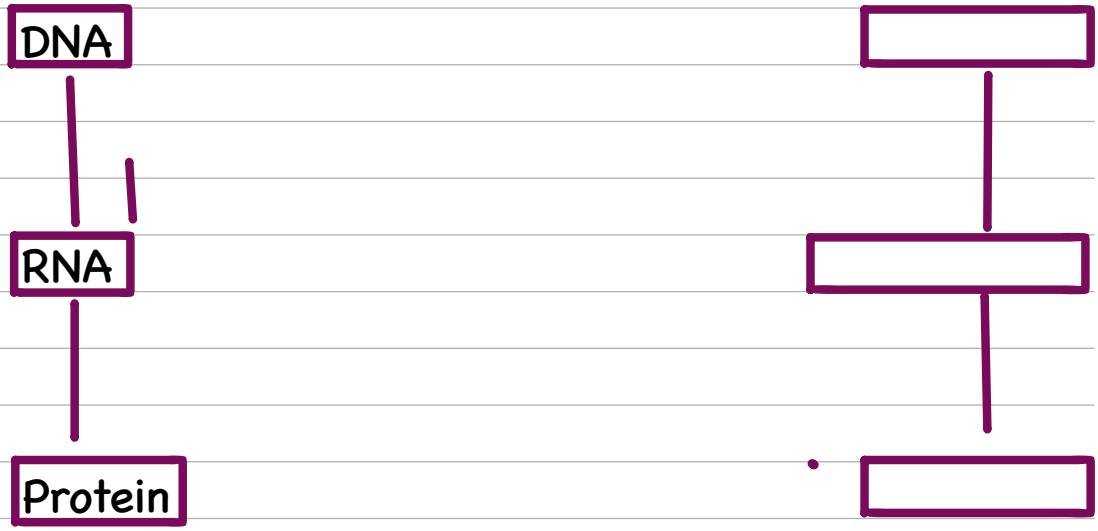
Chapter 27
Replication

Central dogma of molecular biology



Replication

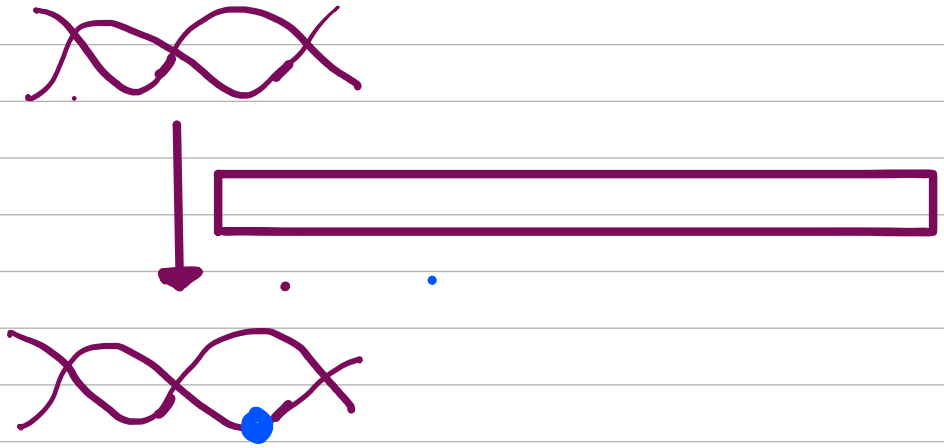
Occurs during -



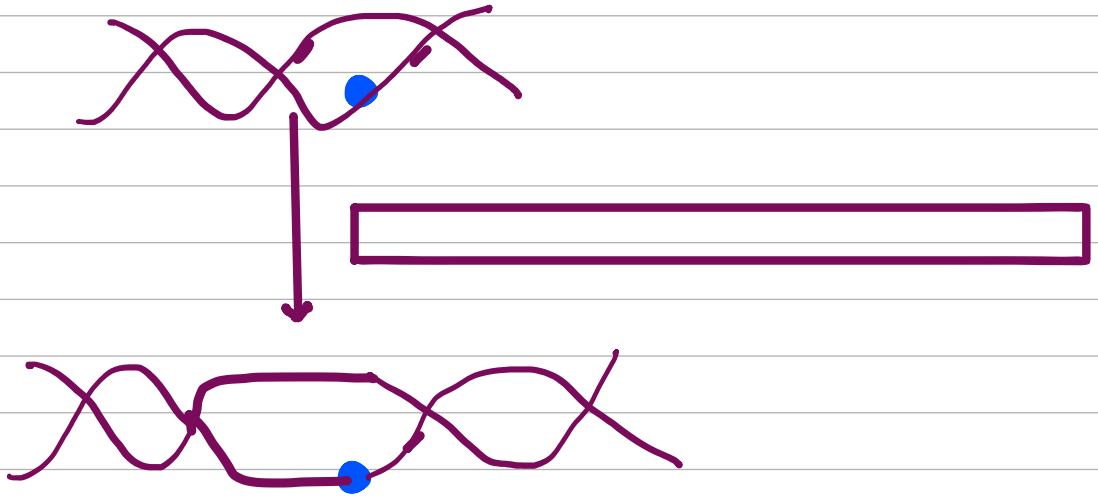
Daughter DNA consist of ……% of parent DNA as it is ,so Replication is …… method.

