things are made up of small building blocks called \_\_\_\_\_.

A single-celled organism is called \_\_\_\_\_, with \_\_\_\_\_  
\_\_\_\_\_ being examples of a single-celled organism.

A many-celled organism is called \_\_\_\_\_ and are  
composed of many cells that are designed to do certain tasks. Examples:

\_\_\_\_\_  
or \_\_\_\_\_.

The cells of all living things are composed of \_\_\_\_\_. The  
chemical found the most in cells is \_\_\_\_\_. The cells main  
energy source is called \_\_\_\_\_.

The \_\_\_\_\_ and the \_\_\_\_\_ are the  
building materials of a cell. \_\_\_\_\_  
are the substances that give the cell chemical instructions to help it do  
its job correctly.

The cells use \_\_\_\_\_ to do what living cells must do.

When a living organism reacts to its environment, the change that caused the reaction is called a \_\_\_\_\_. This could include changes in \_\_\_\_\_.

\_\_\_\_\_ is the process of becoming larger.

\_\_\_\_\_ is the process of change that occurs to produce a more complex organism.

Living things come to life through other living things, which is called \_\_\_\_\_.

The idea that living things can come to life from nonliving sources is called \_\_\_\_\_. This process \_\_\_\_\_ occur. (\_\_\_\_\_).

**\*\*\*\* What Disproved this belief??\*\***

\_\_\_\_\_

# ALL LIVING ORGANISMS HAVE FOUR FUNDAMENTAL NEEDS TO LIVE:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

## Why do we need Water?

When we obtain water from our surroundings, we:



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

# THE ENERGY SOURCES FOR LIVING ORGANISMS:

All living Organisms need a source of energy to live. They use \_\_\_\_\_ as their energy source.

Plants get their energy from \_\_\_\_\_, and then

\_\_\_\_\_

\_\_\_\_\_.

Some organisms, such as \_\_\_\_\_ or \_\_\_\_\_, that make their own food, are called \_\_\_\_\_.

\_\_\_\_\_ or \_\_\_\_\_, do not make their own food, but eat

\_\_\_\_\_ and use the energy in the \_\_\_\_\_

\_\_\_\_\_.

Organisms must be able to keep the conditions inside their bodies

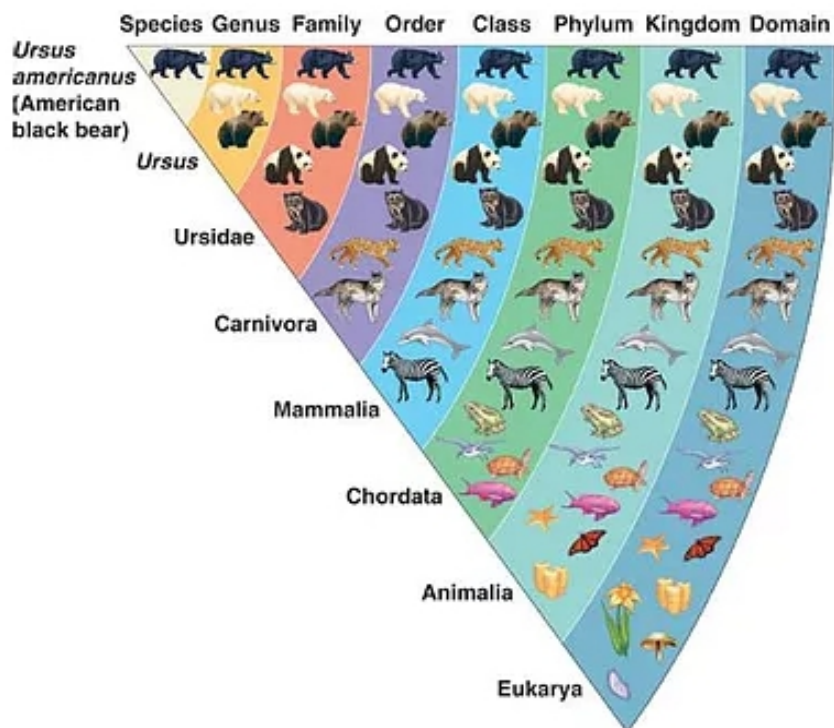
\_\_\_\_\_. Maintaining this internal condition, such as \_\_\_\_\_

\_\_\_\_\_, is called \_\_\_\_\_.

