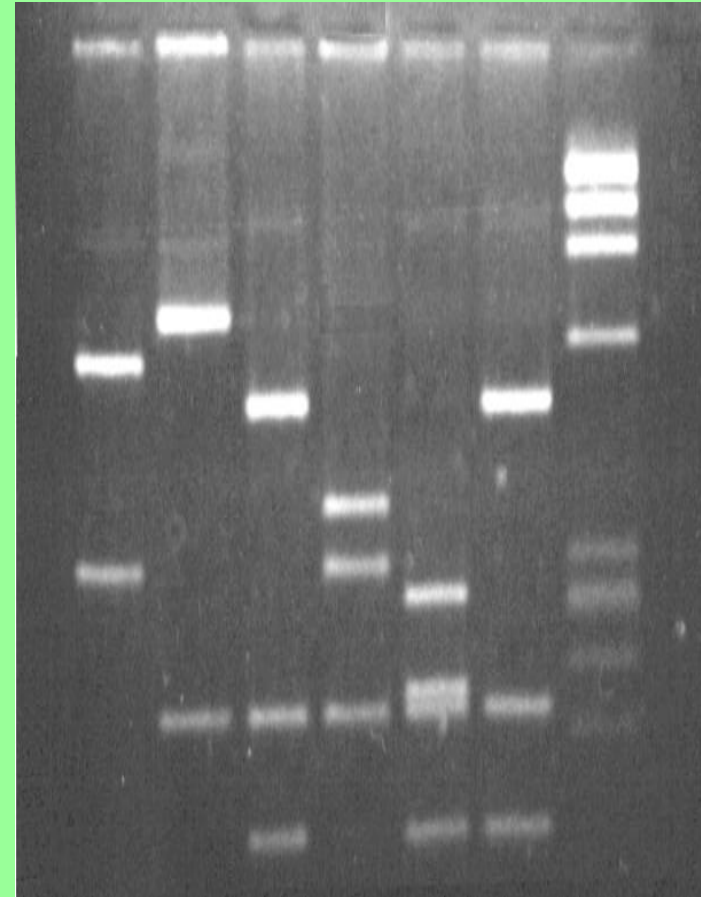
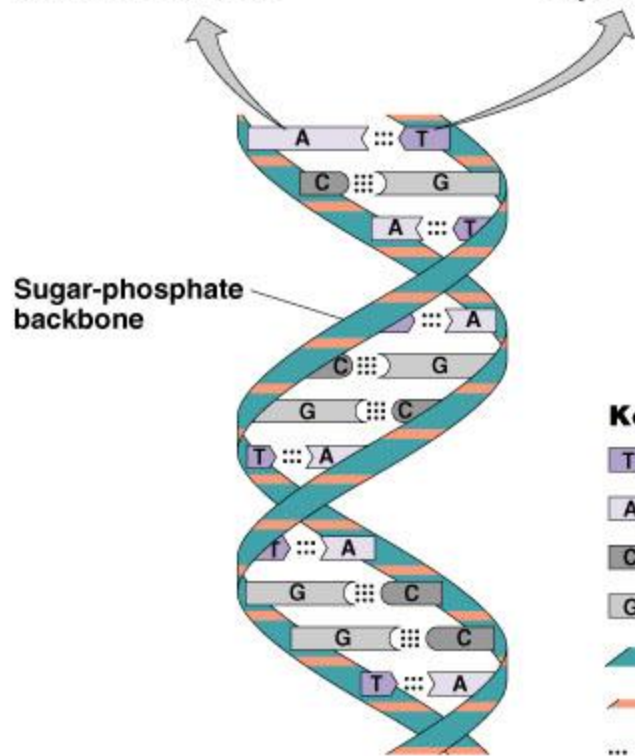
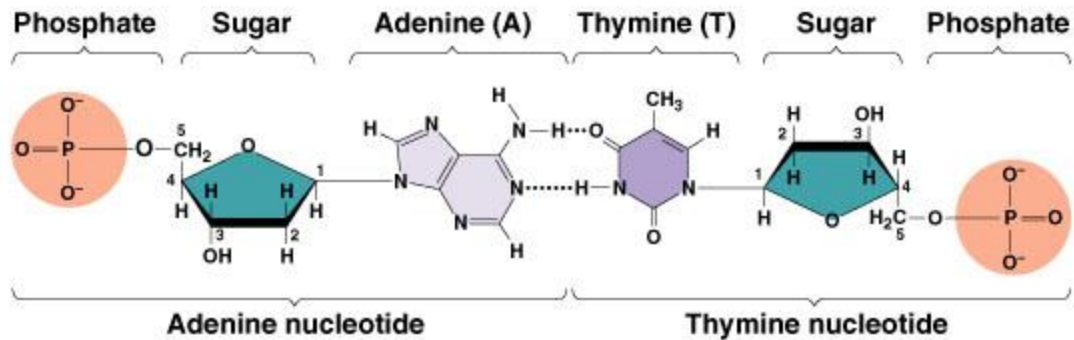


# DNA Replication

- Review:



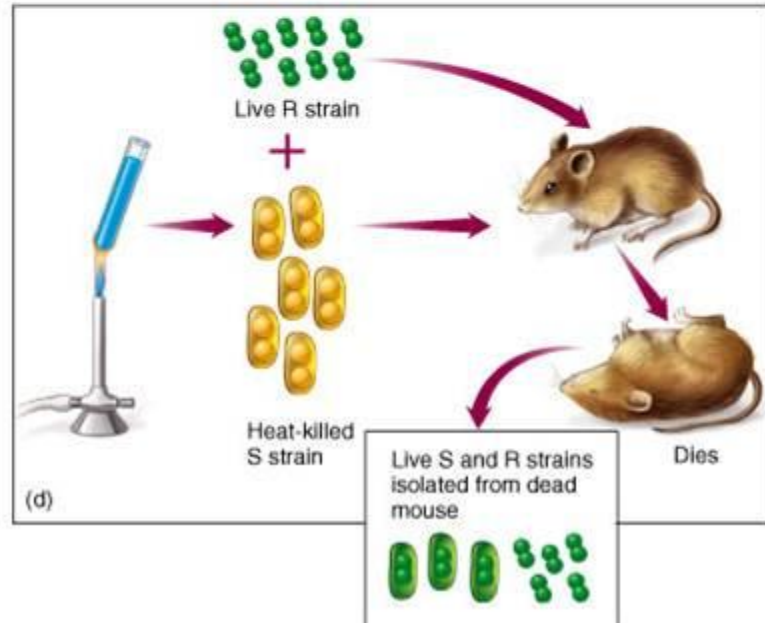
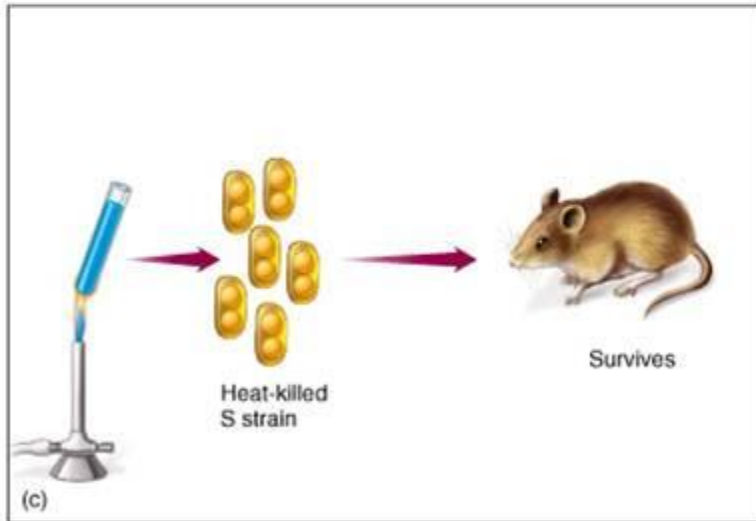
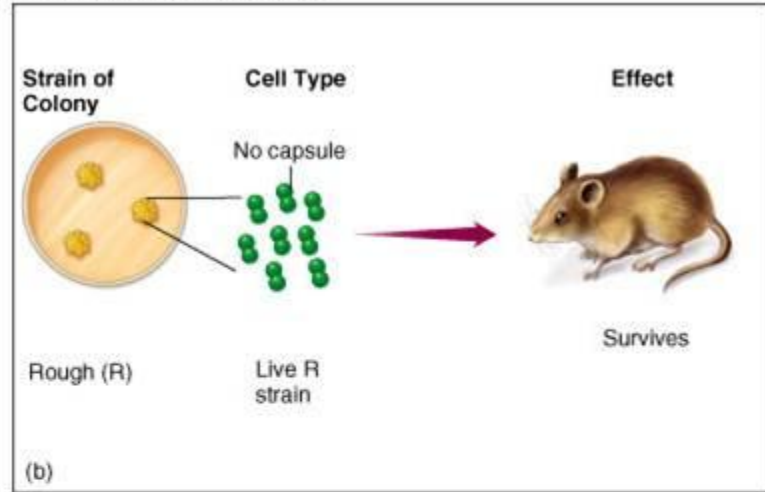
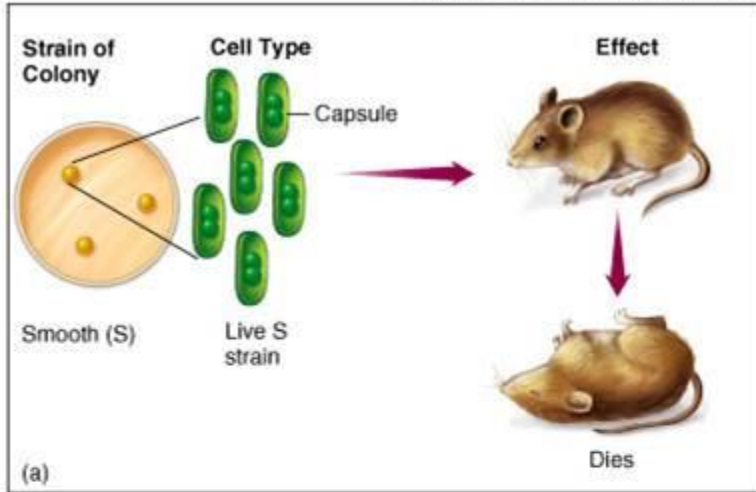


- Key:**
- Thymine
  - Adenine
  - Cytosine
  - Guanine
  - Deoxyribose sugar
  - Phosphate
  - Hydrogen bond

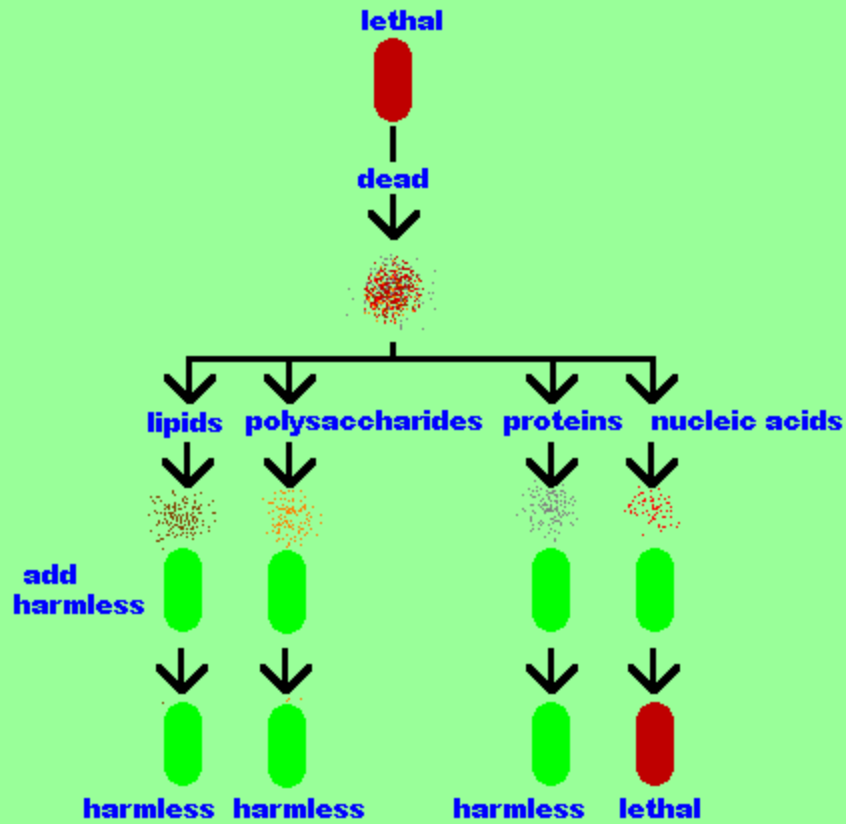
**DNA double helix**

# Griffith's Experiment

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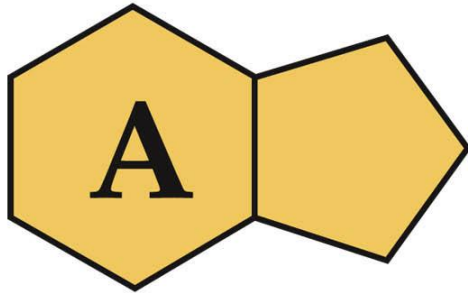


