



NEET 2025

THE LIVING WORLD

LECTURE 1

+1 BIOLOGY

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- ❖ Growth ✓
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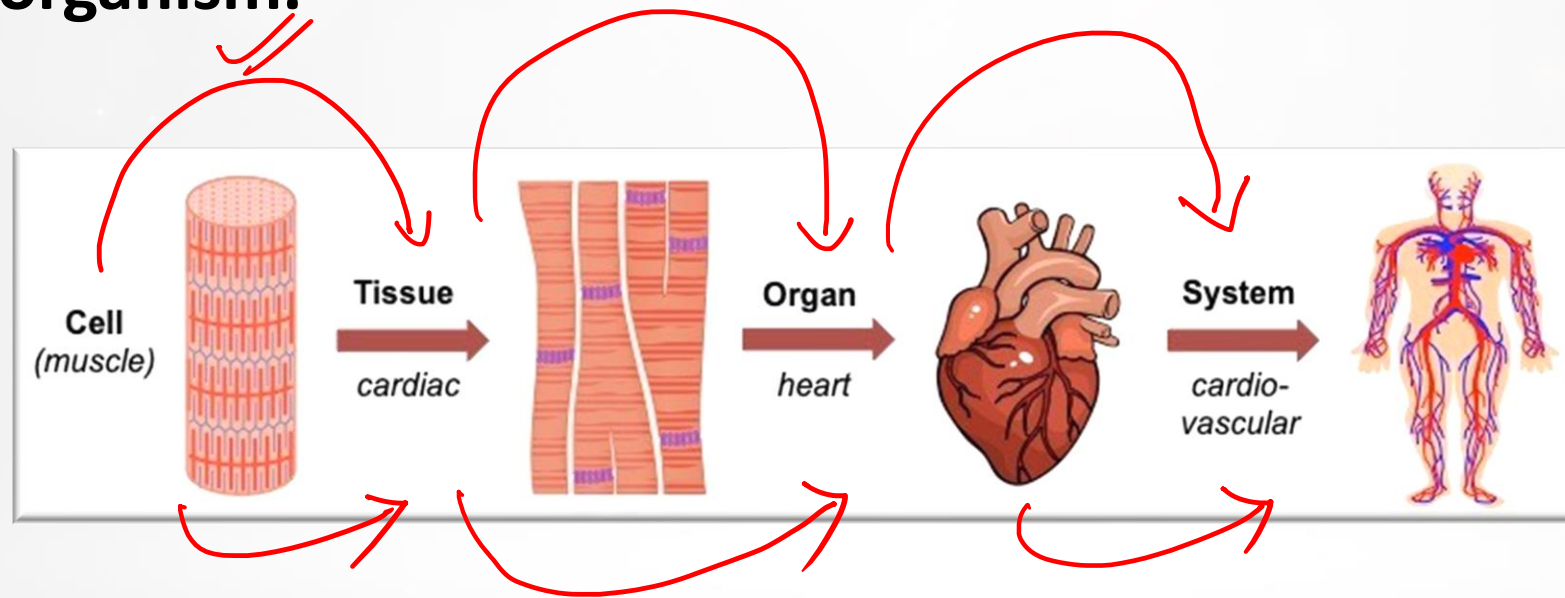
Definite Shape and Size ✓✓

- ❑ Living organisms have definite shape and size
Which may change within a narrow range. ✓✓
- ❑ Due to this property, living organisms are called
Morphous. ✓✓
- ❑ Non living matter is termed amorphous.

Morphology:

Organisation

- ❑ It is differentiation of a body into smaller units and subunits which are arranged in an orderly manner. //
- ❑ Due to presence of organisation, a living being is called organism. //



Growth

- ❖ Growth is permanent and irreversible change in the size of a cell, an organ or whole organism usually accompanied by increase in Dry weight /Mass,Number.