\_\_\_\_\_ keeps internal conditions just right for

\_\_\_\_\_ to function.

# CLASSIFYING ORGANISMS:



\_\_\_\_\_ is the process of grouping similar things together. Biologists use \_\_\_\_\_ to organize living things into groups so that the organisms are easier to study.

The scientific study of how living things are classified is called \_\_\_\_\_.

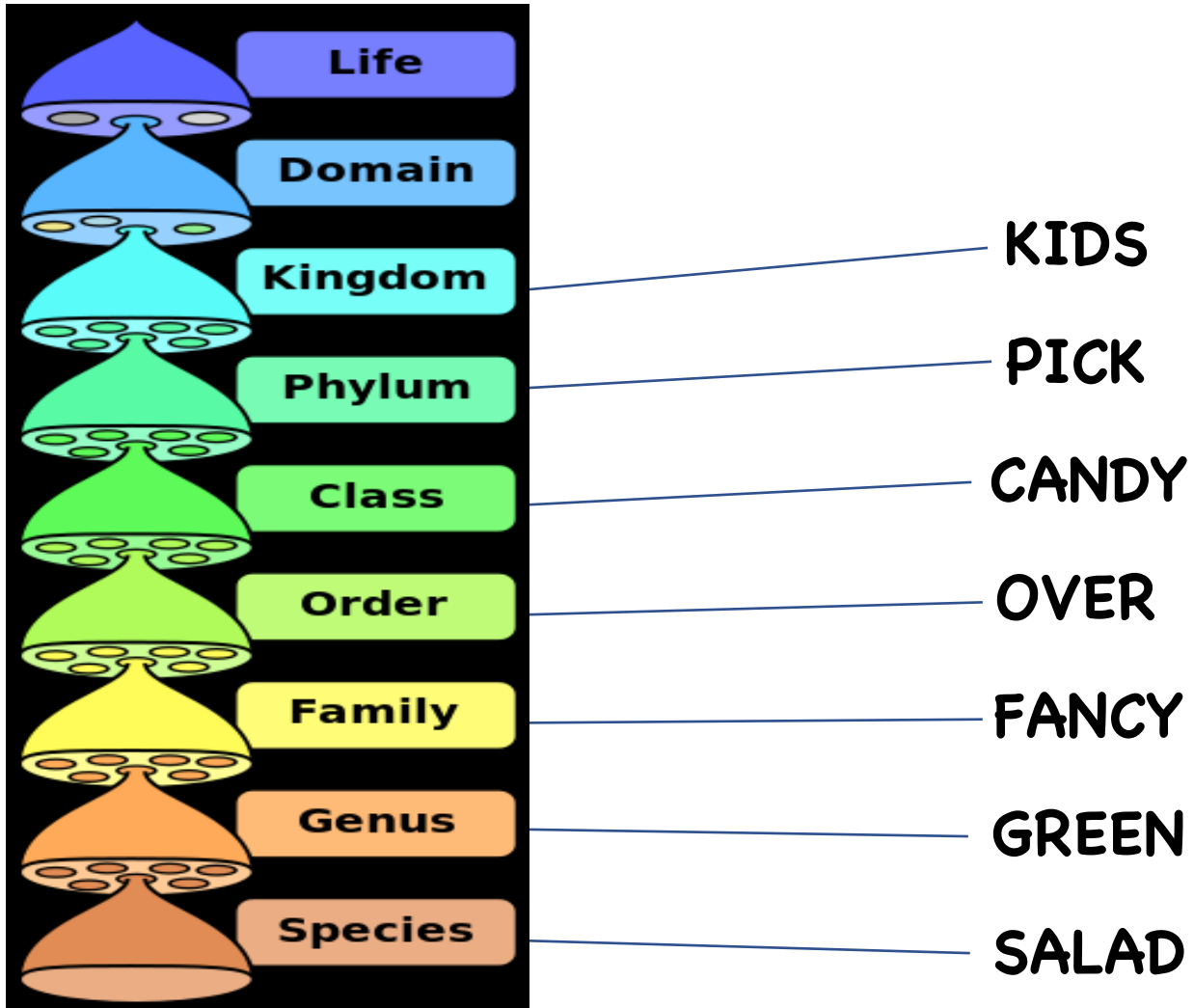
The naming system used to name organisms is called \_\_\_\_\_. \_\_\_\_\_ . The first word in an organism's scientific name is its \_\_\_\_\_. A \_\_\_\_\_ is a grouping that contains similar organisms.

