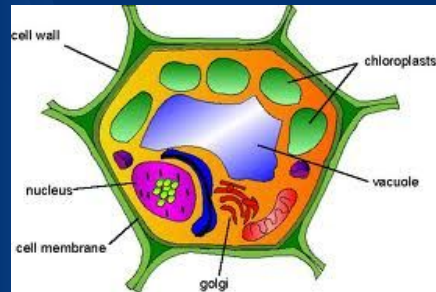
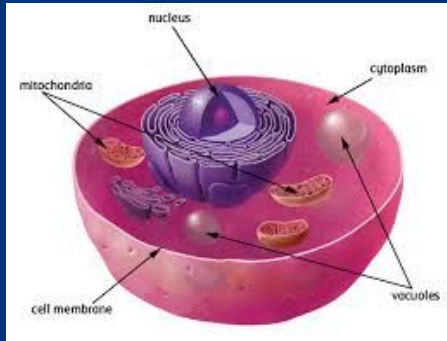


UNIT 1

LIVING BEINGS



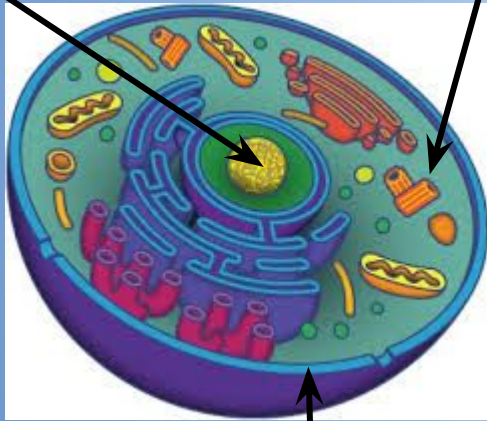
What are living beings?

They have cells

They carry out 3
vital functions

Nucleus

Cytoplasm



Membrane

- Obtaining Nutrients
- Using Substances
- Eliminating Waste

The Cells

Cell Membrane

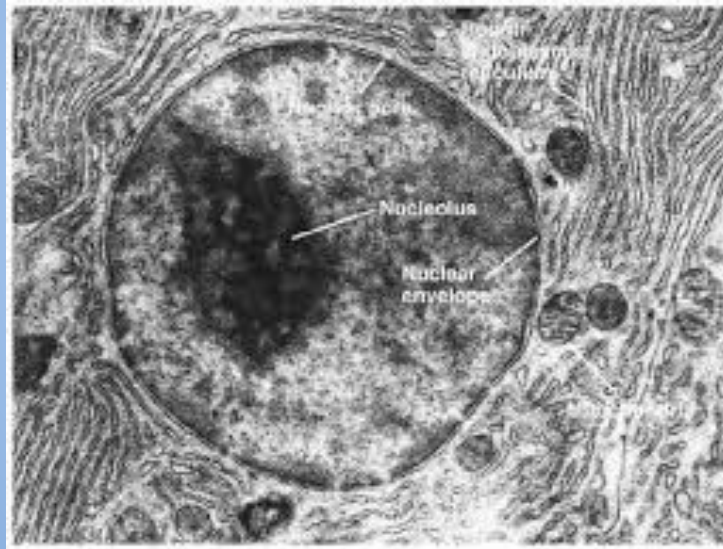
- Surrounds the cell
- Keeps cytoplasm inside the cell
- Protects the cell