# Oswald Avery

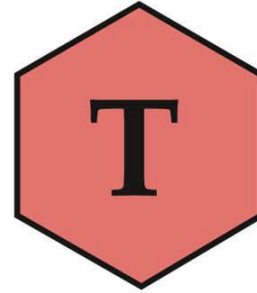


# Edwyn Chargaff

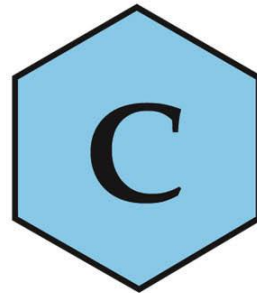
## Chargaff's Rule



=



=



Purines

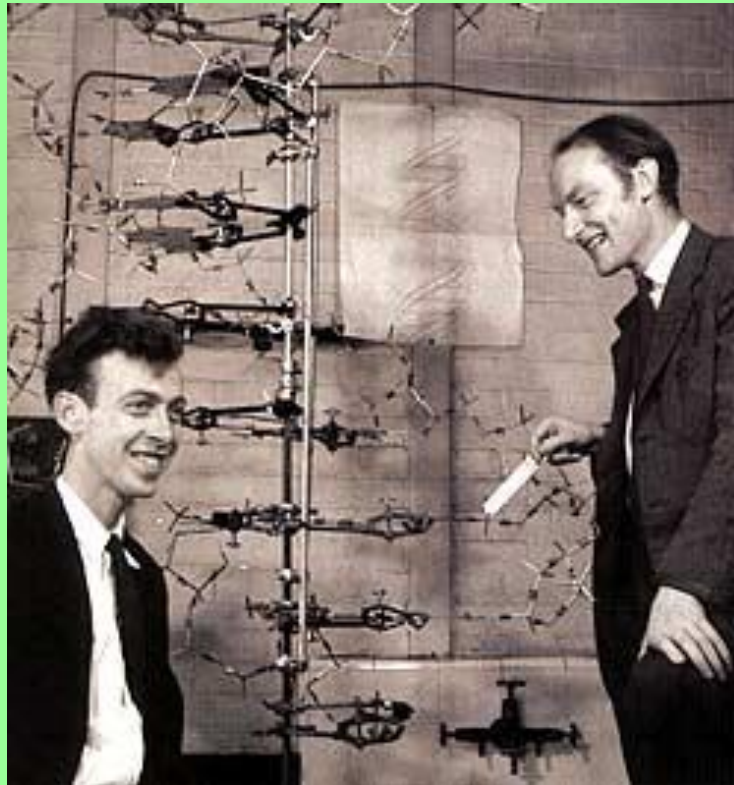
=

Pyrimidines

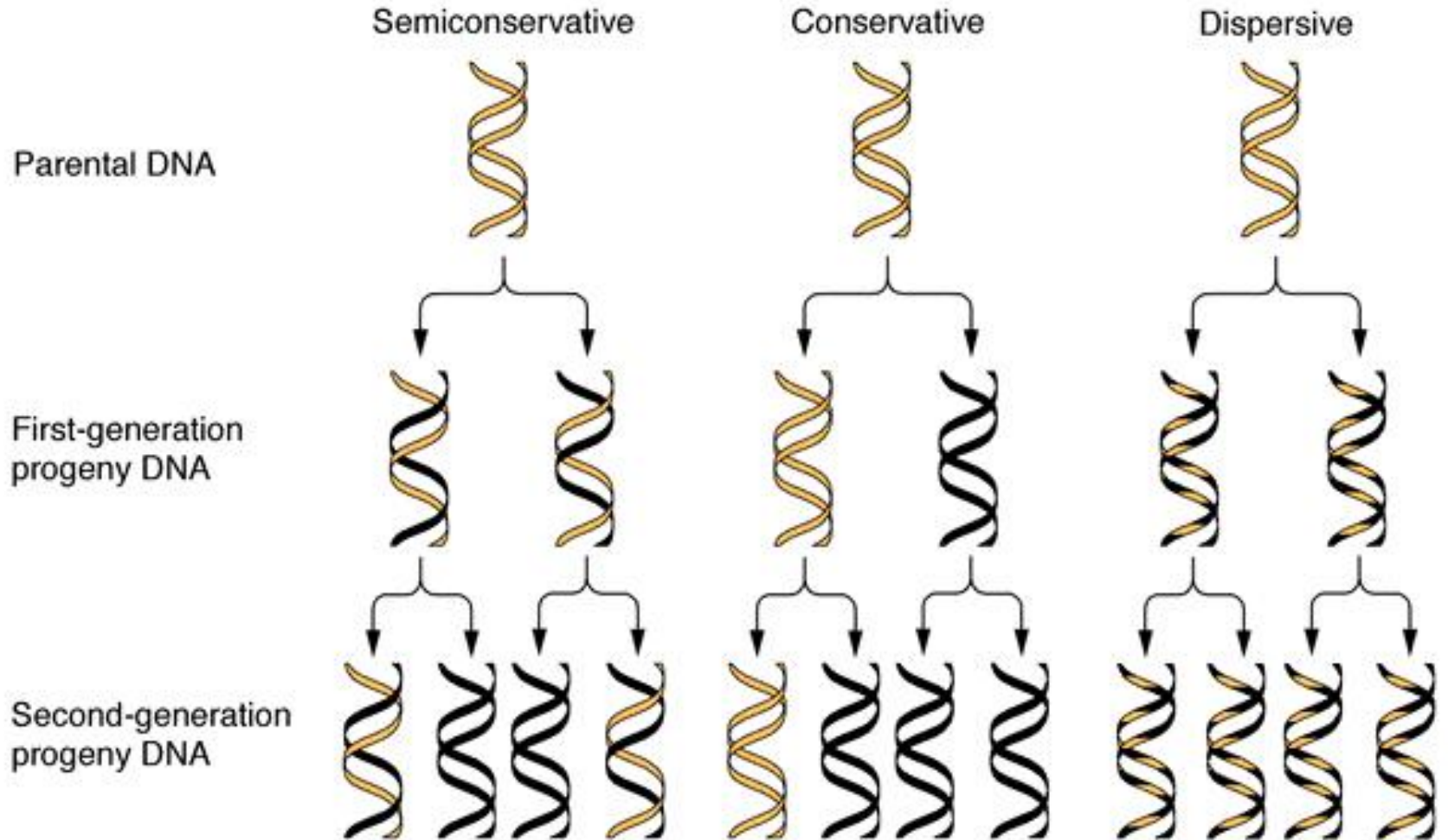
