



Peoples' Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
University of Abou Bakr Belkaid Tlemcen



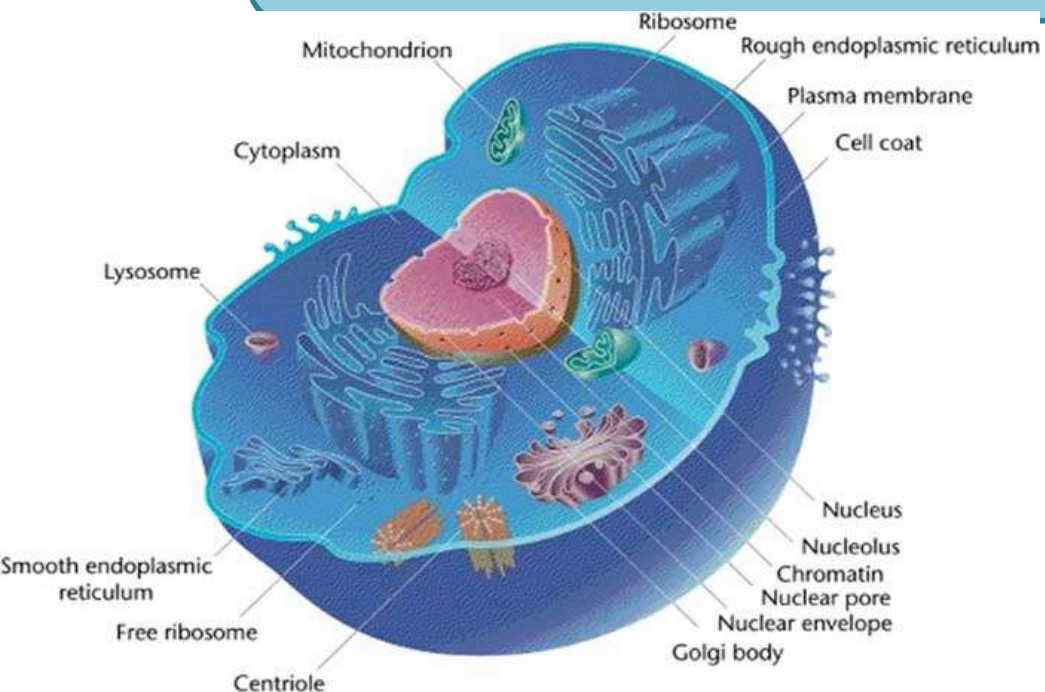
FACULTY OF NATURAL AND LIFE SCIENCES AND EARTH AND UNIVERSE DEPARTMENT OF BIOLOGY

1st Year Licence SNV

COURSE TITLE: English TCE

PREPARED AND PRESENTED BY DR HADJ MERABET DJAHIDA & SAKER MERIEM
(HADJMERABETD@GMAIL.COM)

C1 INTRODUCTION TO BIOLOGY



At the end of the lesson, student should be able to :

- State what the study of biology
- Understand the importance of Biology
- List the different field of study in Biology
- List careers related to Biology
- state various way of studying Biology
- Understand the main characteristics of living things

What is Biology?

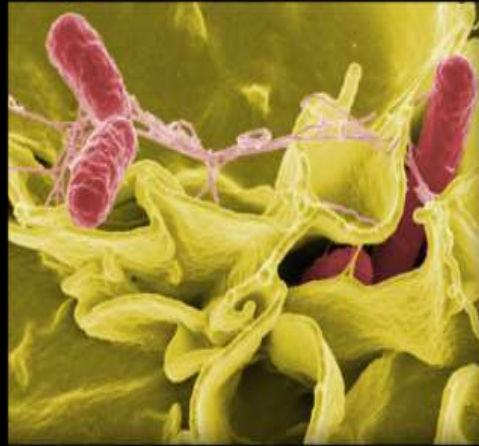
It is derived from 2 Greek words :

BIOS = LIFE

LOGOS = STUDY OF

**Biology is The study
of life (living things)**

- It covers all aspect of the study of living creatures like occurrence, classification, ecology, economic importance, external form, organization, internal structure, nutrition, health and other body functions, reproduction, life history, inheritance and origin.



Aristotle is known as the 'Father of biology'.



The term biology was coined by Lamarck.



IMPORTANCE OF BIOLOGY

- Finding cure for diseases, new meds
- Preserve the environment (help endangered animals)
- Appreciate the diverse variety of living things
- Develop technologies –heart valves, prosthetic limbs
- Improve agriculture

KNOWLEDGE OF BIOLOGY

Medicine and
public health



research



Agriculture



Industry



virology

Study of
viruses

anatomy

Study of org.
structure

Genetic

Study of
heredity

entomology

Study of
insects

ecology

Study of envi.
and
relationship

zoology

Study of
animal

microbiology

Study of
microorg.

**Field of study
in biology**

embryology

Study of
embryonic dev.

