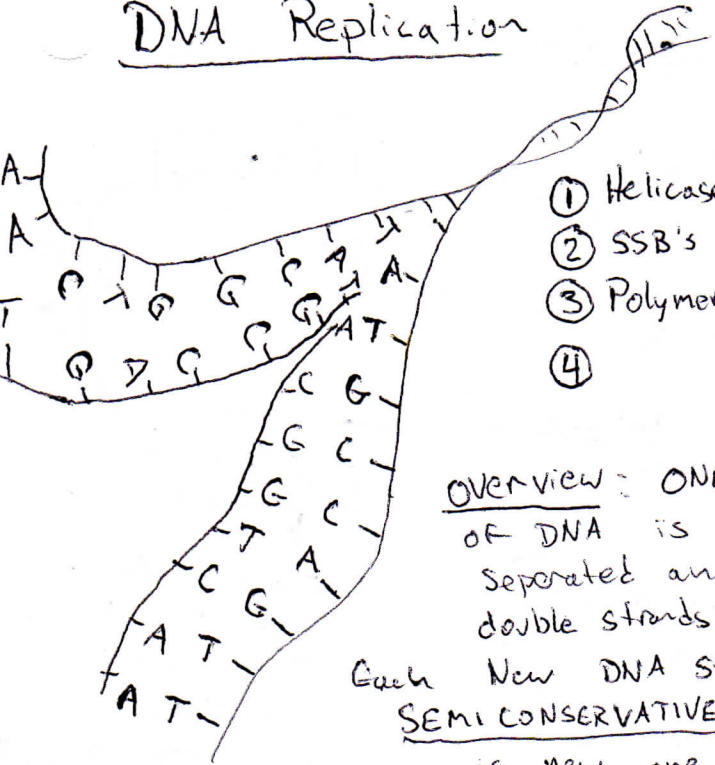


VADERS' NOTES

Genetics

DNA Replication



- ① Helicase UNZIPS
- ② SSB's Keep open
- ③ Polymerase Reads/writes
- ④

Overview: ONE Double strand of DNA is opened, separated and two double strands are made. Each New DNA strand is SEMI CONSERVATIVE - one side is new, one side comes from the original.

DNA STRUCTURE

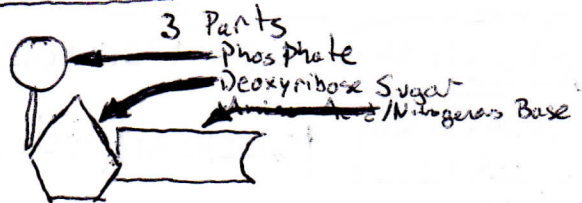
Double Helix

Base Pairing

Adenine ----- Thymine

Guanine ----- Cytosine

Nucleotide



Hydrogen Bonds Hold Antiparallel Strands together
(one strand is upside down!)

Mistakes CAN be made
MUTATION

Deletion → a base or set of bases are left out

Insertion → a base or set of bases are added in

Substitution → ONE base is changed for another base

Causes a FRAMESHIFT

Change in the Codons that are Read

Changes ONE amino acid
may not change protein structure significantly

ORIGINAL ATG GGT CAC AAG TAT

MUTANT AGG GTC ACA AGT AT
(Delete "T")

Codons are No longer the same

THEREFORE ALL

amino acids change AND a new different protein is made