Chapter 30
Mutation & Mitochondrial DNA

Definition of mutation

Purine -

Pyrimidine -

Types of mutation

Normal

A U G C U G C C U C C A A U G

Mutated

A U G C U G C C C C A A U G

……Replaced by…… -

Normal

A U G C U G C C U C C A A U G

Mutated

A U G C U C C U. C C A A U G

……Replaced by…… -

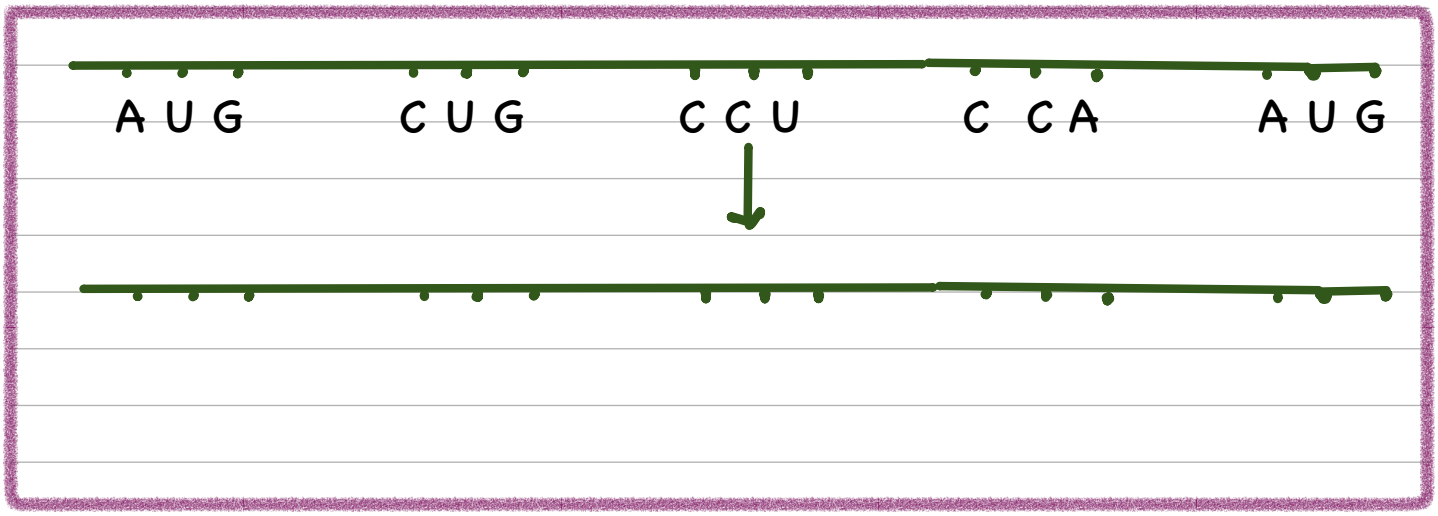
Normal