The second word in an organism's scientific name is its \_\_\_\_\_.

The scientist who designed this system of naming organisms is \_\_\_\_\_

\_\_\_\_\_ He gave each organism a unique \_\_\_\_\_ scientific name.

# LEVELS OF CLASSIFICATION:



# DOMAINS AND KINGDOMS:

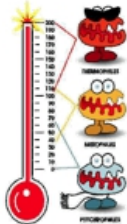
## 3 Domains of Life

### Archaea

- Prokaryotes (no nucleus)
- Unicellular
- Autotrophs & Heterotrophs
- "Extremophiles"
  - Heat lovers (thermophiles)
  - Salt lovers (halophiles)
  - Methanogens (methane makers)



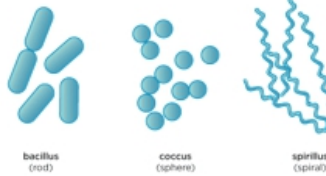
Thermophiles



### Bacteria

- Prokaryotes (no nucleus)
- Unicellular, come in 3 shapes
- Autotrophs & Heterotrophs
- Common, found everywhere
- Can cause disease
  - Salmonella
  - E. coli
  - Streptococcus
- Can be useful
  - Lactobacillus (used to make yogurt)
  - Probiotics help you digest food

Bacterial Shapes



bacillus (rod)

coccus (sphere)

spirillum (spiral)

### Eukarya

- Eukaryotes (has a nucleus)
- Unicellular & Multicellular
- Autotrophs & Heterotrophs
- 4 Kingdoms belong to Eukarya:
  - Protista
  - Fungi
  - Plantae
  - Animalia



Protista



Fungi



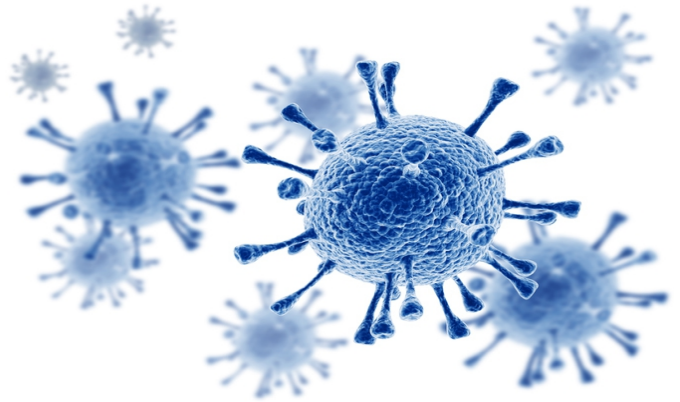
Plantae



Animalia



# BACTERIA:



Members of the DOMAIN Bacteria are

\_\_\_\_\_.

\_\_\_\_\_ are living organisms whose cells lack a \_\_\_\_\_.

A \_\_\_\_\_ contains \_\_\_\_\_, which Contains the  
chemical instructions that tell the cells \_\_\_\_\_.

Bacteria are \_\_\_\_\_. Some of them are  
\_\_\_\_\_ and some are \_\_\_\_\_.

# ARCHAEA (ahr KEE uh):

Like BACTERIA, Archaea

are \_\_\_\_\_

\_\_\_\_\_.