# Rosalind Franklin



# Watson and Crick

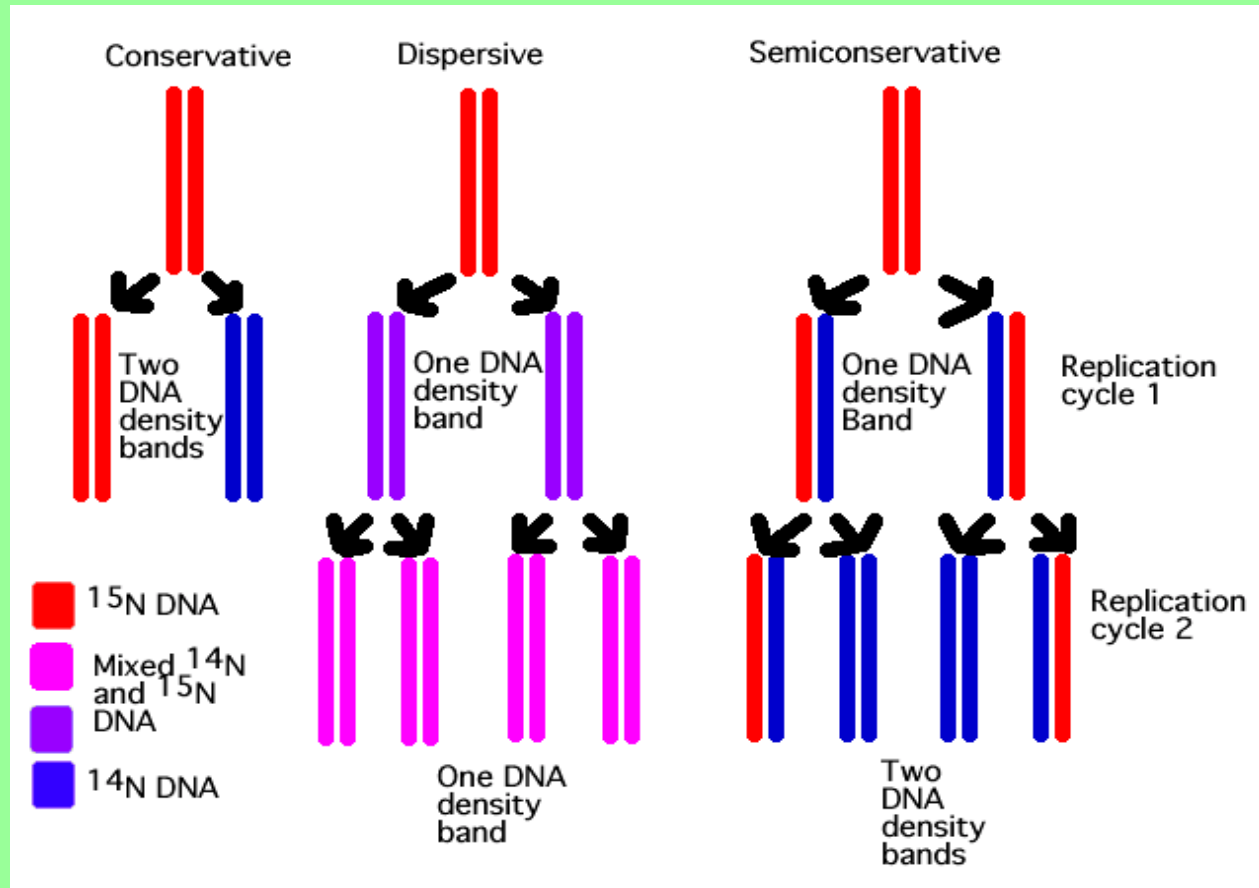


# Replication Theories

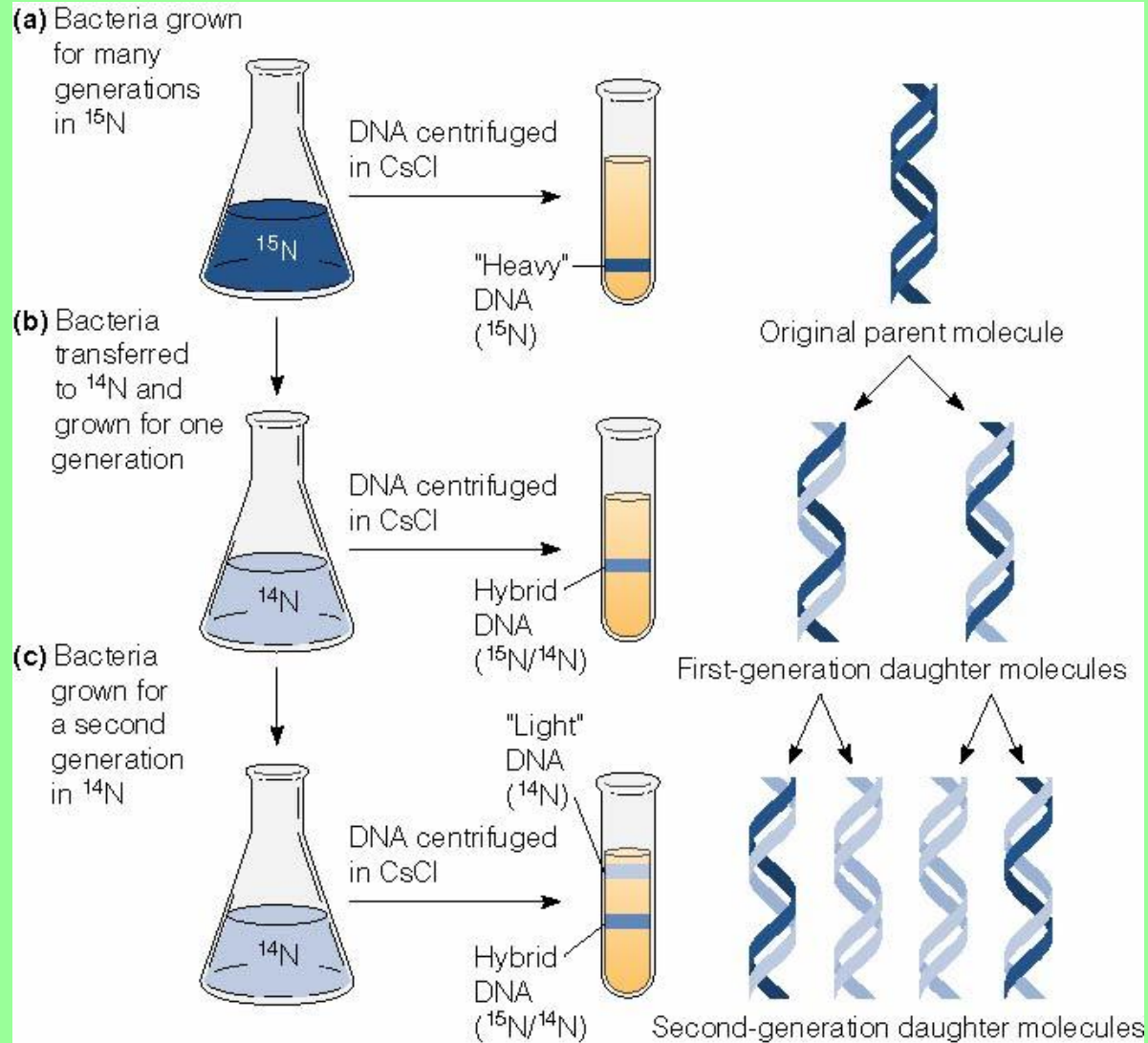




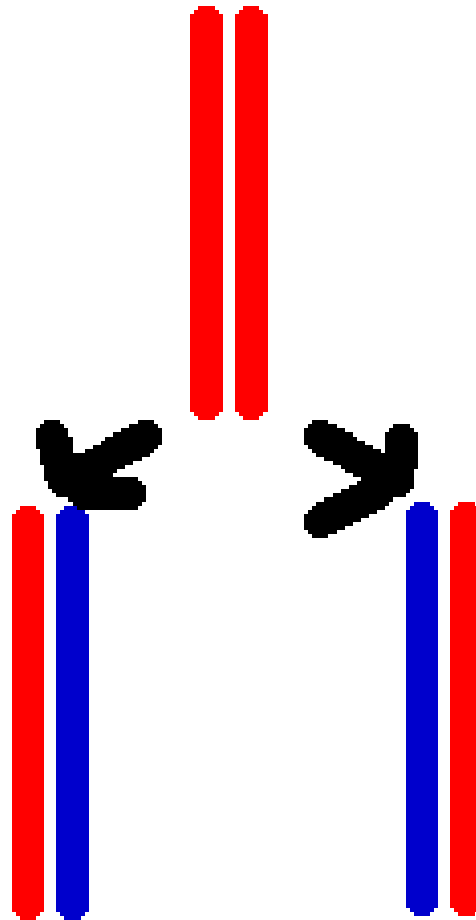