Development

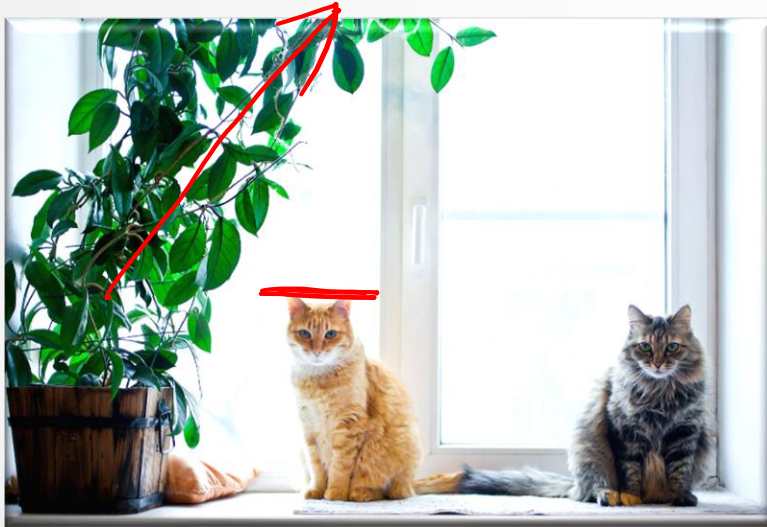
- ❖ Development is the sum total of changes that occur in an organ or organism during its lifetime. ✓
- ❖ Increase in mass and increase in number of Individuals are twin characters of growth. ✓



Growth and Development

meristematic

- ❖ In plants, growth continues throughout life as they have meristematic areas where cell division occurs regularly.
- ❖ In animals, growth occurs upto a certain age after which cells divide only to replace worn out and lost cells.



Unlimited
Limited



Intussusception ✓

- ❖ Living organisms show internal growth due to addition of materials and formation of cells inside their body. ✓

Accretion ✓

- ❖ Non-living articles increase in size due to addition of similar materials on their outer surface. ✓
- ❖ Growth cannot be taken as defining property of living organisms. ✓

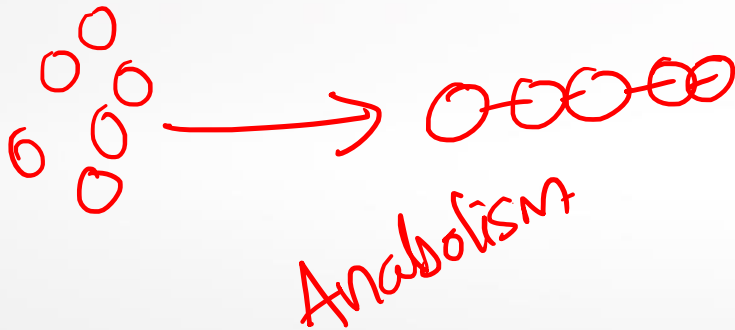
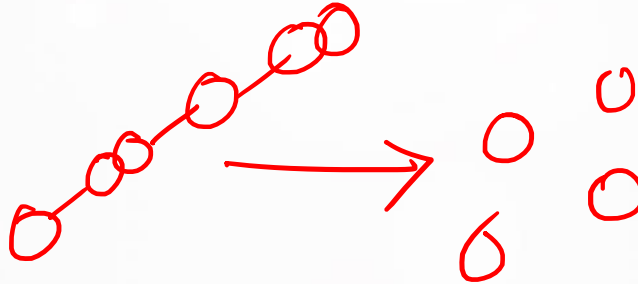
Examples: stones, crystals, mountains.

Metabolism

❖ It is sum total of various biochemical
Reactions occurring in a cell. //

It is defining property of all living organisms.

