


- Sporophyte is diploid while spores and gametophyte are haploid.
- Enteric Nervous System takes care of gastrointestinal systems.
- In CAM photosynthesis, stomata only open in night to collect CO_2 . This, along with C_4 photosynthesis is an adaptation to arid plants.
- Pith or medulla is a tissue in the stems of vascular plants which stores and transports nutrients.
- Cambium tissue is between xylem and phloem, which constantly divides.
- Archenteron is embryo develops into gut cavity.
- Blastopore becomes mouth or anus.
- Mitochondria are the least dense organelles.
- Since ions carry a charge, they cannot cross non-polar cell membrane.
- Nerve nets are in organisms not showing cephalization.
- Flame cells are planaria's excretory system.

- Cyanobacteria, though photosynthetic, do not have chloroplasts since they are prokaryotes.
- If solute is enter a cell, then the cell is in hypotonic solution.
- Water is polar, has unequal distribution of electrons meaning it can form hydrogen bonds
- Chemiosmosis is the movement of ions across membranes to produce ATP.
- Moving enzyme to non polar liquid will alter the protein's temporary structure, reducing its activity.
- Epitasis is the phenomenon of one gene being dependent on other genes causing a polygenic inheritance.
- Non-disjunction is the failure of sister chromatids to sperate during cell division.
- Gel electrophoresis is the seperation of macromolecules based on their size and charge.
- Natural selection requires limited environmental resources.

- Nematocysts / Cnidocyte / Cnidoblast are found in Cnidaria which are stinging cells.
- Setae are bristle like hair on skin which help earthworm not to slide back while peristalsis.
- Typhlosole is an internal fold of the intestine in mollusks, annelids and echinoderms.
- Auxin - new cell, elongation
Gibberellin - long stem
Cytokinin - delay aging
Ethylene - ripening of fruit
Abscisic Acid - inhibitor / drought
- Lacteal in villi is a part of lymphatic system which absorbs fats.
- Founder effect is loss of biodiversity when small new population establishes a large population.
- Bottleneck effect happens when due to earlier disaster, current population has descendants of only a small number of survivors, reducing biodiversity.

- Swelled cells create turgid pressure while shrunken cells are plasmolysed.
- Plasma membrane is clearly  on a shrunken cell.
- Many DNA mutations are recessive
- Cytoskeleton are made of actin and tubulin.
- DNA is wrapped around histone proteins
- Interphase : $G_1 \rightarrow S \rightarrow G_2 \rightarrow M$
- Aneuploidy : disruption of cell cycle with abnormal number of chromosomes.
- Gene linkage violates Mendel's Law of Segregation like B blood group and nail-patella syndrome occur together.
- Integument is the protective covering of seed.
- Skeletal joints : Ball and socket
Hinge
Pivot
Saddle and condyloid

Hormones.

1. Anterior Pituitary Gland:

GH - affects cell turnover rate

TSH - stimulate thyroid

ACTH - stimulate adrenal cortex

FSH - stimulates ovary/testis. to
make egg/sperm

LH - stimulates ovary/testis to
make corpus luteum/testosterone

2. Posterior Pituitary Gland:

Oxytocin - to contract uterus and
release milk

ADH (vasopressin): kidney retains H_2O

3. Hypothalamus: makes Releasing Hormones.

4. Thyroid:

Thyroxine: increasing metabolism

Calcitonin: builds bone

5. Parathyroid

Parathormone: dissolves bones

6. Adrenal Medulla:

Epinephrine and Norepinephrine

7. Adrenal Cortex:

Glucocorticoids - releases new
glucose in blood. (Cortisol)

Mineralocorticoids (Aldosterone)

Kidney retains sodium and water

8. Pancreas

Insulin: decreases blood glucose

Glucagon: increases blood glucose

9. Gonads

Testosterone (Androgens)

Estrogen and Progesterone