# Mendelson-Stahl Experiment Tested These Theories



# Semi Conservative Replication



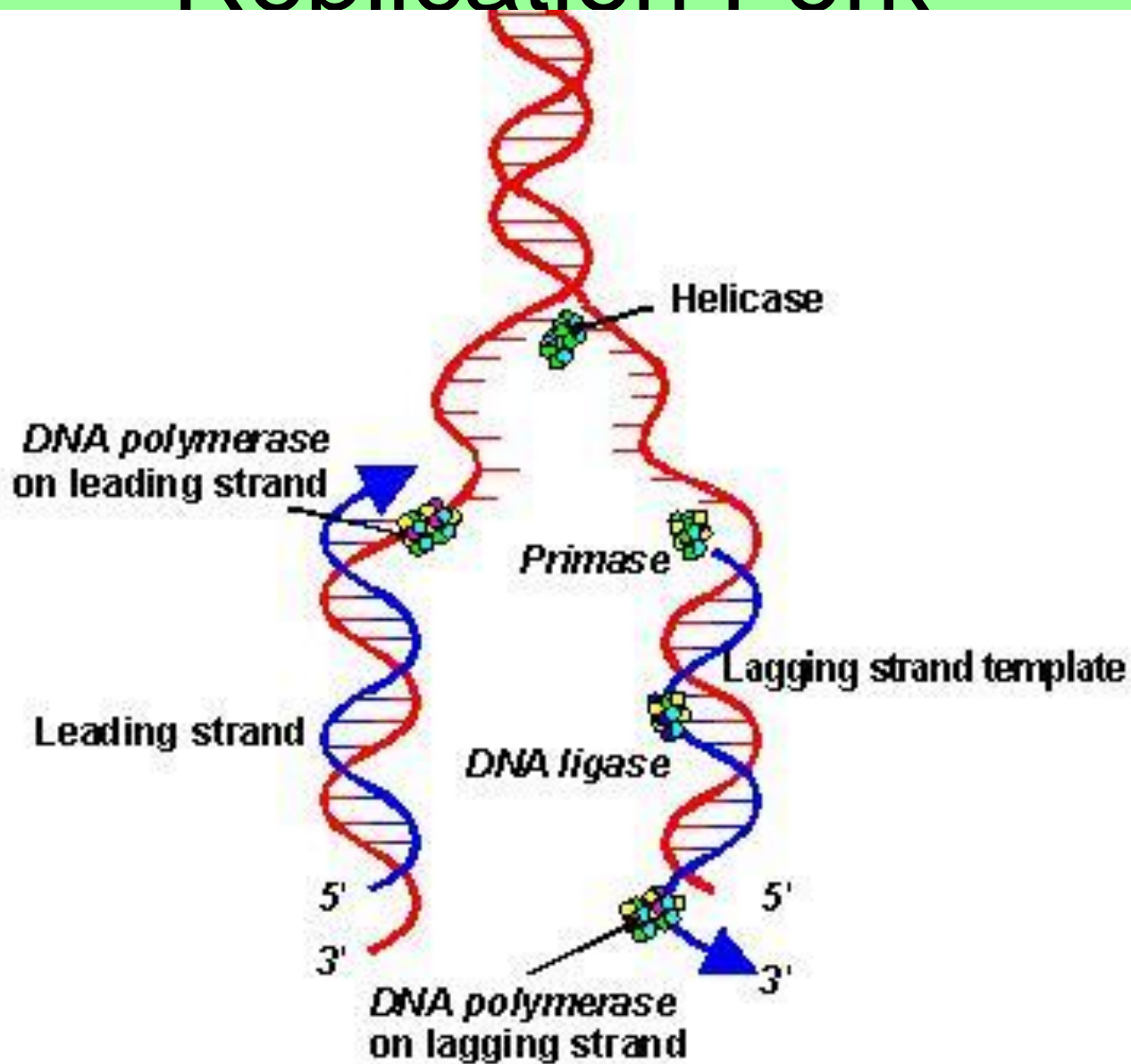
# Semiconservative



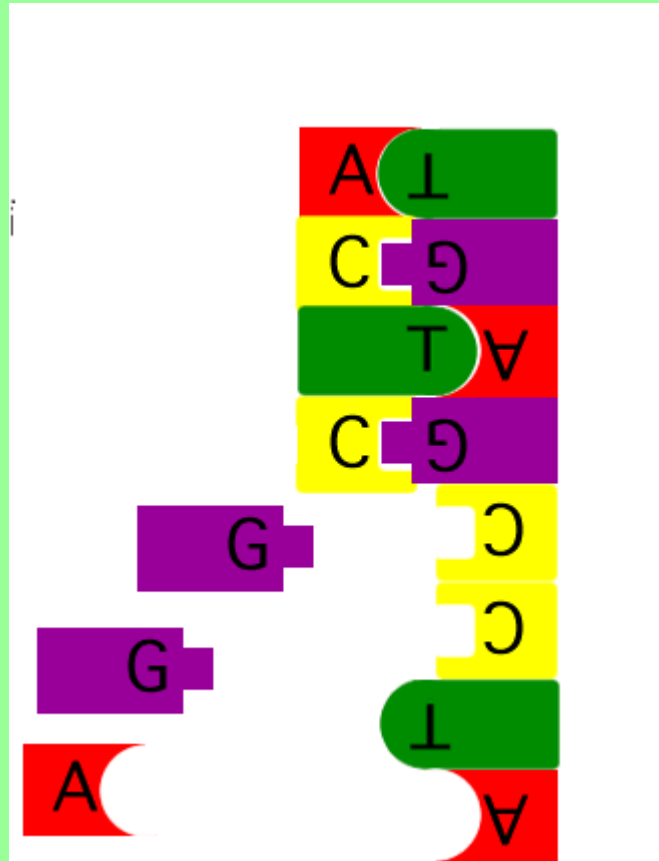
Give the sequence of nucleotides if the strand below was replicated.