Also like BACTERIA,

some ARCHAEA are



\_\_\_\_\_ and some are \_\_\_\_\_. But, they are

classified in their DOMAIN because their \_\_\_\_\_ and chemical

makeup differ from that of Bacteria. Archaea are found in \_\_\_\_\_

environments - from hot springs to swamps to \_\_\_\_\_

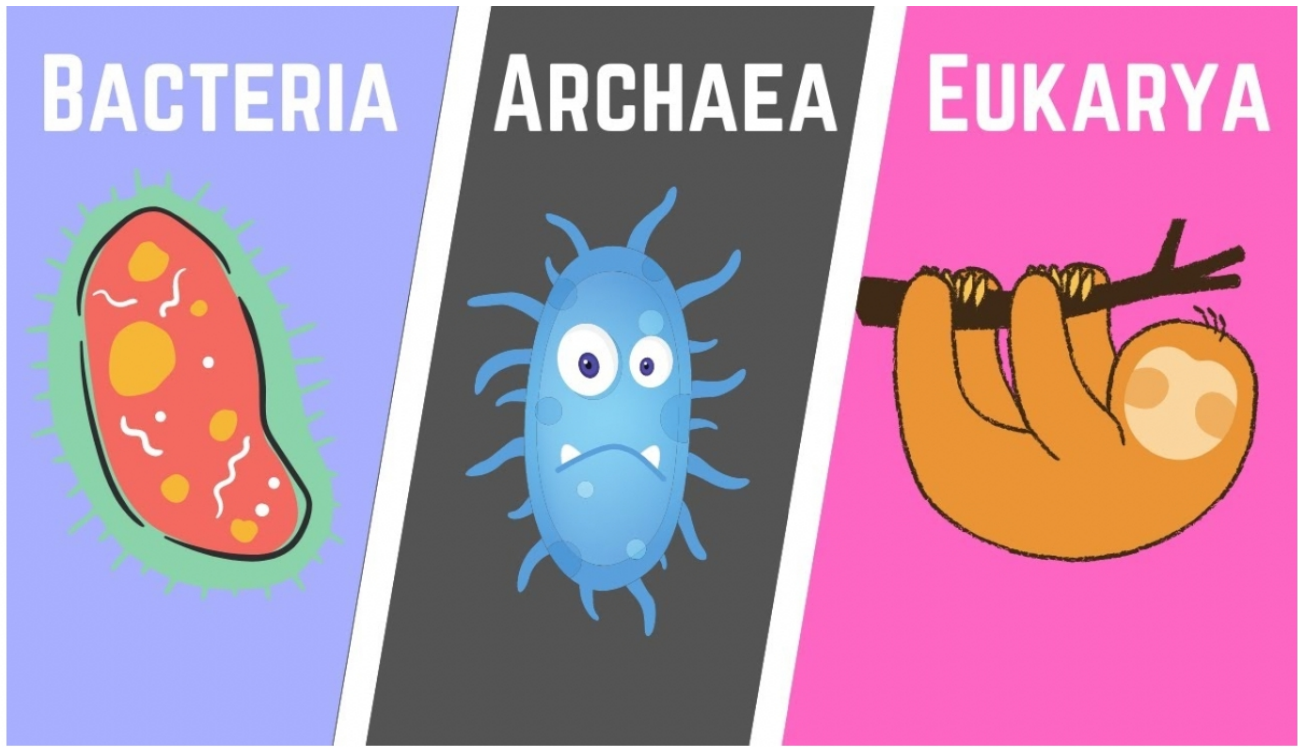
\_\_\_\_\_ !!

# EUKARYA (yoo KA ree oh)

EUKARYA'S are living organisms whose cells \_\_\_\_ contain a \_\_\_\_\_.

And therefore, they have \_\_\_\_\_ which contain the chemical

information that directs a cells activity.



THE DOMAIN EUKARYA (EUKARYOTE) contain 4 KINGDOMS:

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

THE 4 KINGDOMS FOUND IN THE DOMAIN EUKARYA:

### 1. PLANTS:

Plants are \_\_\_\_\_ and MOST live \_\_\_\_\_.