biochemistry

Study of
biochemical
process in body

botany

Study of
plant

bacteriology

Study of
bacteria

mycology

Study of
fungi

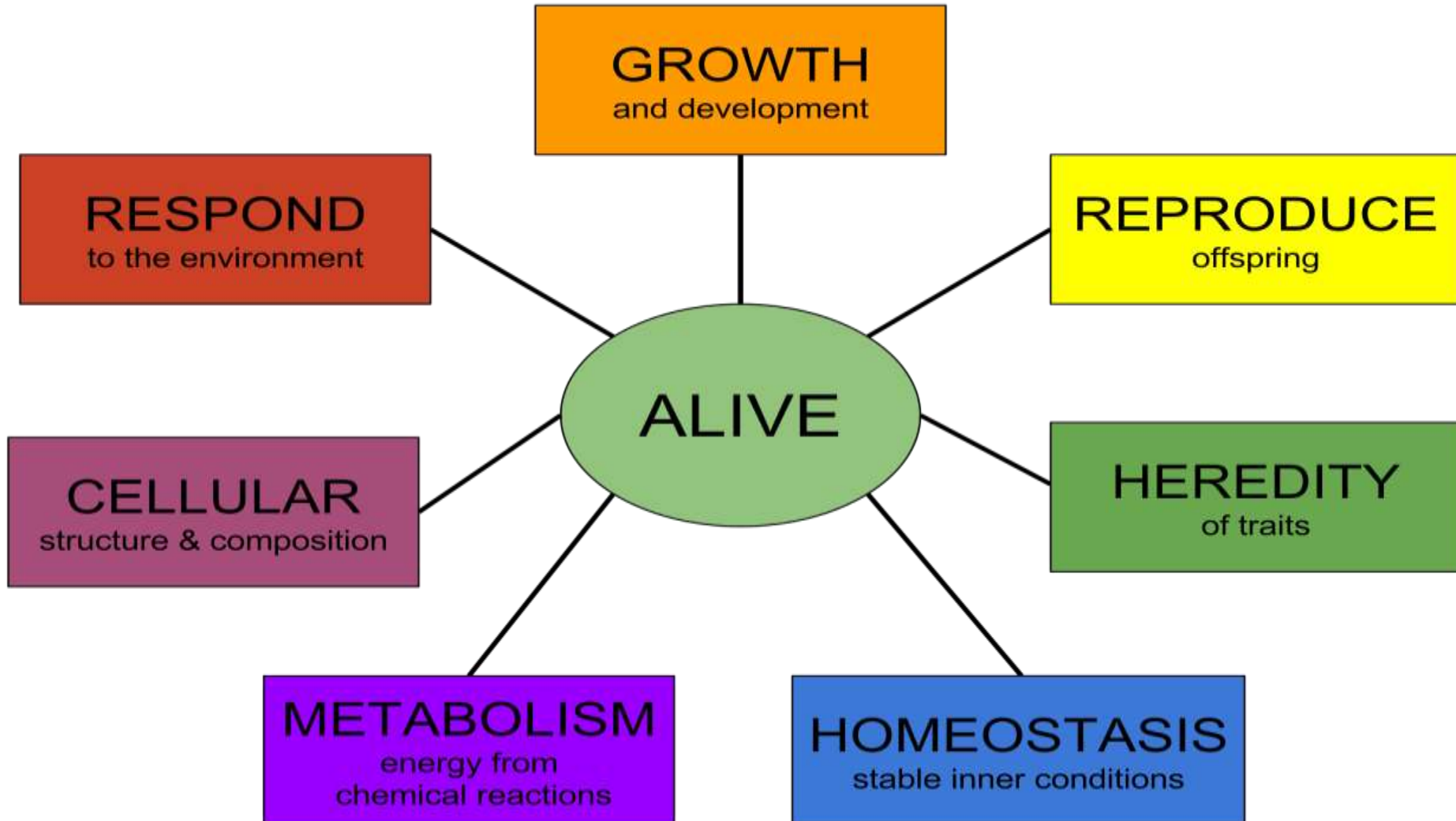
histology

Study of
tissues

taxonomy

Study of
classifying
plants &
animals

CHARACTERISTICS OF LIFE



CHARACTERISTICS OF LIVING THINGS

Reproduce

Made of cells

Based on universal genetic code

Grow and develop

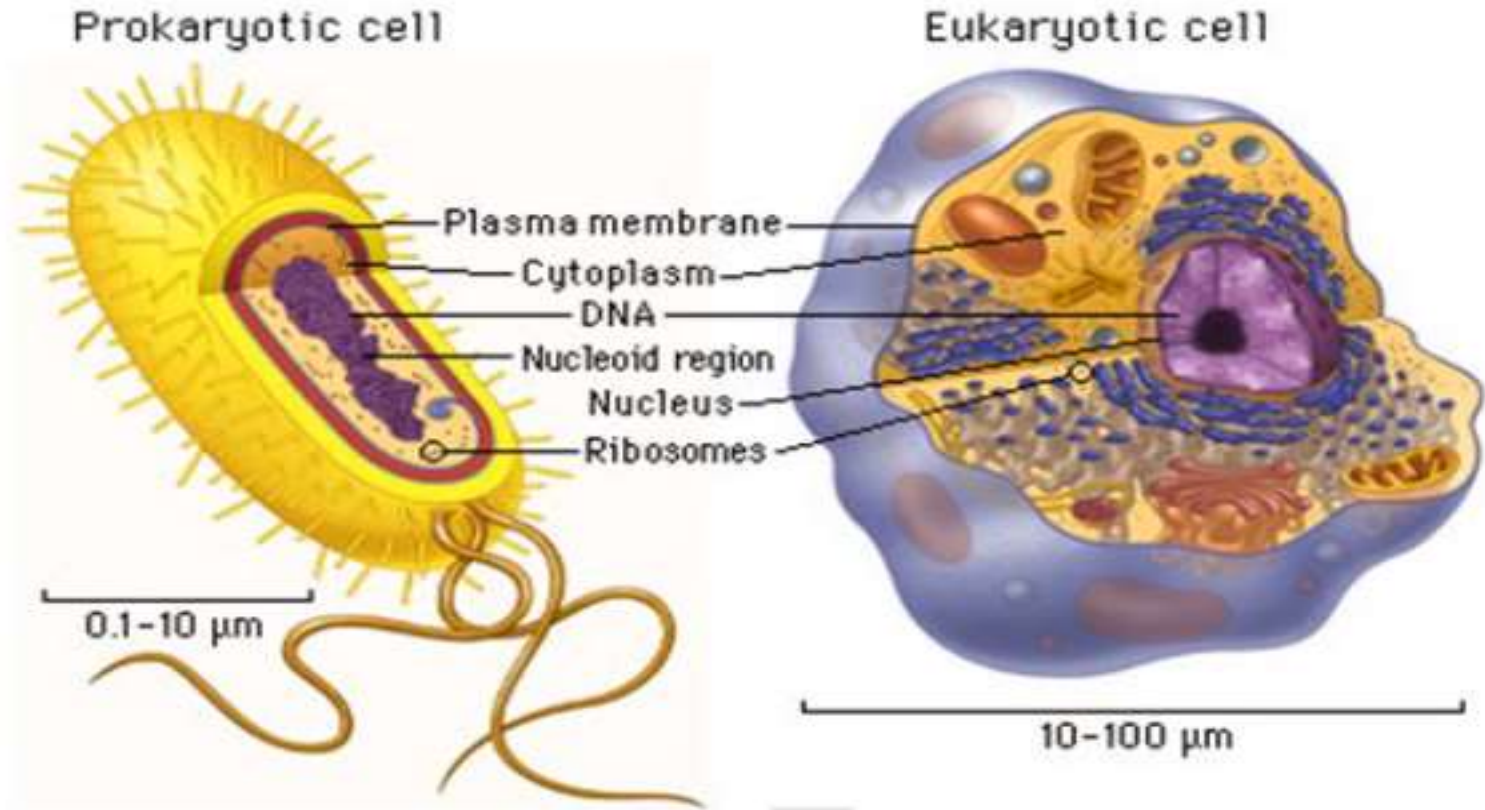