3' T A G G T C T A C G T A G 5'

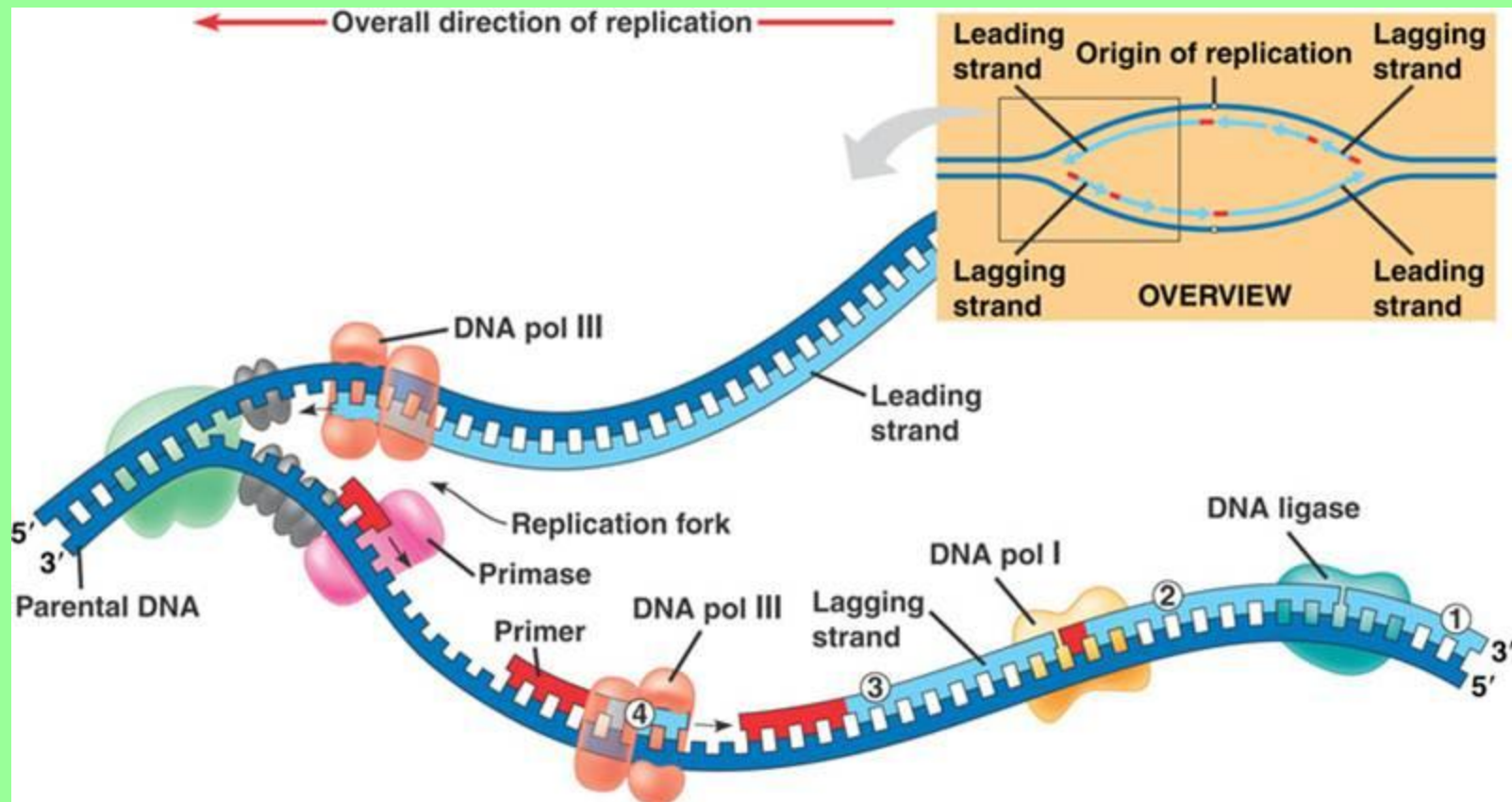
# Replication Fork



5' → 3' Direction



# 5' to 3' Direction Replication Bubble

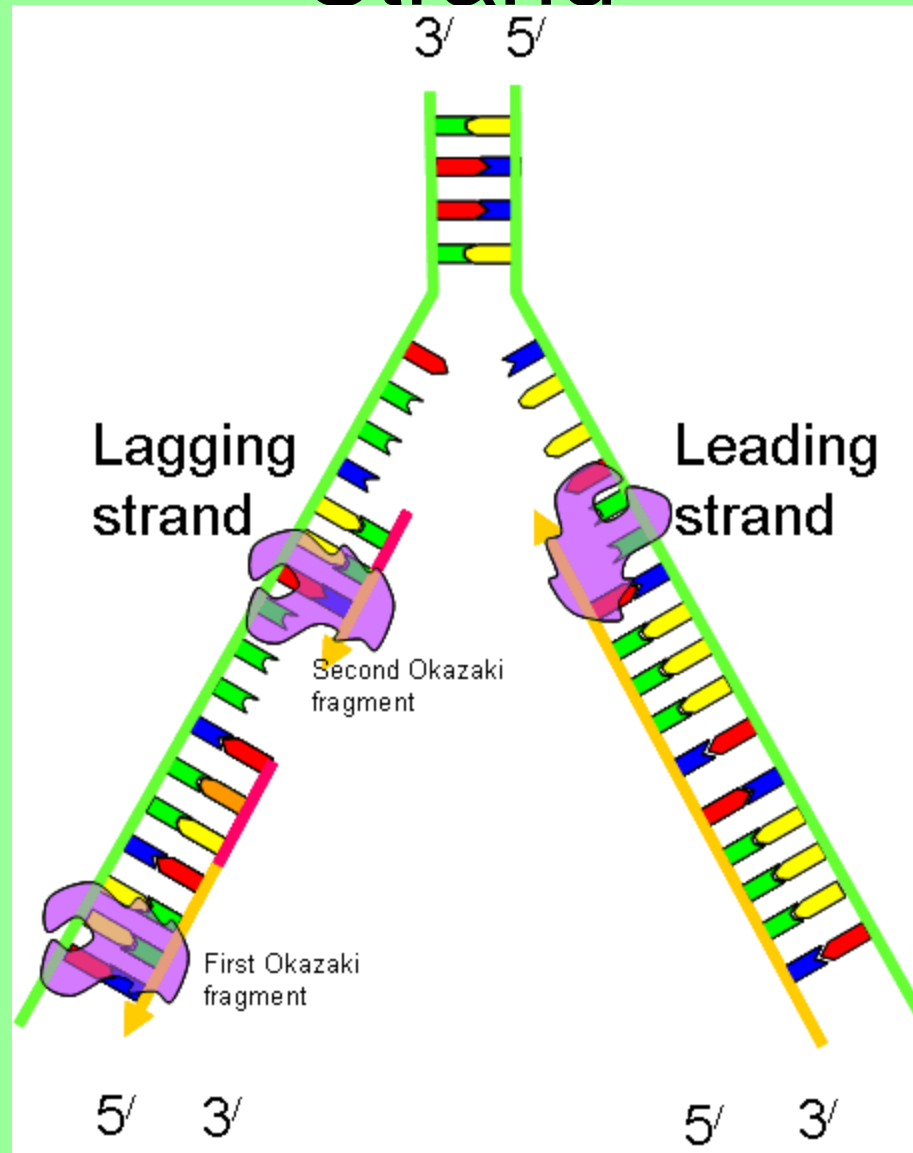


# Replication Enzymes

- Helicase
- Primase
- DNA Polymerase
- Ligase
- Topoisomerase
- Telomerase

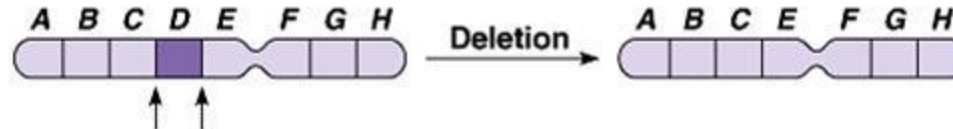