They are \_\_\_\_\_ because they \_\_\_\_\_  
\_\_\_\_\_.

They produce food for the \_\_\_\_\_ on the land.

## 2. FUNGI:

MOST FUNGI are \_\_\_\_\_. Some examples of multicellular fungi are \_\_\_\_\_ or \_\_\_\_\_.

### Decomposer

**Decomposers** feed on the remains of other animals. Decomposers play an important role in the ecosystem. By digesting dead matter they put nutrients back into the soil, making them available to producers.



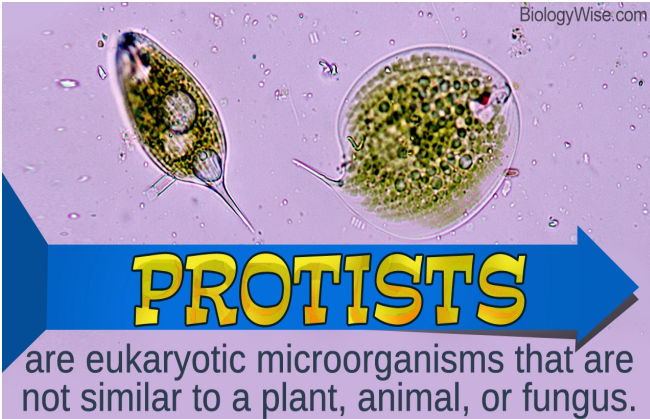
Some fungi, such as \_\_\_\_\_, are \_\_\_\_\_.

ALL FUNGI are \_\_\_\_\_ they get their food by absorbing nutrients from dead or decaying \_\_\_\_\_  
(\_\_\_\_\_)

## 3. ANIMALS:

ALL ANIMALS are \_\_\_\_\_ ALL ANIMALS are \_\_\_\_\_  
\_\_\_\_\_. They can be found in ALL areas of the world, in many different shapes and sizes.

## 4. PROTISTS:



These are the " \_\_\_\_\_  
\_\_\_\_\_ " Kingdom. They are  
organisms that cannot be classified as  
\_\_\_\_\_.

They can be \_\_\_\_\_ or \_\_\_\_\_. They can  
also be \_\_\_\_\_ or \_\_\_\_\_. An example of a  
MULTICELLULAR Protist is \_\_\_\_\_.

BACTERIA		ARCHAEA	
EUKARYA			
Protista	Plantae	Fungi	Animalia

# SONG: SCIENTIFIC DOMAINS

Sung to Frere Jacques (Are You Sleeping)