Cytoplasm

- Thick liquid found inside membrane
- Home of organelles

Genetic Material

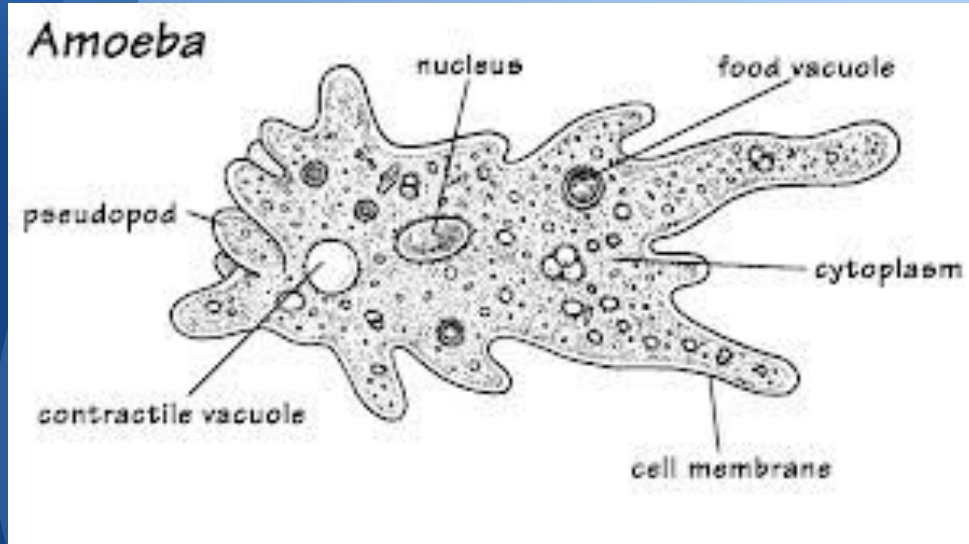
- Found inside the nucleus
- Living beings have eukaryotic cells
- Bacteria have prokaryotic cells



Eukaryotic Cells:
genetic material is inside the nucleus

Prokaryotic Cells:
genetic material is in the cytoplasm

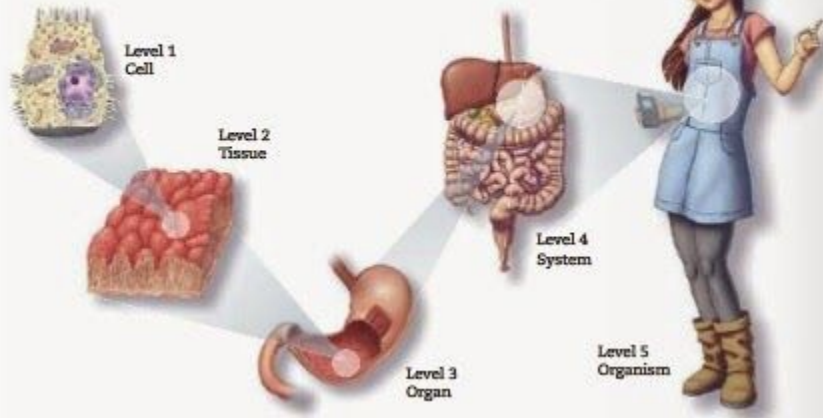
Unicellular Organisms



- Made up of only one cell
- Can group together to make colonies
- Can not organize or coordinate

Multicellular Organisms

Levels of organization



Tissues:

groups of cells doing a specific activity

EX: muscular tissues

Organs:

made of different tissues and carry out a task

EX: the heart

Systems:

made of different organs and complete a function

EX: circulatory system

The Vital Functions: Nutrition

Heterotrophic Nutrition



Autotrophic Nutrition

- Obtaining oxygen : take in oxygen from the air or water
- Using Substances: use nutrients and oxygen to grow and obtain energy
- Eliminating Waste: living beings produce waste that is expelled in several different ways

Interaction Function: Animals

- Sense organs detect changes
- Nervous system coordinates reactions
- Locomotor system moves their bodies