Obtain and use materials & energy

Respond to their environment

Maintain a stable internal environment

As a group, change over time

ALL LIVING ORGANISMS ARE MADE UP OF CELLS



THE CELL IS THE BASIC UNIT OF LIFE



Cells form tissue



Tissues form organs



Organs form organ systems



Systems

Organisms

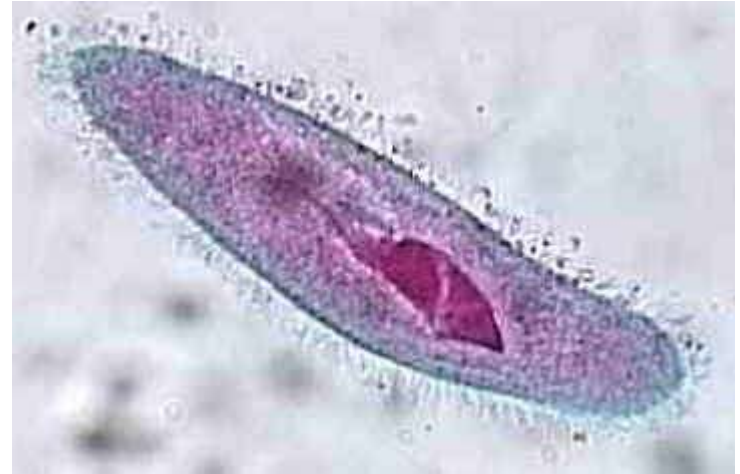


**ORGANISMS
CAN BE**

UNICELLULAR

MADE ONLY OF ONE SINGLE CELL