# Okazaki Fragments on Lagging Strand



# Mutations, problems during replication

(a) A **deletion** removes a chromosomal segment.



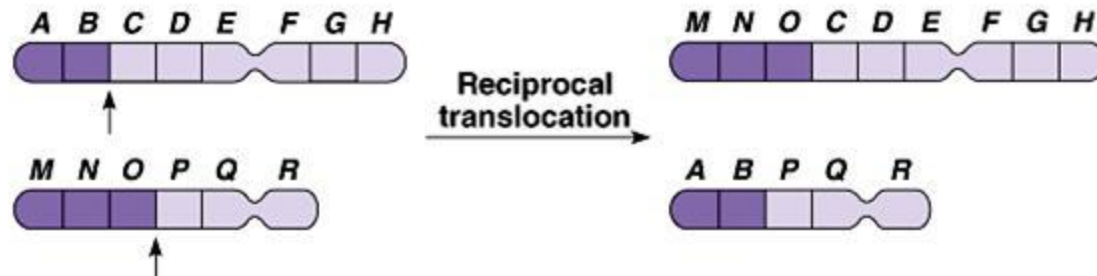
(b) A **duplication** repeats a segment.



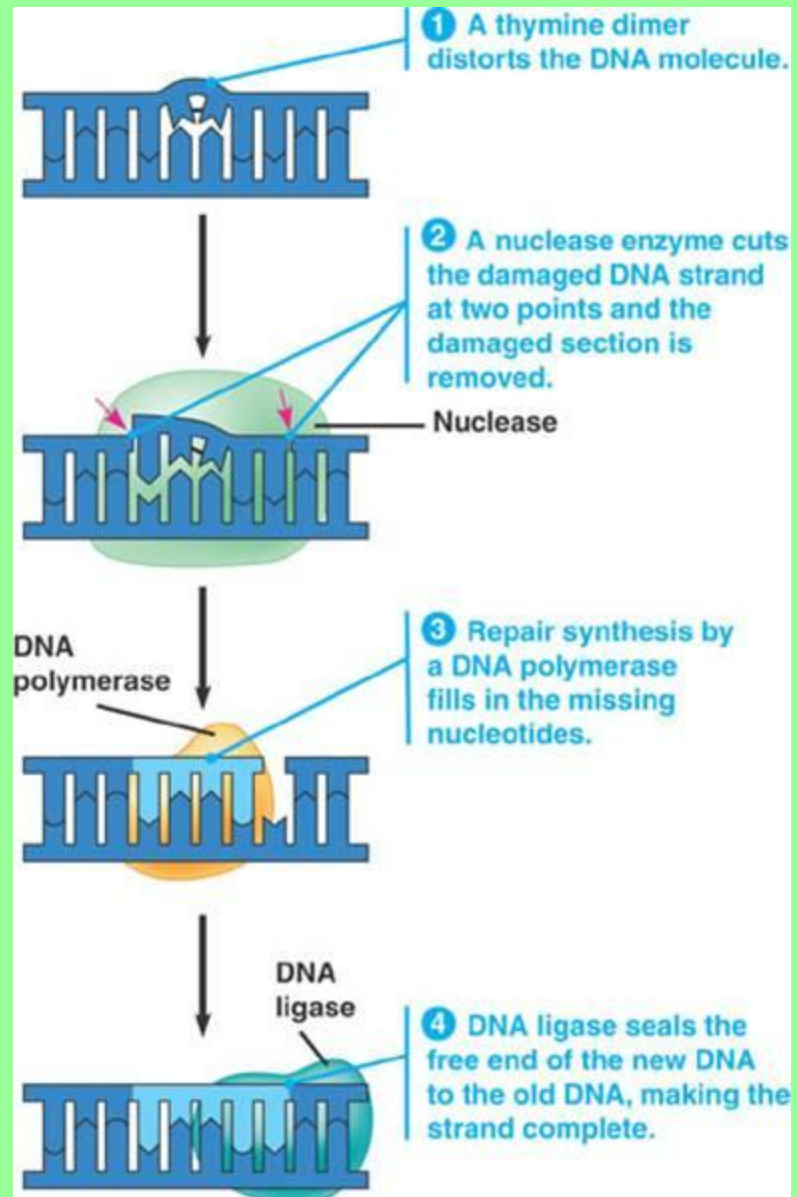
(c) An **inversion** reverses a segment within a chromosome.