- Anabolism
- Catabolism



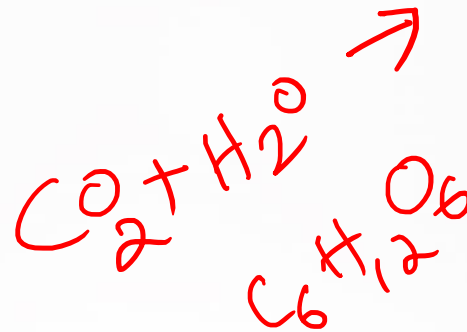
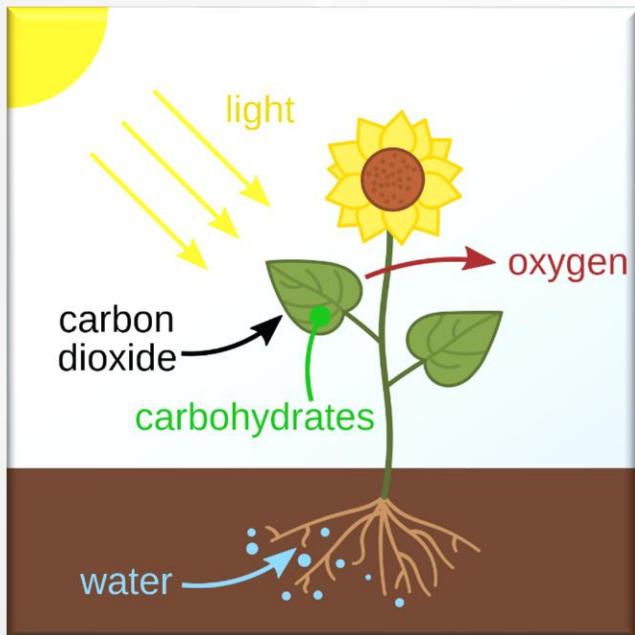
Metabolism

- ❖ Metabolism is a defining feature of all living organisms without exception. 
- ❖ Isolated metabolic reactions in vitro are non-living things but surely living reactions.  

Anabolism

- ❖ It is also called constructive metabolism.
- ❖ It includes all the building up reactions.
- ❖ It involves synthesis of complex substances. ✓✓