Bacteria



Protists

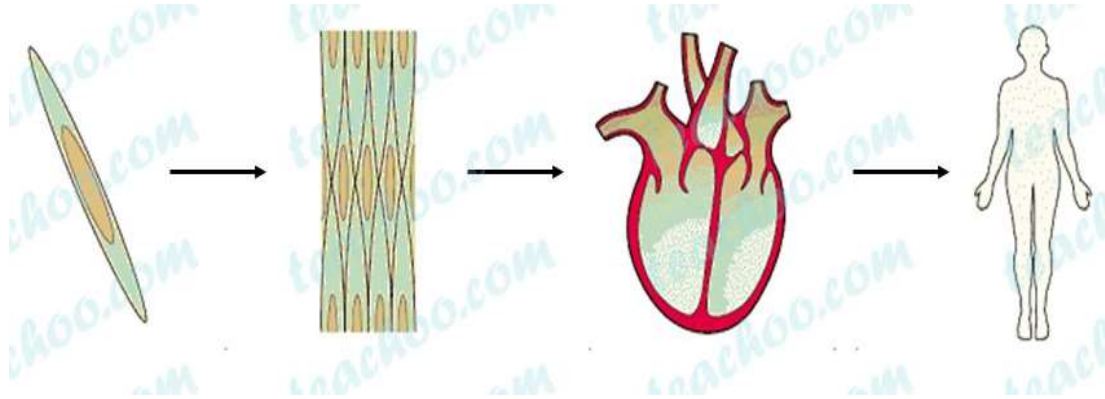


**ORGANISMS
CAN BE**

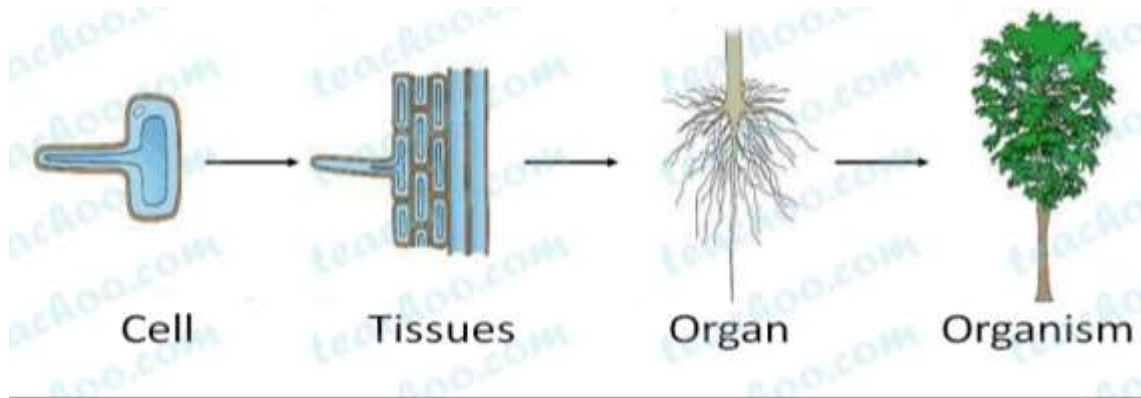
**MULTICELLU
LAR**

MADE UP OF MANY CELLS Cells have
specialized functions within the
organism

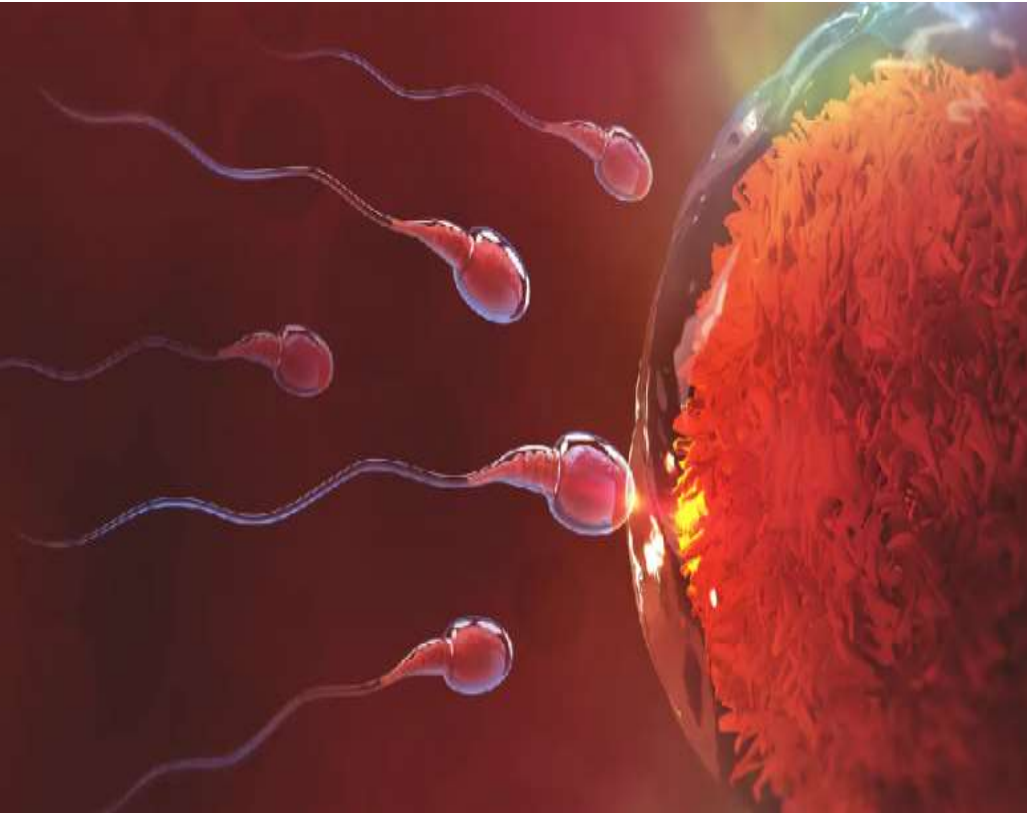
HUMAN



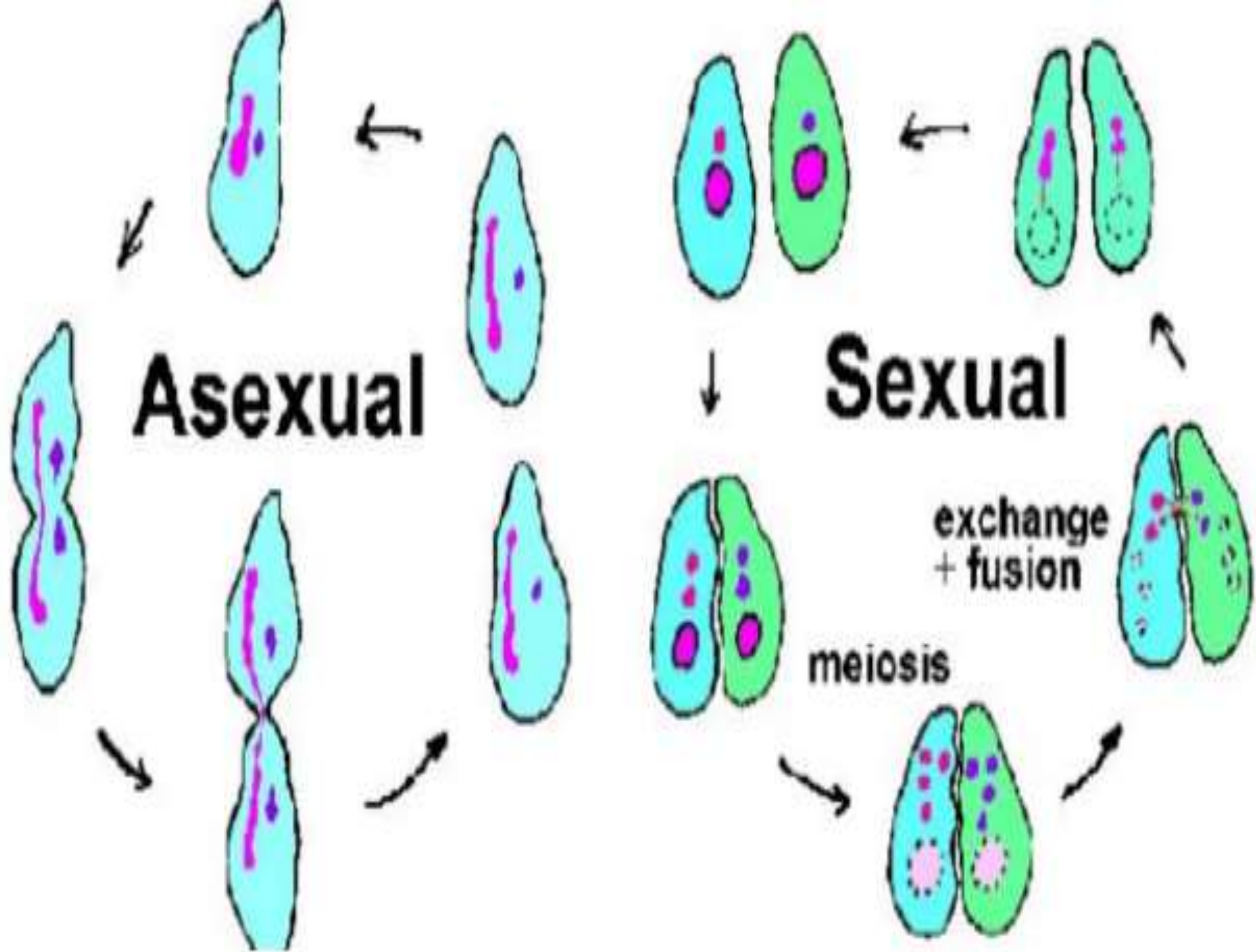
PLANTS



ALL LIVING ORGANISMS REPRODUCE



Reproduction = the production of offspring



SEXUAL REPRODUCTION

Combines
