

Mutation happens

WHEN:

D N A
3. Inversion - /
How Harmful?

Original: ATG CCA
w/in a codon: AGT CCA
Between codons: ATC GCA

3 Types of DNA mutation:

1. Point → also called

How Harmful? →

Original: ATG CCA
Mutation: ATG CGA

2. Frame Shift → 2 types

How Harmful? ⇒ ⇒

Original: ATG CCA
Deletion: ATC CA
Insertion: ATG TCC A

M U T A T I O N
In general, — mutations are least harmful, followed by — mutations, and then — mutations.
BUT, any mutation in a — or — codon is harmful!

EX from old whale book:

Original: THE DOG BIT THE CAT

Point: THE DOG BIT THE CAT

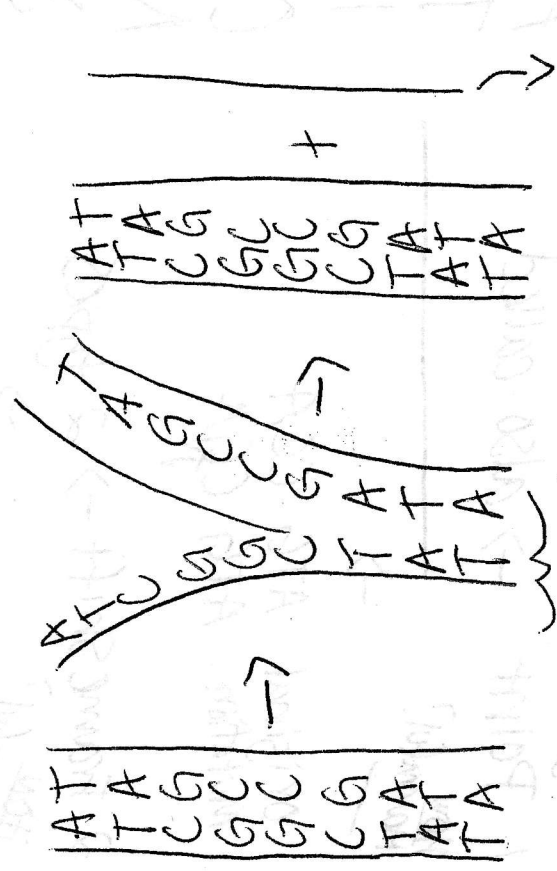
Inversion: THD EOG BIT THE CAT

Deletion: THD OGB ITT HEC AT

Insertion: THE EDO GBI TTH ECA T

Transcription

→ done b/c _____



only one side is copied.

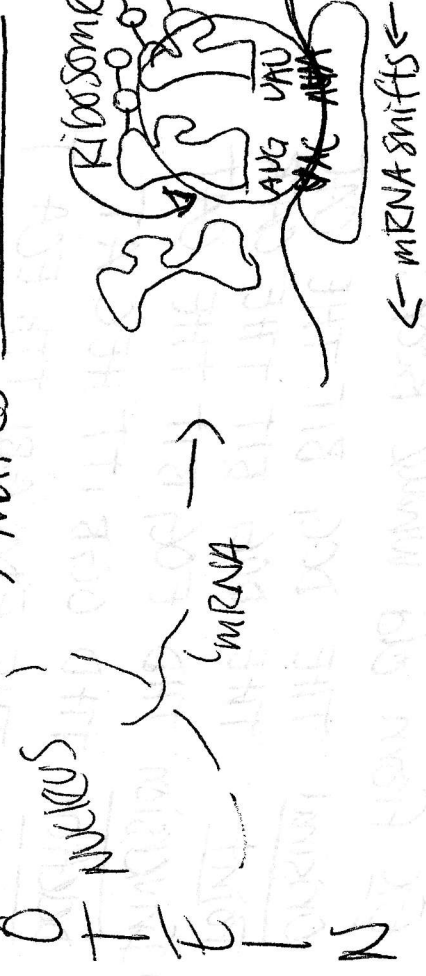
mRNA moves to the cytoplasm for translation

Like replication, transcription is controlled by _____ in the _____

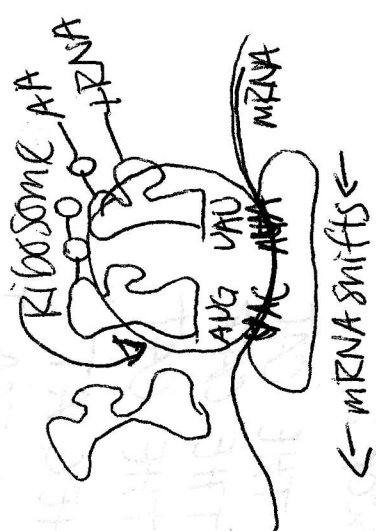
- RNA types
- mRNA -
 - tRNA -
 - rRNA -

Translation

→ makes _____



NUCLEUS



DNA - ATG CCG GAG CTA CTC GCA

mRNA -

tRNA -

Amino Acid sequence

DNA - TTA CCA GCT TTA CTG GGG

mRNA -

tRNA -

Amino Acid sequence