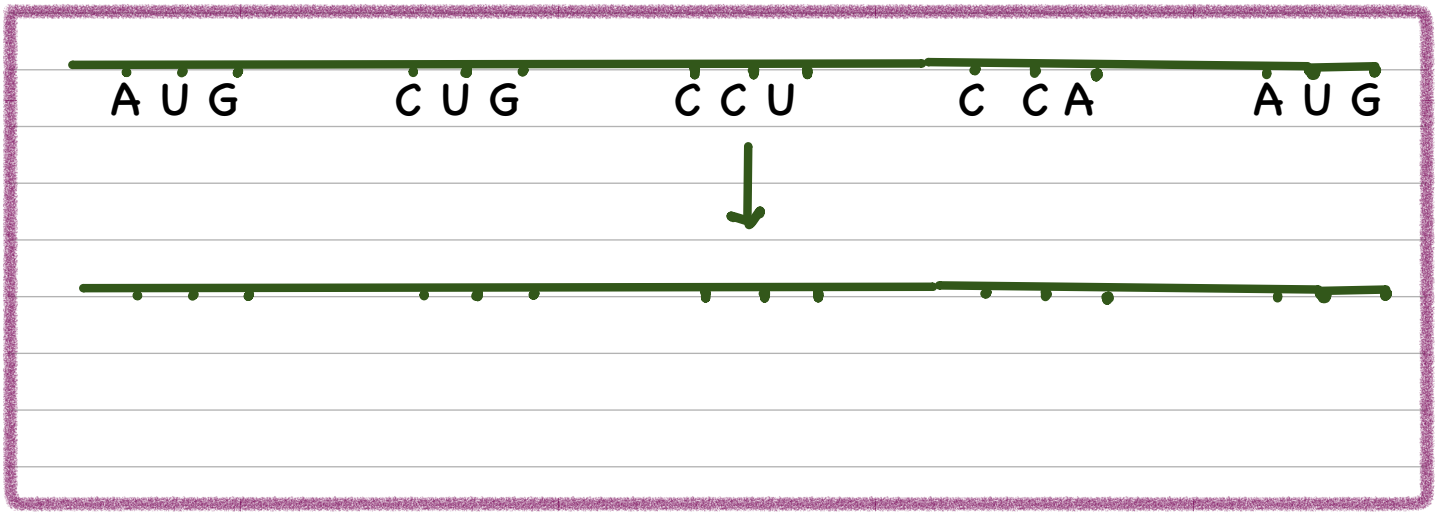
A U G C U G C C U C C A A U G

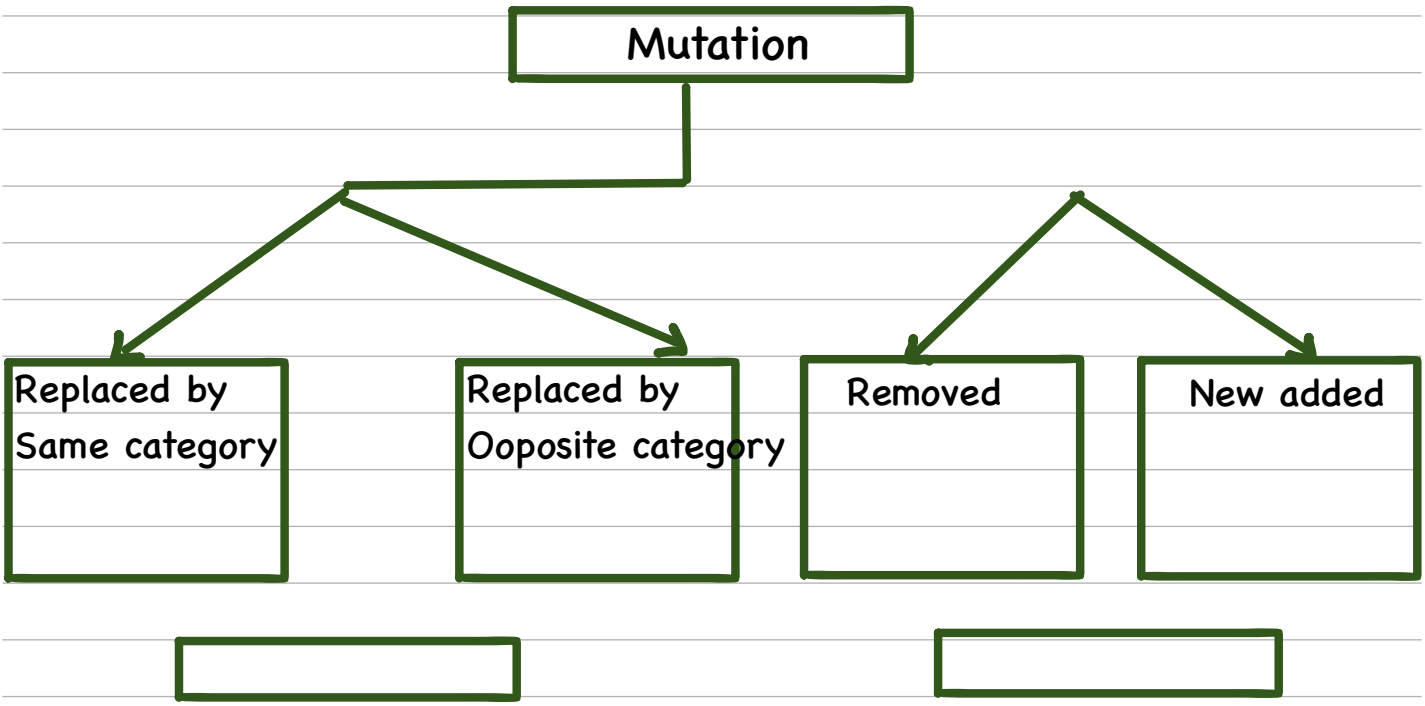
Mutated

A U G C U G C C C C A A U G

……Replaced by…… -


A U G
C U G
C C U
C C A
A U G

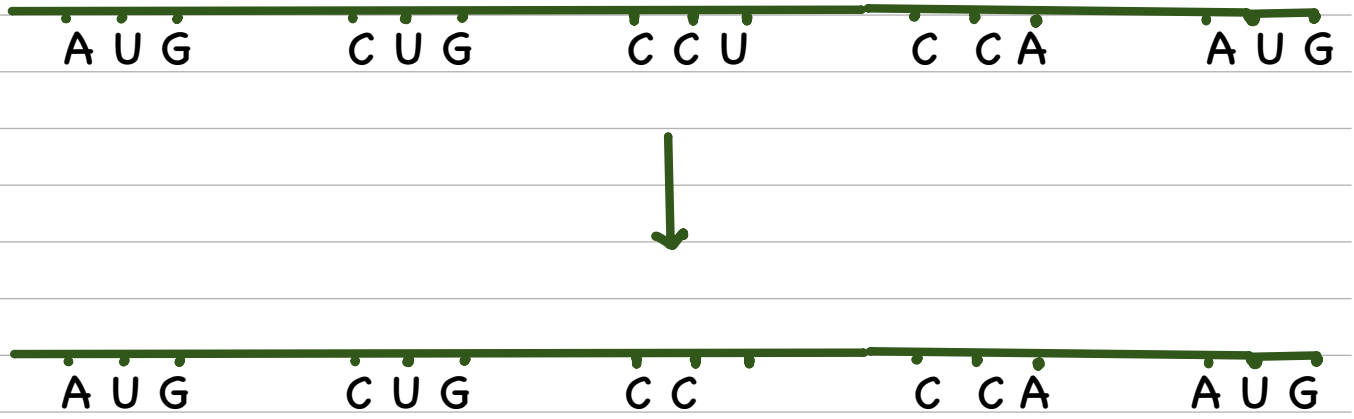

A U G
C U G
C C U
C C A
A U G


Mutation
Replaced by
Same category
Replaced by
Ooposite category
Removed
New added