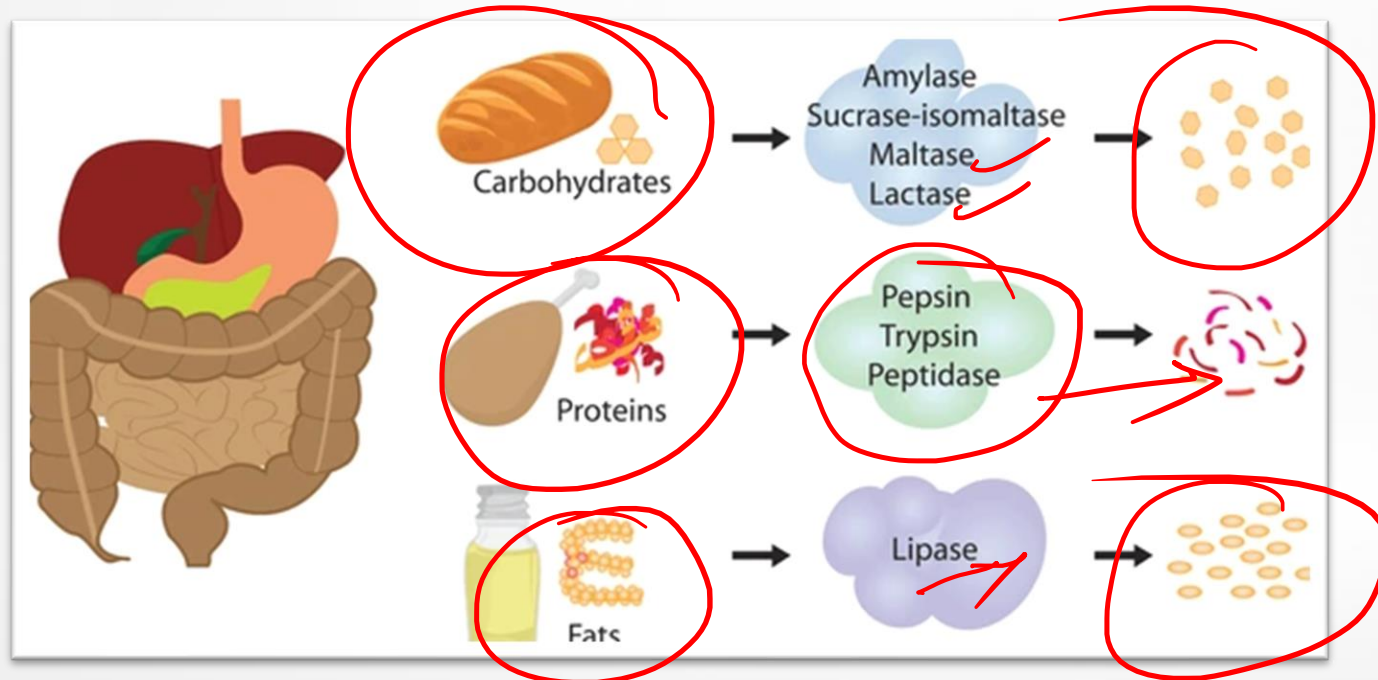
Example: photosynthesis. ✓✓



Catabolism

- ❖ It is also called destructive metabolism.
- ❖ It includes all the breakdown reactions.
- ❖ It involves breakdown of complex substances.

Examples: respiration, digestion.

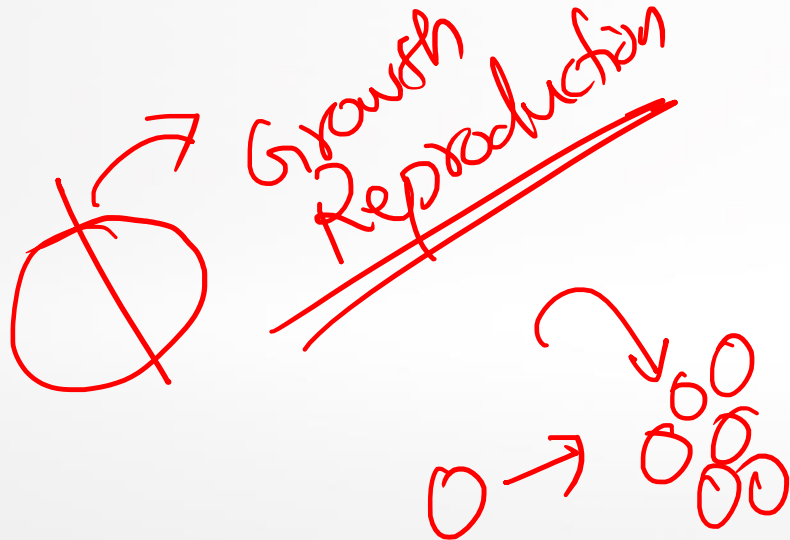


Reproduction

- ❖ It is formation of new individuals of similar kind (life arises from pre-existing life).
- ❖ It is not essential for survival of individuals.
- ❖ It distinguishes living from non living but it is not defining feature of life.
- ❖ Two main strategies of reproduction are asexual and sexual.

Reproduction

- ❖ In unicellular organisms like bacteria, unicellular algae, Amoeba, reproduction is synonymous with growth.
- ❖ Reproduction cannot be an all inclusive defining characteristic of living organisms.
- ❖ No non-living object is capable of reproducing or replicating by itself.



Homeostasis

- ❖ It is maintenance of constant and favourable internal environmental conditions suitable for functioning of body organs.

Temperature
Acidity
Osmolarity

Consciousness

It is awareness of surroundings and response to external stimuli.