Kingdom - Phylum

Kingdom - Phylum

Class - Order

Class - Order

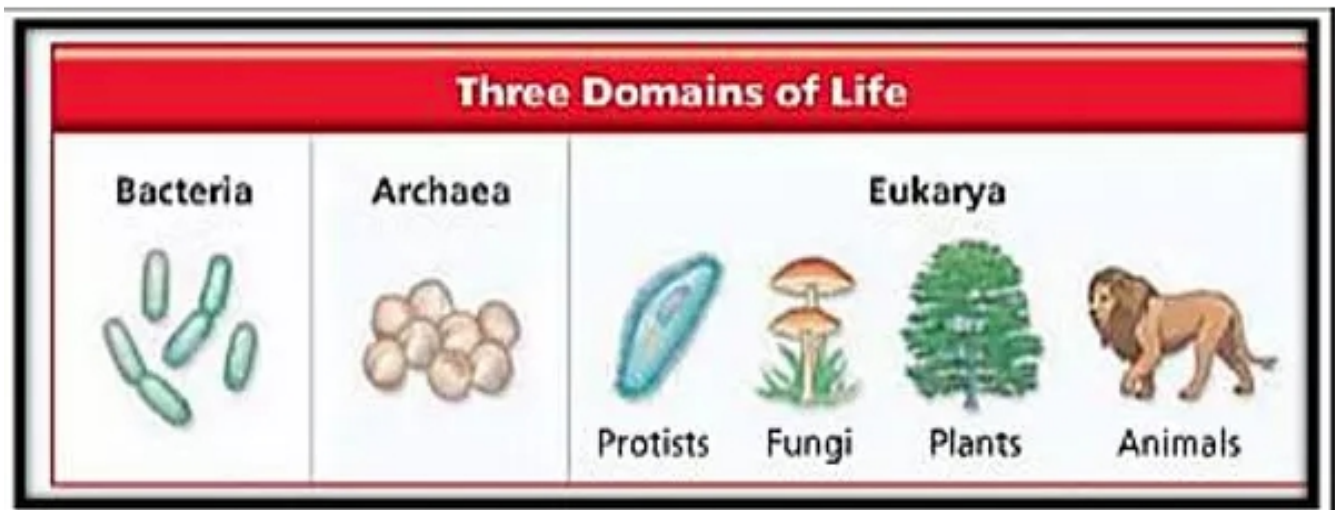
Family - Genus - Species

Family - Genus - Species

Latin Named

Latin Named

<http://childstoryhour.com/nurseryrhymes14.htm>



# DISCOVERING AND LOOKING INSIDE CELLS:

Chapter 2.3 and 2.4

\_\_\_\_\_ are the basic unit of \_\_\_\_\_ and \_\_\_\_\_ in living things.

The invention of the \_\_\_\_\_ made it possible for people to discover and learn about \_\_\_\_\_.

\_\_\_\_\_, in \_\_\_\_\_ was one of the first scientists to create a \_\_\_\_\_. He used the \_\_\_\_\_ to observe the structure of a \_\_\_\_\_. Cell means "\_\_\_\_\_".

LEEUVENHOEK, a Dutch businessman, also observed some of the first \_\_\_\_\_, and discovered that they \_\_\_\_\_, he named the moving organisms, "\_\_\_\_\_" meaning "\_\_\_\_\_".

## DEVELOPMENT OF THE CELL THEORY:

Three German Scientists who made important contributions science and the knowledge of cells and the organization of a cell:

- ! Schleiden - \_\_\_\_\_ are made of cells.
- ! Schwann - \_\_\_\_\_ are made of cells.
- ! Virchow - \_\_\_\_\_ come from cells.

THIS DEVELOPED THE CELL THEORY WHICH STATES:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_.

And, since the 1800's, scientists have added:

4. \_\_\_\_\_

\_\_\_\_\_.

The Cell Theory holds true for \_\_\_\_\_, no matter how \_\_\_\_\_ or how \_\_\_\_\_. The Cell Theory **COULD NOT** have been developed without the invention of the \_\_\_\_\_.