genetic material
2 parents

Human



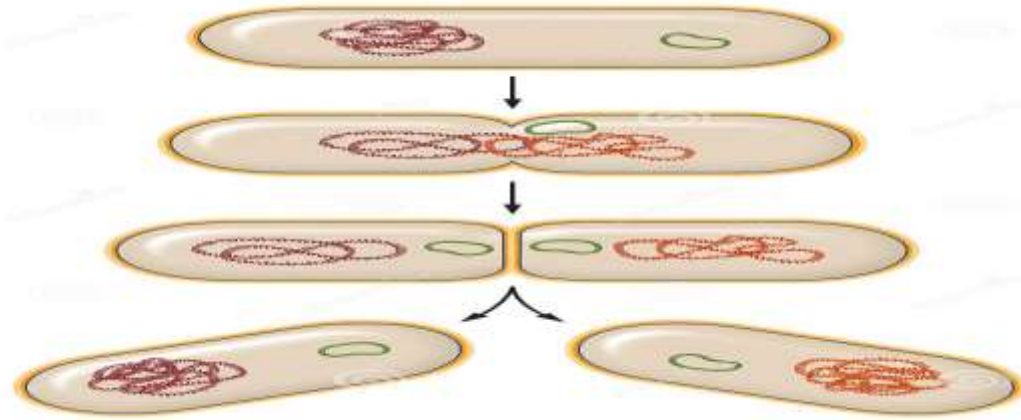
**Seen in animals and
plants**



ASEXUAL REPRODUCTION

makes a new
organism using
genetic material
ONLY 1 PARENT

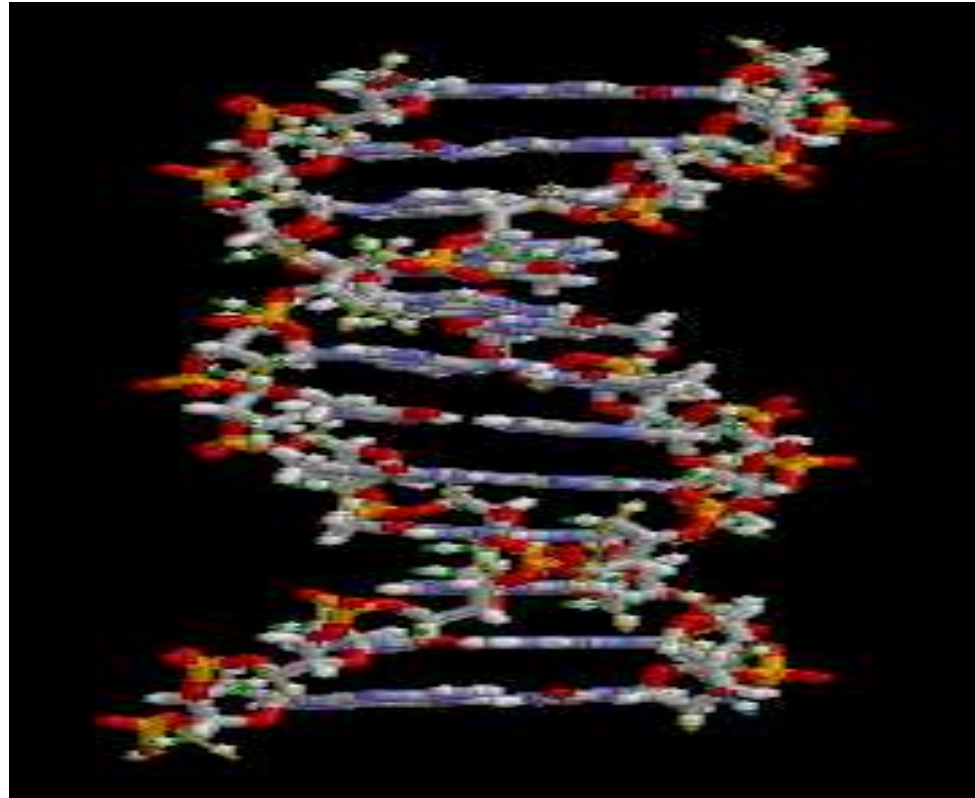
Bacteria



Seen in plants and
some animals



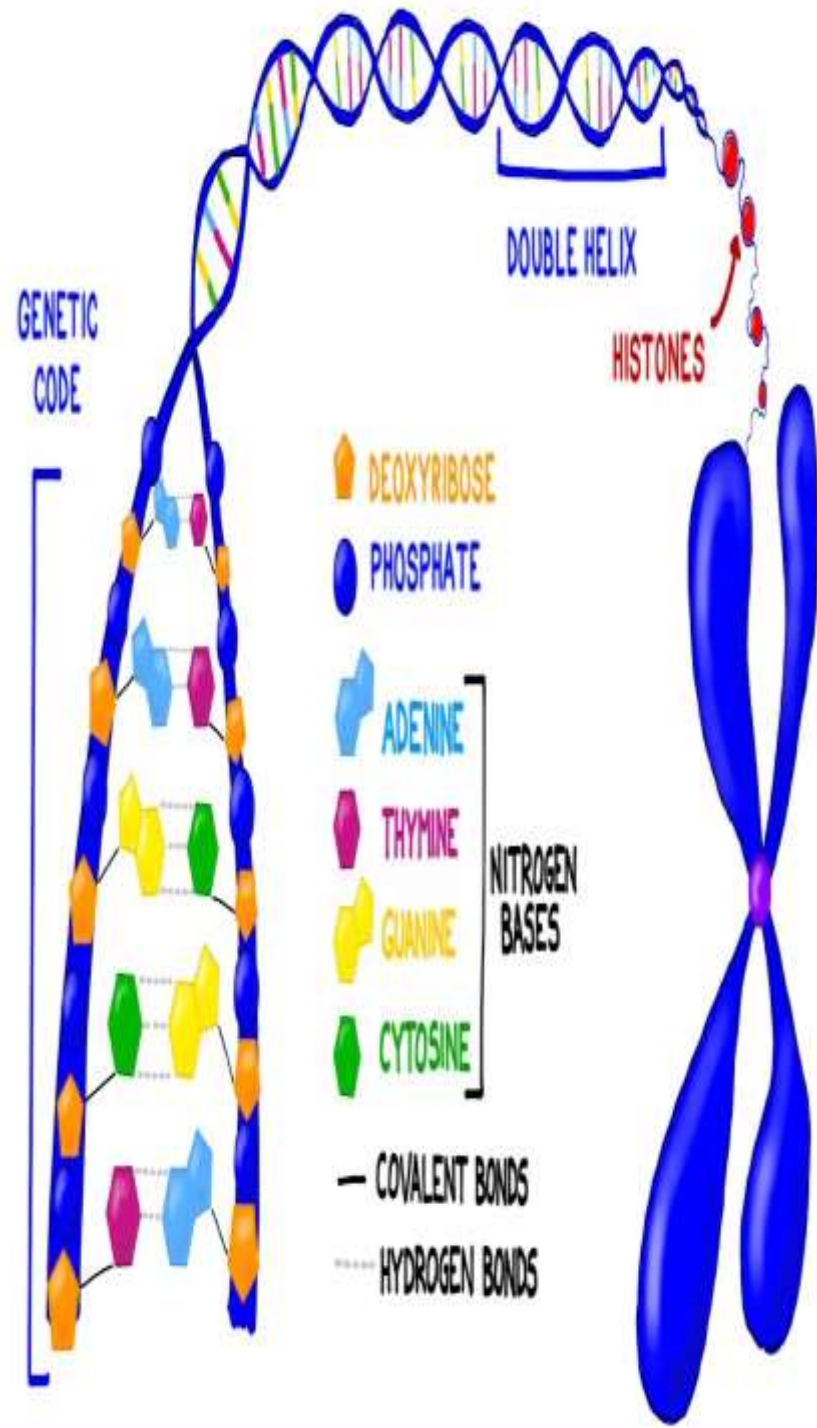
**ALL LIVING ORGANISMS
SHARE A UNIVERSAL GENETIC CODE**



DNA

- deoxyribonucleic acid
- hereditary material

Deoxyribonucleic acid (DNA) is a molecule that contains the instructions an organism needs to develop, live and reproduce. This instruction found inside the cell, and are passed through parents to their children.



ALL LIVING ORGANISMS CAN GROW AND DEVELOP

Growth is one of
the hallmarks of
a living thing.



SINGLE CELLED ORGANISMS

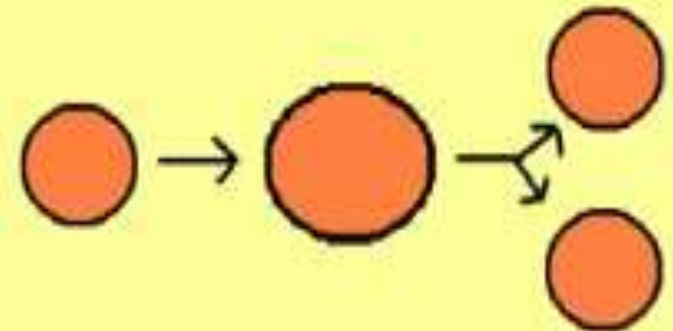
Growth is mostly
a simple
INCREASE in
SIZE