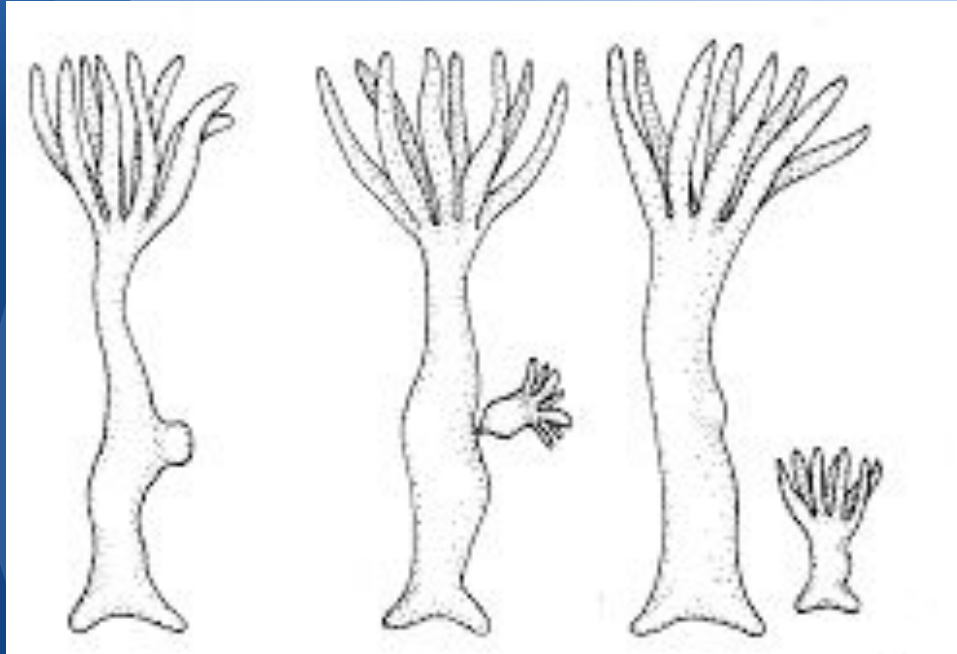


Hydroponics (Aerponics), Plants



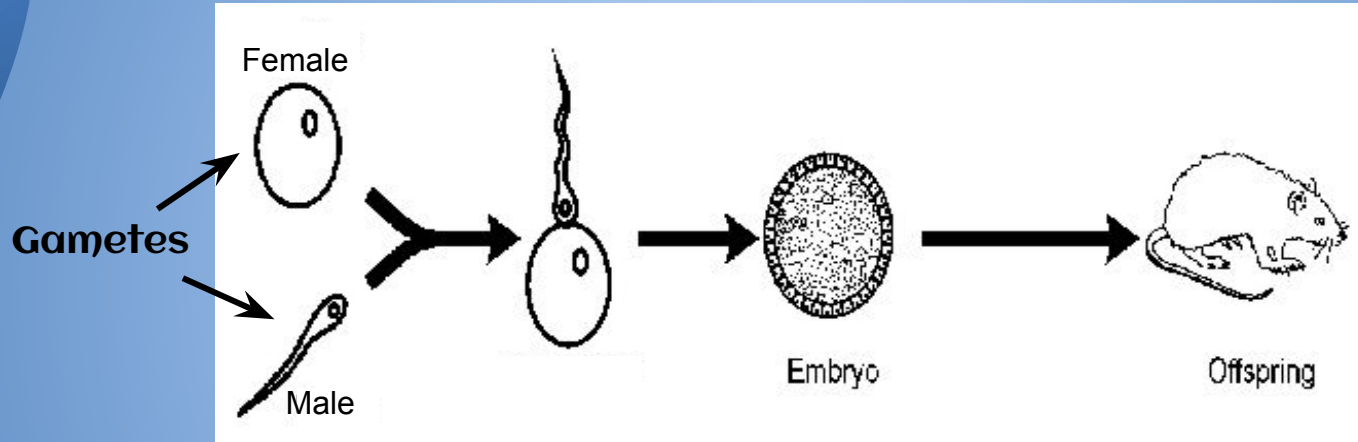
- Plants haven't got sense organs, nervous system, or locomotor system
- They modify or change their bodies