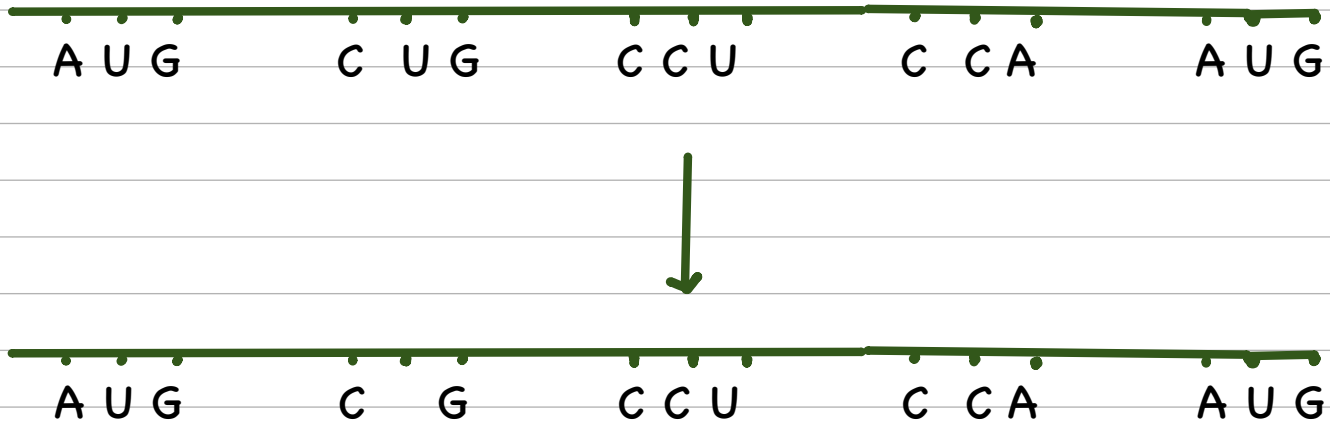
Effect of muation

Proline codon	
CCU	CCC
CCA	CCG

A- silent mutation



B- mis-sense mutation



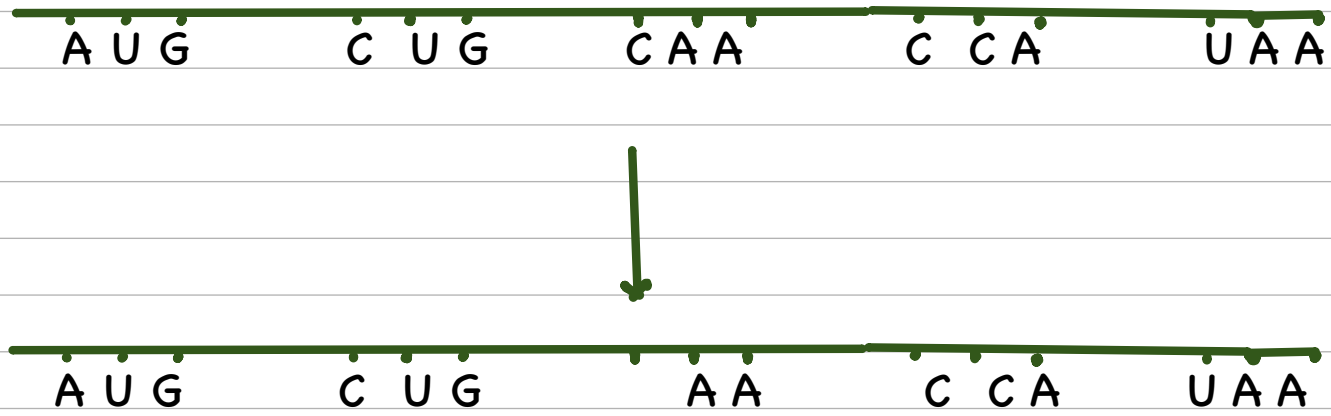
due to mis-sense muation C/F -

C- non- sense muation

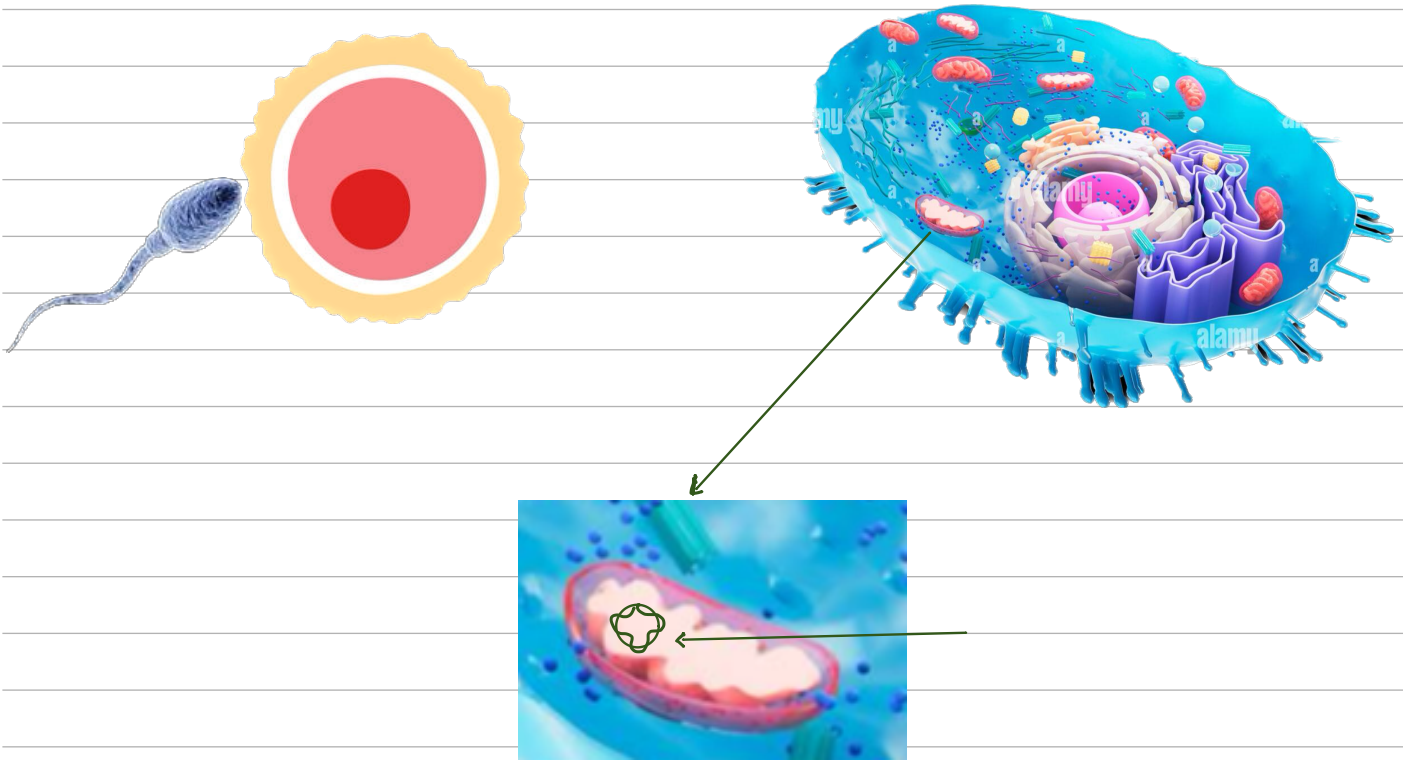
Stop codon

Or non sense codon

- UAA
- UGA
- UAG



Mitochondrial DNA



Inhertiance of mito. DNA -

- Replication by - DNA polymerase ....
- Make ……% of total DNA.
- Muation -

Match the following

a) polymerization of okazaki seg.	1) DNA polymerase 3
b) histone octamer	2) 7-methylguanosine
c) acetylation of histone	3) gene expression regulation
d) starting site for transcription	4) activation of transcription
e) splicing	5) H1 is not a part
f) capping of RNA	6) marker sequance (kozak seq.)
g) mi-RNA	7) promotor region (TATA box)
h) activation of translation	8) sn-RNA - lariate structure

a……b……c……d……e……f……g……h……