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## Cell Biology

## 22ed, Feb. 2021

## 1st Lecture

Tiny embryo divisionand adding

\* We can use cells therapy in medicine

- In the past, scientists couldn't study the cells because they didn't have

Microscopes.

- Each development in microscopes is followed by many developments in the Knowledge about the Cells

(Each type of microscopes has its

- By these microscopes scientists

discovered how to grow cells in

and then they die.

· Now, scientists have discovered away to keep them divided without de.

HeLa Cells (immortalize Cells)
 Scientists use these Cells to study

the structure and the Chemical

reactions in living cells. Also, it's used in dungs to examine them and evaluate the effects and efficiency.

Cells are Highly Complex and Organized."

\* Cells control the metabolic pathways and Biochemistry of cells by the

Information that encoded in the

Genes (The sequence of bases)

DNA A CCGTATTCCGG

Each gene has a unique sequence of bases => So. different sequence of amino acids.

When the sequence of amino acids
Is changed due to the changing in
the sequence of bases in DNA, these
Changings lead to "mutations"...
many mutations are positive, They
help the species to adapt with the
new Conditions.

- Cells are reproduced by cellular division before this process... Cells must be prepared First: DNA is duplicated ... so each doughter cell has one of these two identical Copies of DNA.

Photo synthesis - produce Glucese by using ATP.

(plants and prokaryotes)

Cellular respiration - oxidation of Glucase to

generate ATP which is used to energate

the cells achienty

- Cells Carry our several reachious

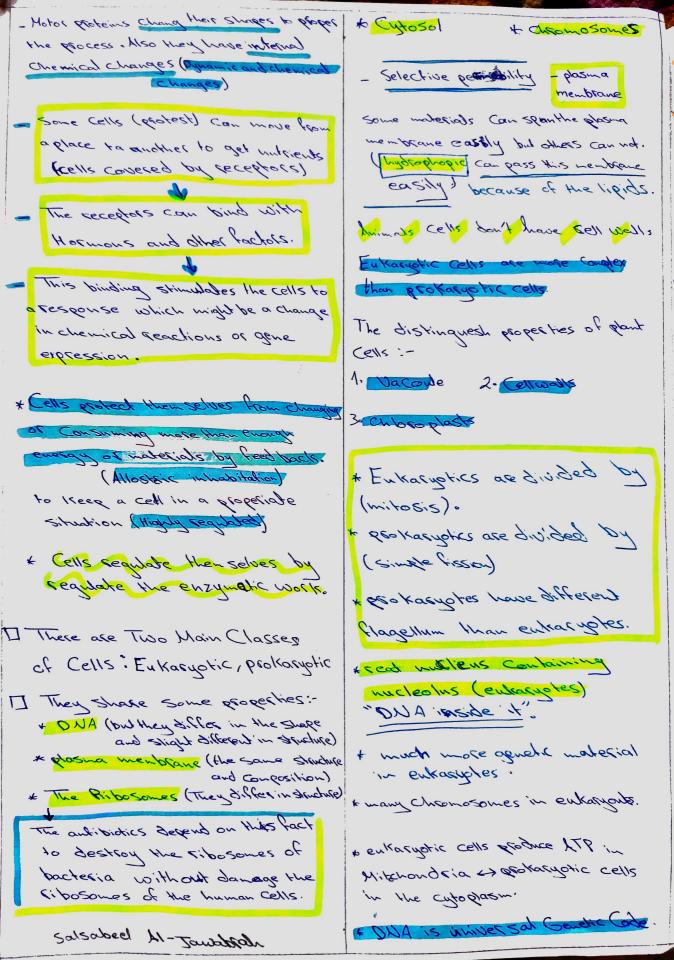
(metabolic palhways).
- Enzymes facilitate the Chemical reactions and changes.

The cells perform three types of work:

1-emysical 2-chemical 3-teansporting

Cells can transport materials =

The cuto skeleton inside the cells is very dynamic; It's continually broken and reformed to perform specific function. Also, cells are always moving.



T C A ⇒ kielo's Cycle

eukaryotic Cells are Compartilized organization (Golgi apparatus and Endoplasmic seticulumes)

Bocheria use different flagellum in structure and mechanism.

Backeria live in different environments and conditions.

Auto Clave -> Serilization device uses the bemperature and persone.

Each instrument has its own way and mechanism in steelilization.

\* The Smalled Known Cell 's the mycoplasma => it doesn't have cell wall and it doesn't offect offect of cells should but it agels.

Them in militarity and decreases have division.

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Inside the weathy and worked him body offer from each other.

Inside the Cow the backerial breaks down the Cellwose.

There are will biomes live over the Human Shin and they are very important.