Asexual Reproduction



Living beings
produce new
individuals from
parts of their
bodies

Sexual Reproduction



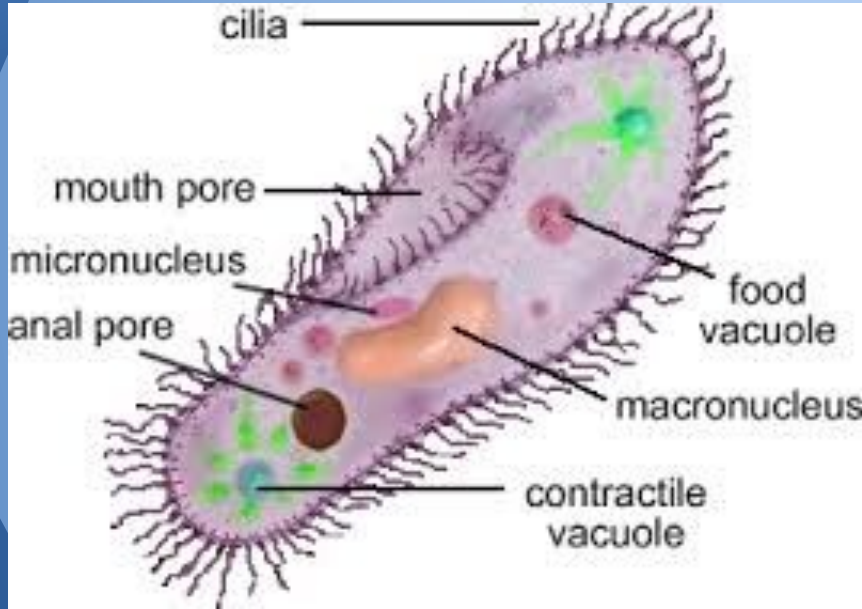
Two individual gametes are needed, a male and a female

5 Kingdoms: Monera

- Unicellular
- Prokaryotic
- Autotrophic
and
Heterotrophic
Nutrition
- EX: Bacteria



5 Kingdoms: Protocista



- **Eukaryotic**
- **Unicellular**
(protozoa, microscopic algae)
- **Multicellular**
(large algae ex: seaweed)
- **Heterotrophic**
(protozoa)
- **Autotrophic**
(algae)

5 Kingdoms: Fungi

- **Eukaryotic cells**
 - Surrounded by rigid cell walls
- **Unicellular**
(Ex: yeast)
- **Multicellular**
(Ex: Molds and mushrooms)
- **Heterotrophic nutrition**
- Obtain nutrients from remains of plants and animals



5 Kingdoms: Plantae

- Multicellular
- Eukaryotic cells
 - Rigid cell wall
- Their cells form tissues
- Autotrophic nutrition
- Ex: trees, bushes, grass



5 Kingdoms: Animalia

- Multicellular
- Eukaryotic cells
 - No cell wall
- Cells form tissues
- Heterotrophic nutrition