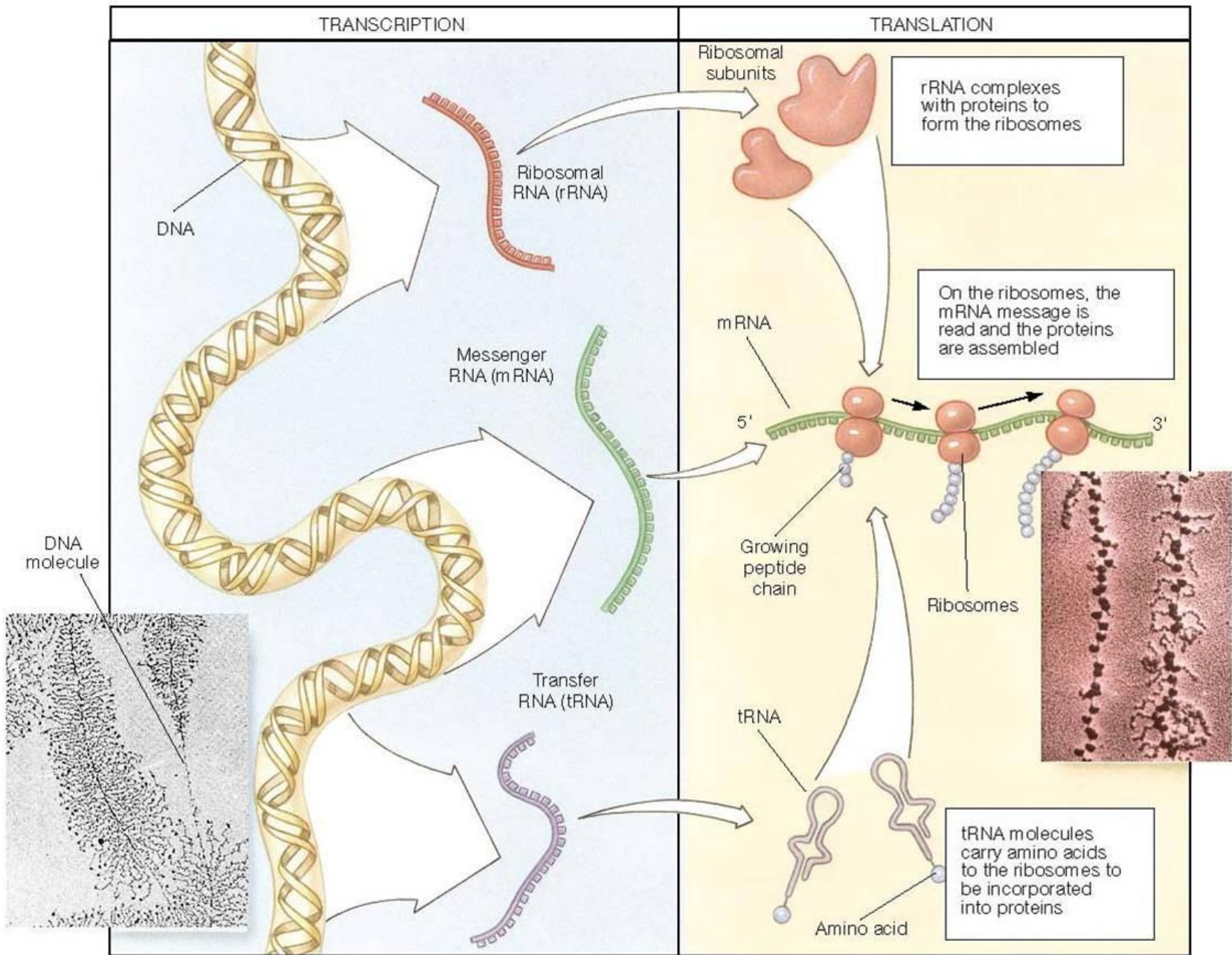


(d) A **translocation** moves a segment from one chromosome to another, non-homologous one.



# DNA Excision Repair

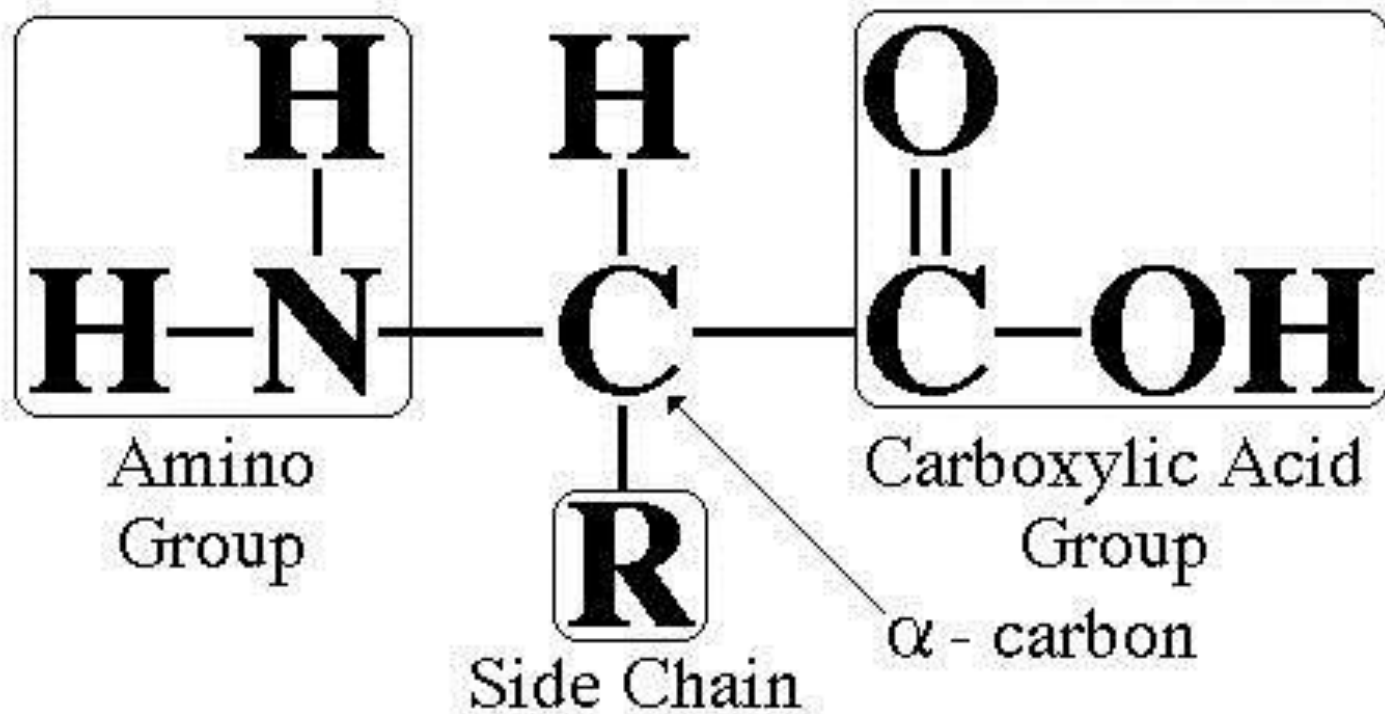




(a)

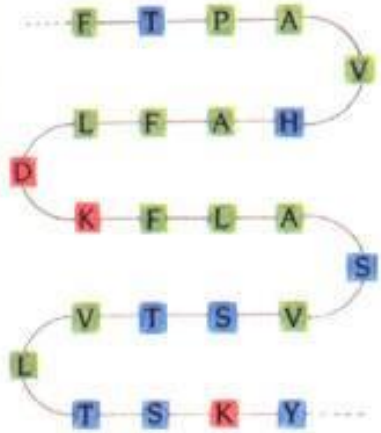
(b)

# Amino Acid Structure



# Protein Structure

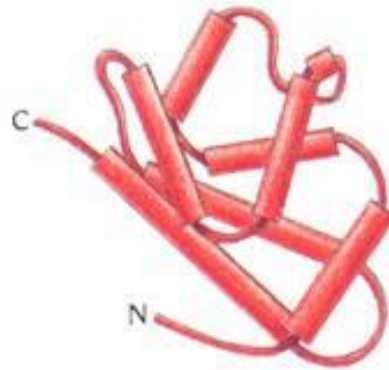
Primary



Secondary



Tertiary



Quaternary