MULTICELLULAR ORGANISMS

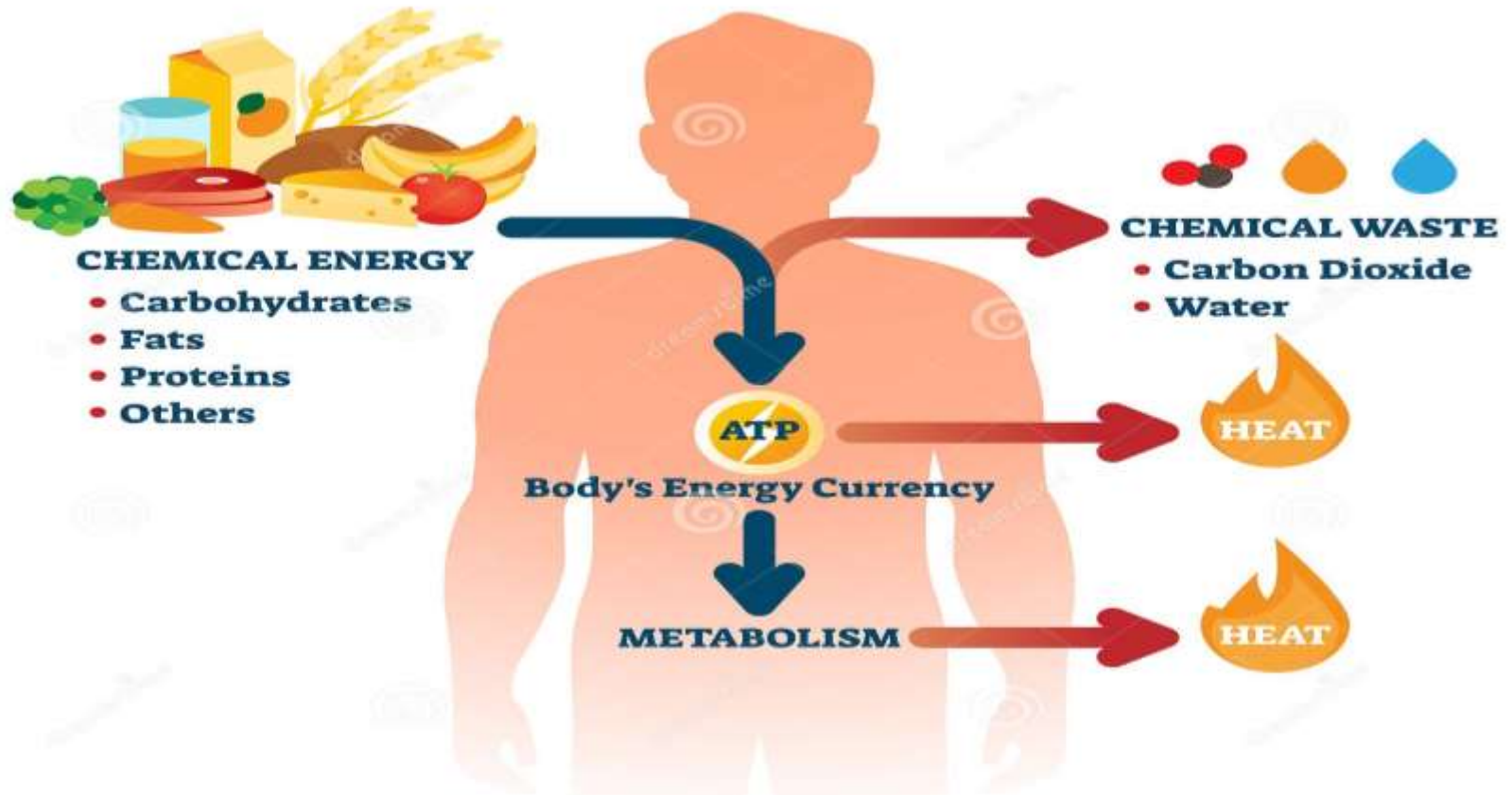


grow bigger
increasing cell
size & increasing
cell number



ALL LIVING ORGANISMS

Obtain and use materials & energy



The combination of all chemical reactions through which an organism builds up or breaks down materials as it carries out its life processes = **METABOLISM**