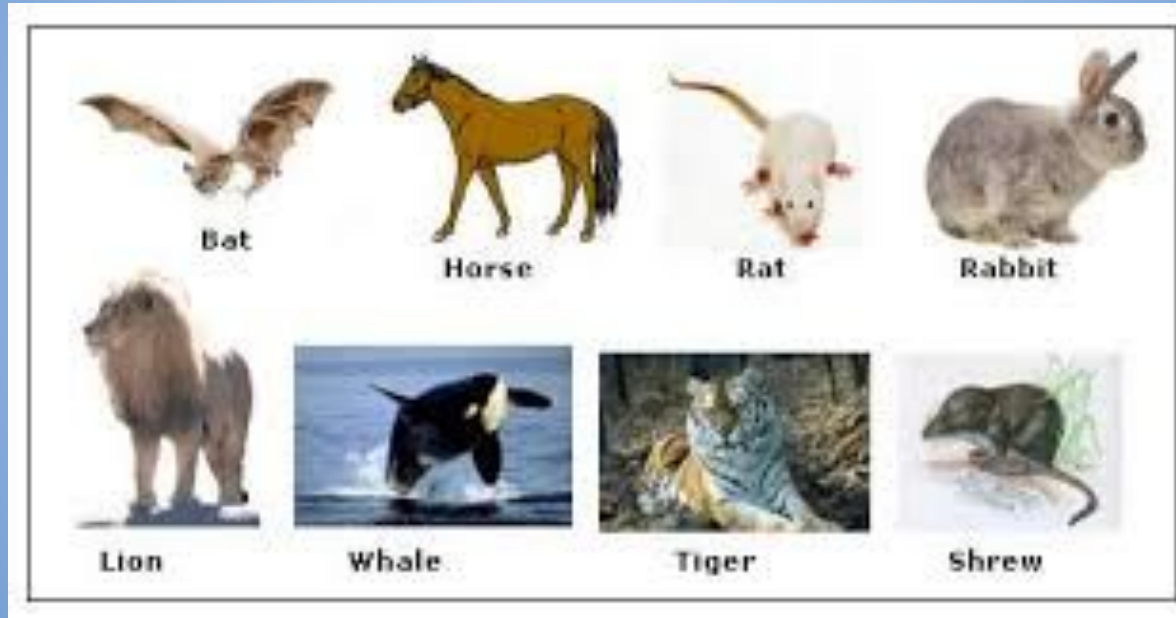
Classification of Humans

1 Kingdom: Animalia



All animals belong to this group

2 Phylum: Chordates



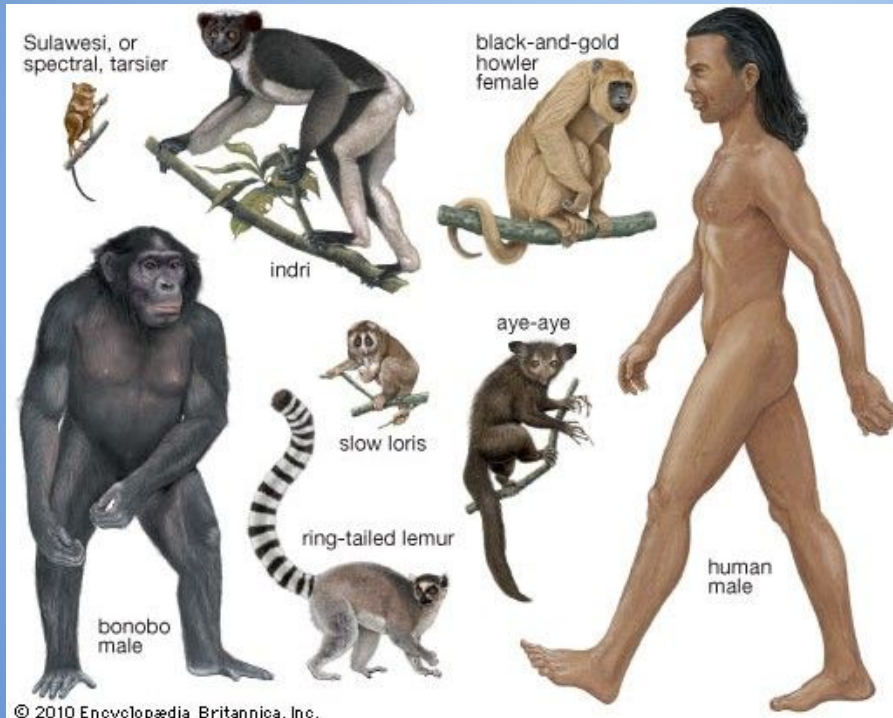
All animals with a spinal column

3 Class: Mammals



Animals that give birth to their young live
and feed them with milk

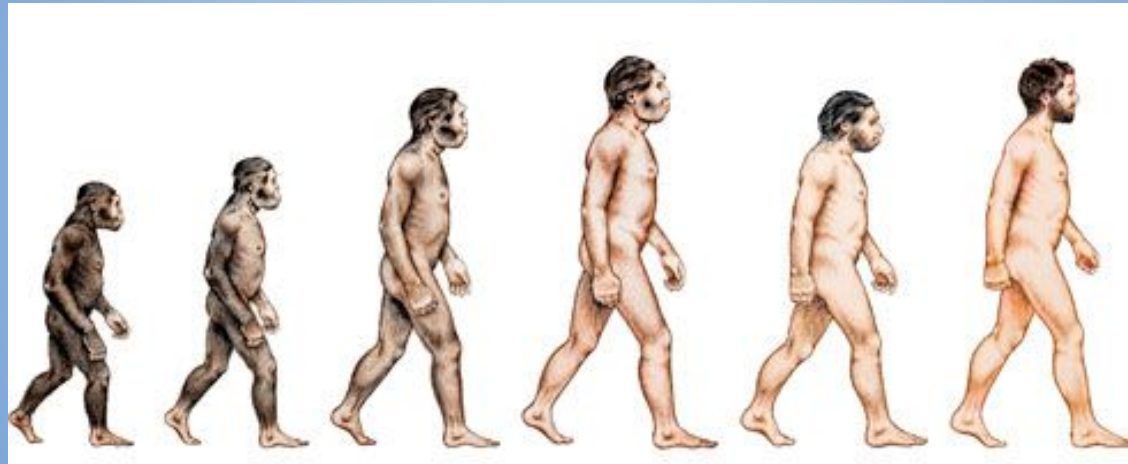
4 Order: Primates



© 2010 Encyclopædia Britannica, Inc.

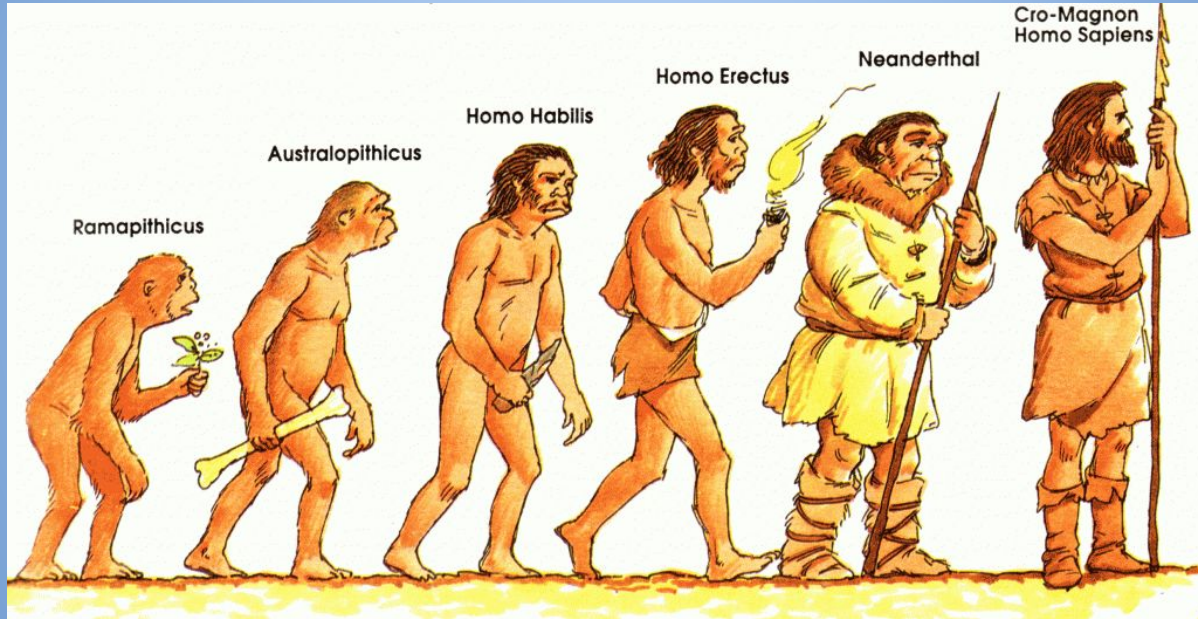
Mammals with collarbones and opposable thumbs

5 Family: Hominids



Primates with flat faces and 3 dimensional vision

6 Genus: Homo



Hominids with upright posture and large brains

7 Species: Homo sapiens



Naming Species

Homo sapien



This is the **Genus**
or a “Surname”



The **Species** or
a “First Name”

Using Latin words!

- First name is capitalized
- Name of the genus
- Second name begins with a small letter
- Only for that species