## Developers of Cell Theory



Matthias Schleiden



Theodor Schwann



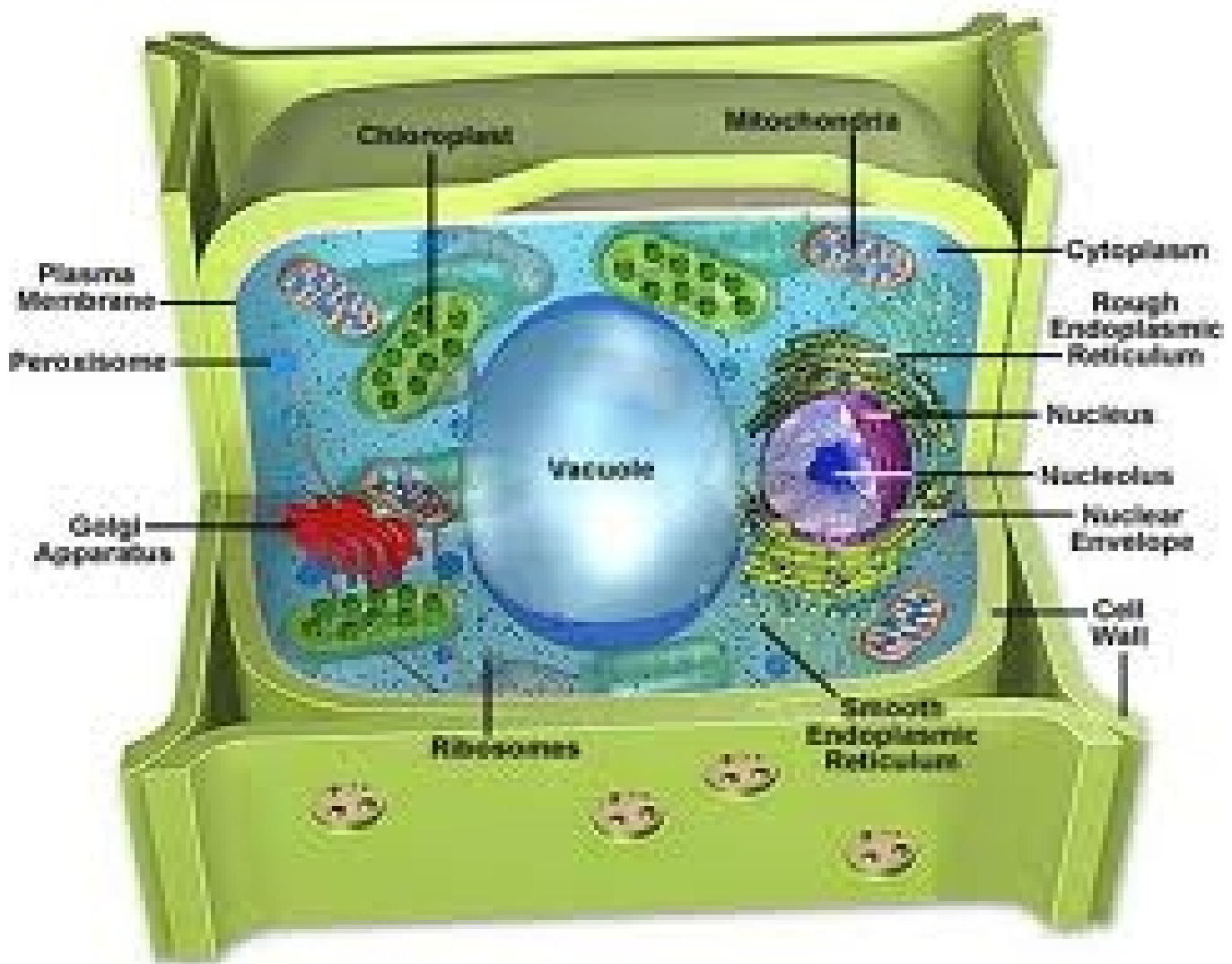
Rudolf Virchow



# LOOKING INSIDE OF CELLS - THE ORGANELLES

ORGANELLES: \_\_\_\_\_

## ANATOMY OF A PLANT CELL:



## FUNCTIONS OF THE PLANT CELL:

NUCLEUS:

NUCLEAR ENVELOPE:

**CHROMATIN:**

**NUCLEOLUS:**

**CYTOPLASM:**

**RIBOSOMES:**

**GOLGI BODIES:**

**MITOCHONDRION:**

**CELL MEMBRANE:**

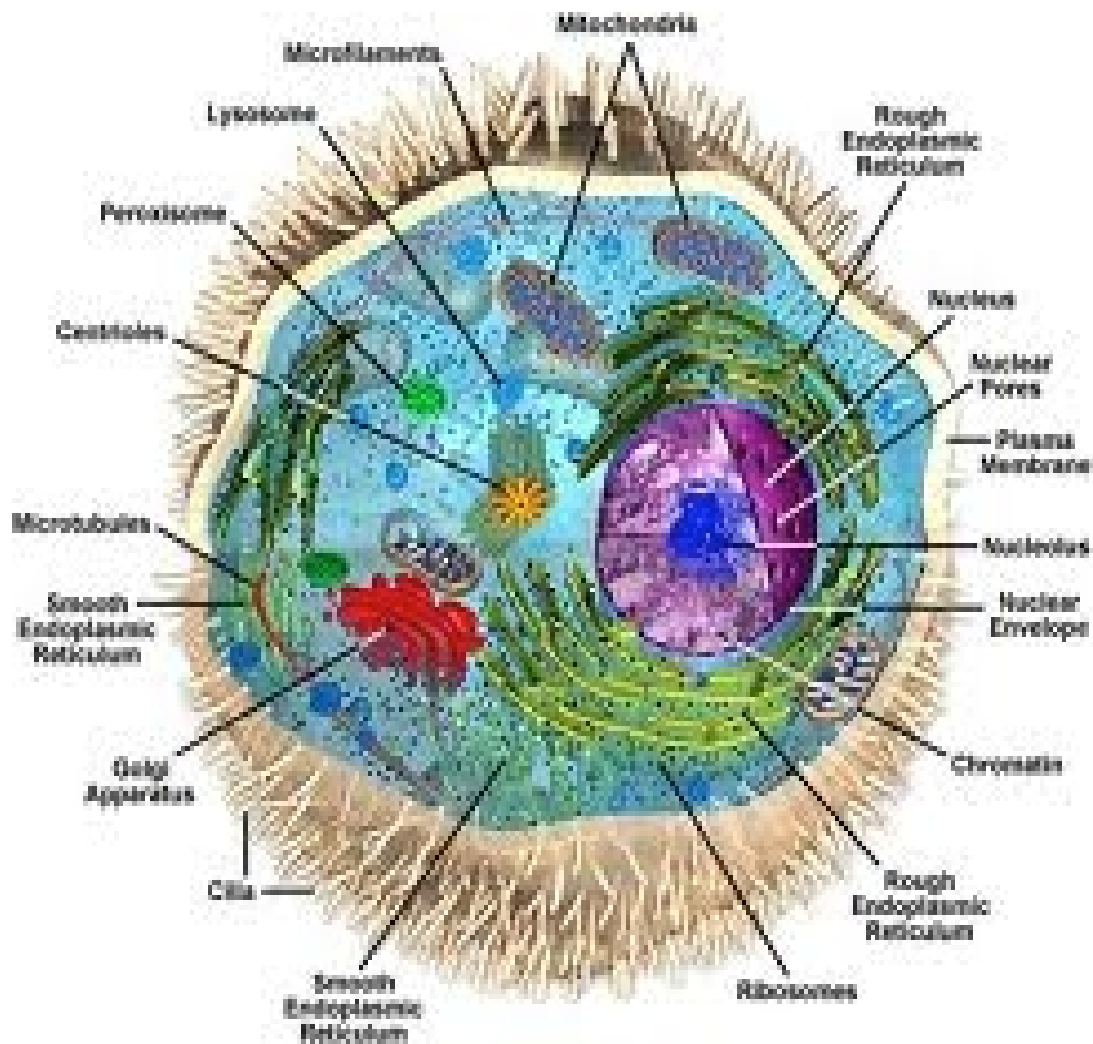
**VACUOLE:**

**CHLOROPLASTS:**

**CELL WALL:**

**ENDOPLASMIC RETICULUM:**

## ANATOMY OF AN ANIMAL CELL:



## FUNCTIONS OF THE ANIMAL CELL:

**NUCLEUS:**

**NUCLEAR ENVELOPE:**

**CHROMATIN:**

**NUCLEOLUS:**

**ENDOPLASMIC RETICULUM:**

**GOLGI BODY:**

**CELL MEMBRANE:**

**VACUOLE:**

**LYSOSOMES:**

**MITOCHONDRIA:**

**CYTOPLASM:**

**RIBOSOMES:**

**CILIA:**



# WHAT ARE THE BASIC DIFFERENCES BETWEEN PLANT AND ANIMAL CELLS?

THERE ARE FOUR BASIC DIFFERENCES BETWEEN PLANT AND ANIMAL CELLS:

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

4. \_\_\_\_\_



Animal Cell

Plant cell