**TO GROW AND DEVELOP , ORGANISMS
NEED A CONSTANT SUPPLY OF BUILDING
MATERIALS AND ENERGY**

METABOLISM



Food



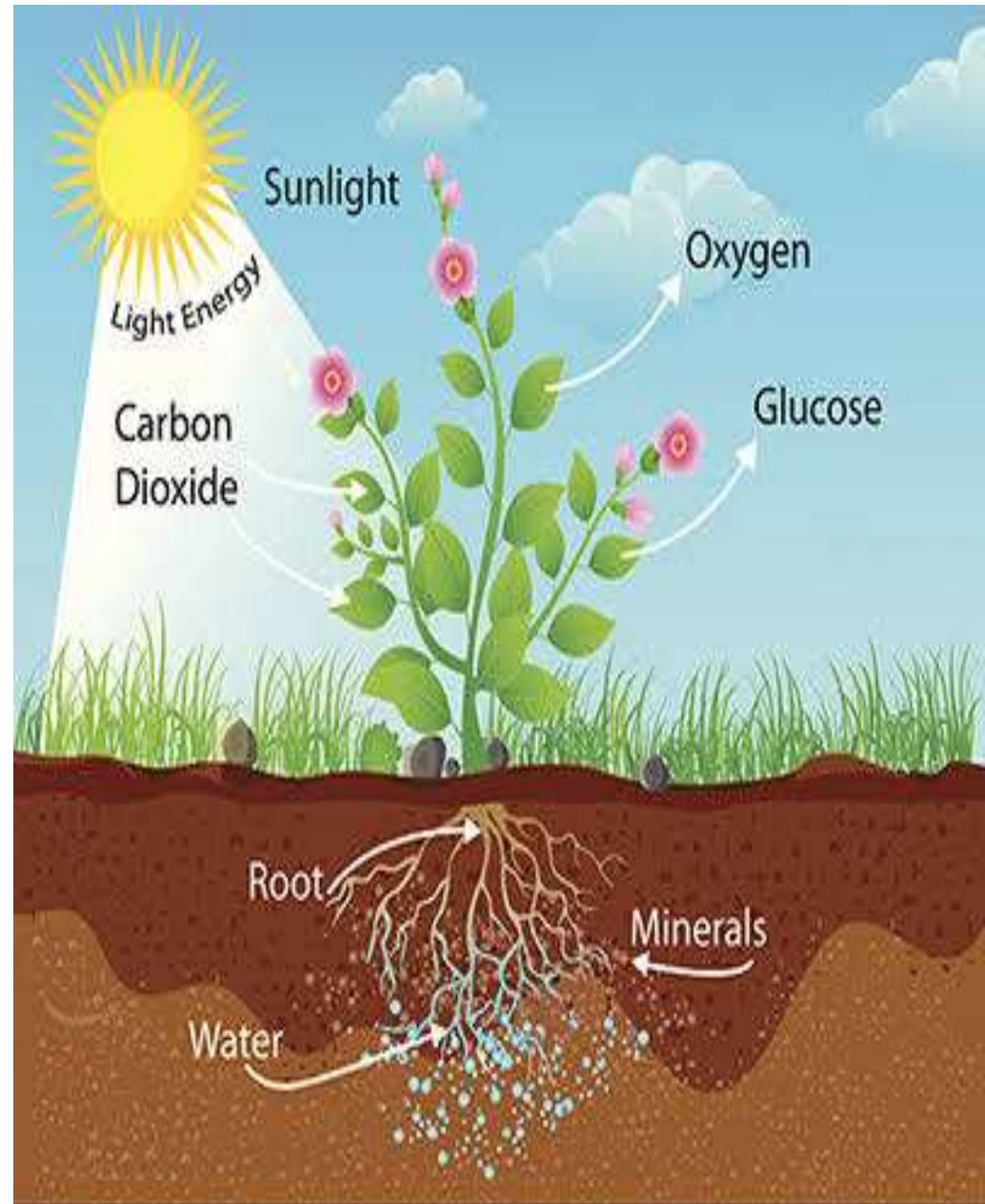
Degestion



Energy

AUTOTROPHS

use energy from
sunlight or
chemicals to
**make their own
food**

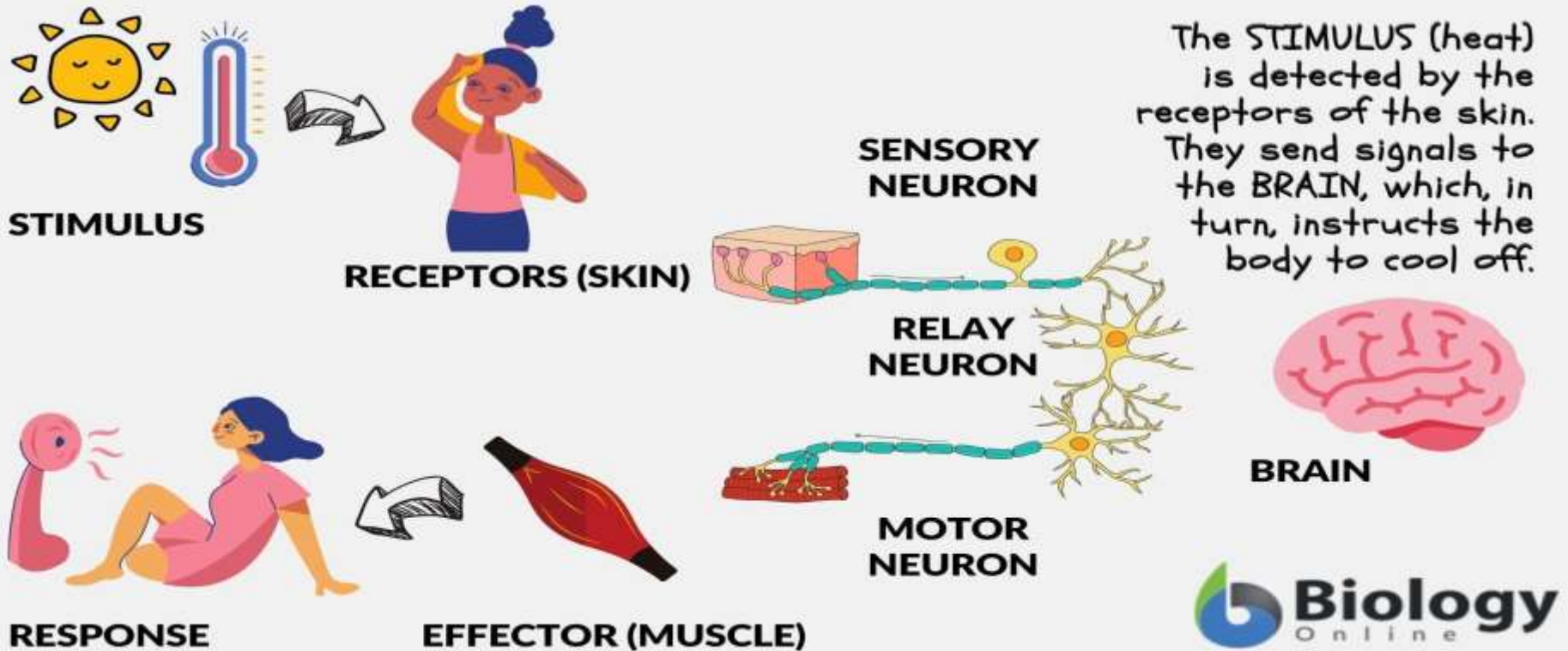


HETEROTROPHS

Organisms that do not produce their food and depend on other organisms for their food and energy.



ALL LIVING ORGANISMS RESPOND TO THEIR ENVIRONMENT



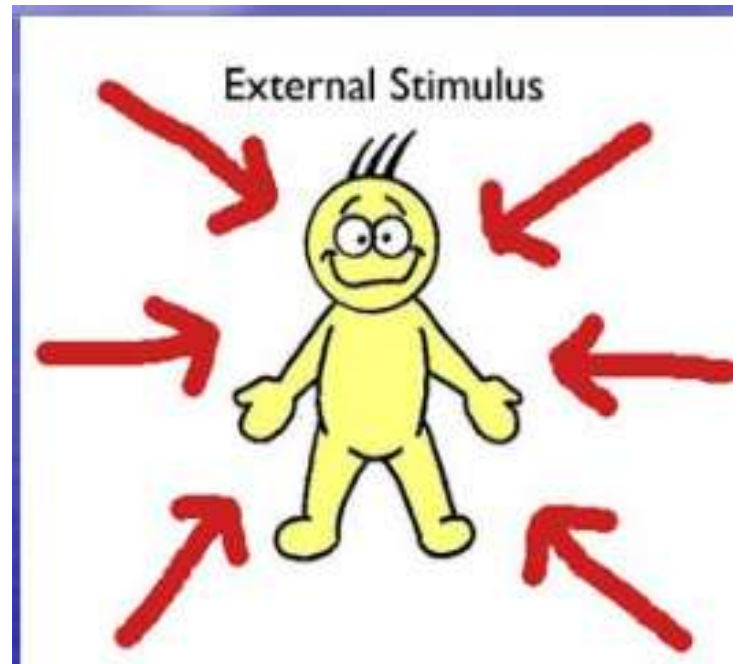
A signal to which an organism responds = **STIMULUS**

**EXTERNAL
STIMULUS**

Coming from
outside an
organism

**Water, Electricity
, Temperature ,
Darkness,**

.....



**INTERNAL
STIMULUS**

Coming from
inside an
organism

**Hunger, Thirst ,
Blood Sugar,
Temp ,**

.....

Internal Stimulus



**A cell works to keep conditions
inside the cell constant =
HOMEOSTASIS**

**REGULATE INTERNAL CONDITIONS
TO MAINTAIN LIFE**

**ALL LIVING ORGANISMS
AS A GROUP , CHANGE OVER TIME**



**EVOLUTION: ALLOWS SURVIVAL OF SPECIES IN A
CHANGING WORLD**