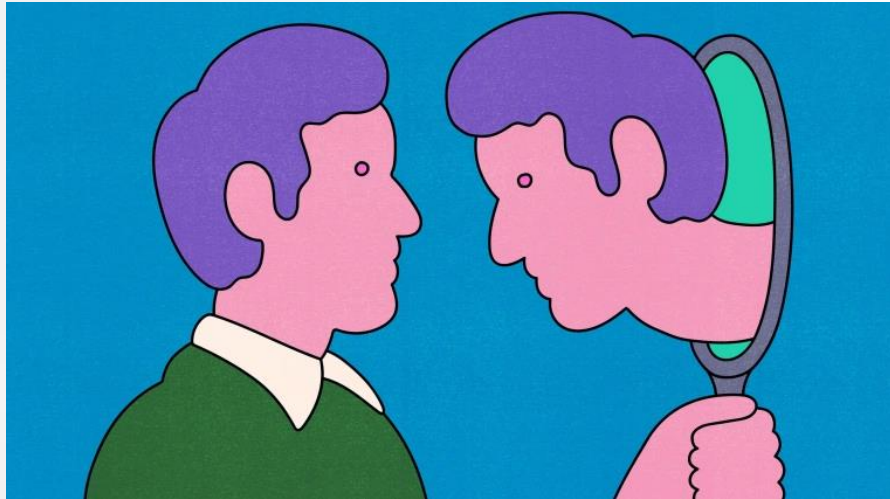
Stimuli are perceived by sense organs and these can be

- Physical.
- Chemical.
- Biological.

The visible change or reaction which an organism produces as a result of applied stimulus is called response.

Consciousness

- ❖ Human being is the only organism who is aware of himself
i.e. has self-consciousness.
- ❖ Consciousness is a defining property of
living organisms.



Adaptation

- ❖ Useful, inheritable changes in form, function and behaviour which enables an organism to adjust well and successfully in its environment.
- ❖ An organism is considered best adapted to an environment when it possesses inherited traits that enhance its survival and breeding in that environment.

Repair and Regeneration

- ❖ It is the ability to repair or renew damaged/lost body parts in the post-embryonic life of an organism.
- ❖ All living organisms heal their wounds or repair the damaged parts.



Death

- ❖ It is ultimate termination of functional life.
- ❖ Study of death is Thanatology.
- ❖ It is most important regulatory process which prevents overcrowding and brings recycling of materials.



Example

The living organisms can be unexceptionally distinguished from the non-living things on the basis of their ability for

(2007)

- (a) interaction with the environment and progressive evolution**
- (b) reproduction**
- (c) growth and movement**
- (d) responsiveness to touch.**

Example

Which one of the following aspects is an exclusive characteristic of living things?

(Mains 2011)

(a) Isolated metabolic reactions occur in vitro

(b) Increase in mass from inside only

~~(c)~~ Perception of events happening in the environment and their memory.

(d) Increase in mass by accumulation of material both on surface as well as internally.

Consciousness

Example

Biological organisation starts with
(2007)

- (a) cellular level ✓
- (b) organismic level ✓
- (c) atomic level ✓
- ~~(d) submicroscopic molecular level. //~~

molecular → cell organelles → Cell → Tissue → Organ
→ organ system.

Example

Biological processes that does not operate within the life span of a particular organism are

- a. Nutrition and birth ✓✓
- b. Maturation and growth ✓✓
- c. Excretion and Metabolism ✓✓
- d. ~~Decomposition and mineralisation~~ ✓✓

Birth — Death

Example

Organisms that have the property of self-consciousness are

- a. All living organisms**
- b. Prokaryotic organisms**
- c. Eukaryotic organisms**
- ~~d. Human beings~~**

Example

Select the correct statements from the following

A. Accumulation of materials on the surface of non-living things cannot be considered as growth. ✗

B. Reproduction in seasonal breeders can be affected by photoperiodism. ✓

C. Self-consciousness is associated with all living organism present on the earth. ✗

D. Budding is seen in yeast ✓

a. A and B

b. A and D

c. B and D

d. All of these

Example

Reproduction and growth are mutually exclusive events in

- a. Lower plants**
- b. Lower animals**
- c. ✓ Higher plants and animals**
- d. Amoeba**

Example

How many of the below properties are the main defining features of living organisms?

~~+~~ Growth, ~~+~~ reproduction, ~~✓~~ metabolism, ~~✓~~ cellular organisation, ~~✓~~ consciousness

a. 2

~~✓~~ b. 3

c. 4

d. 1