Steps of replication

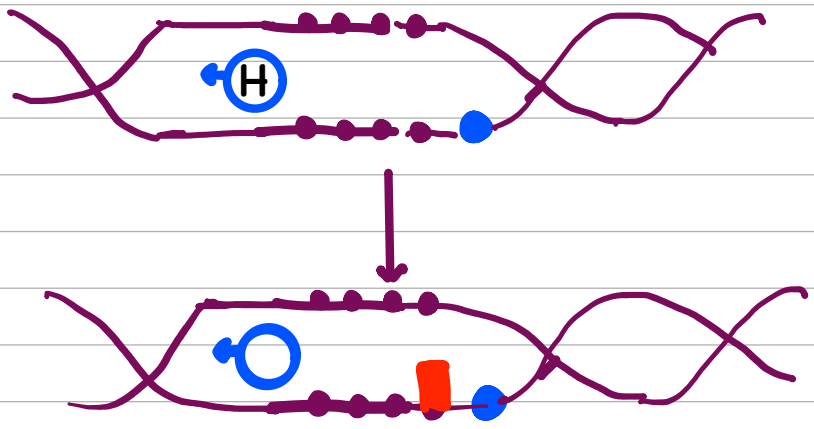
Step 1-



Step 2

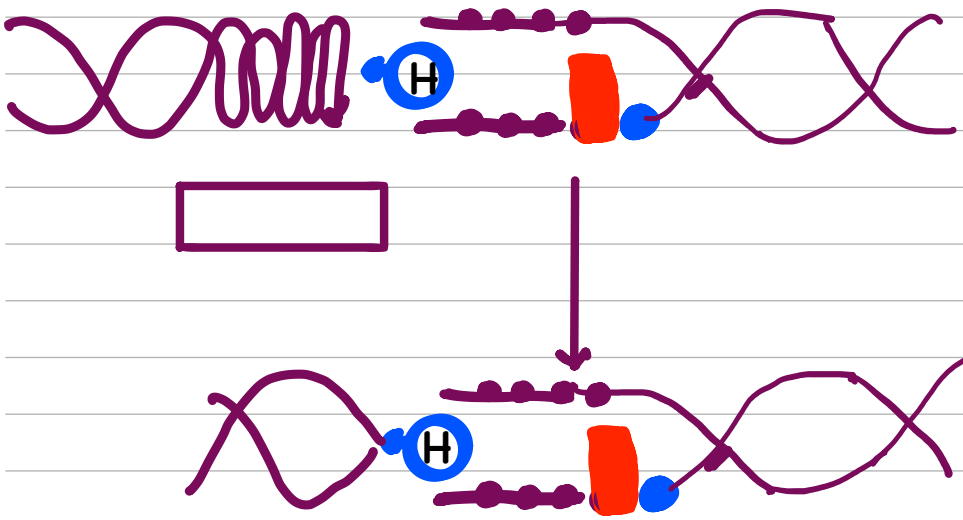


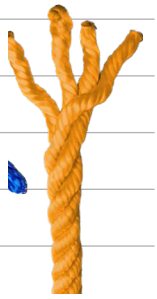
Step 3



SSBP - single strand binding protein

Step 4





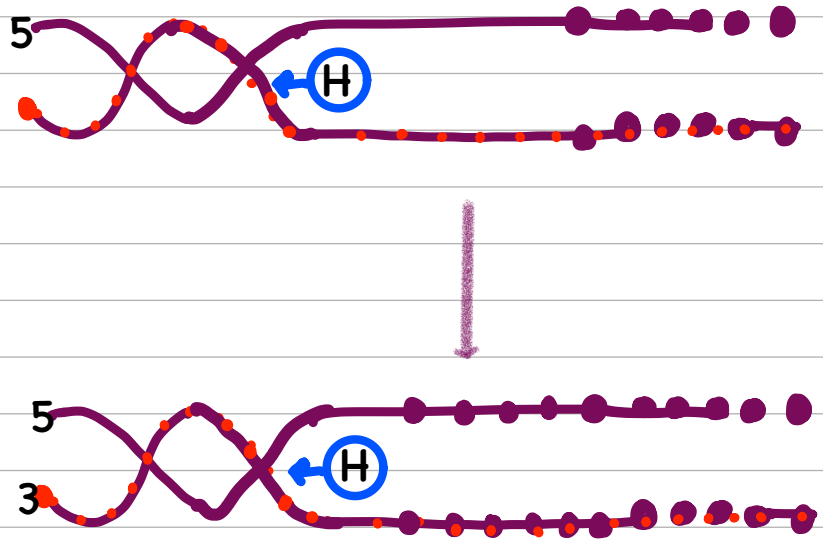
Step -5



Back side of helicase will be taken care by ……

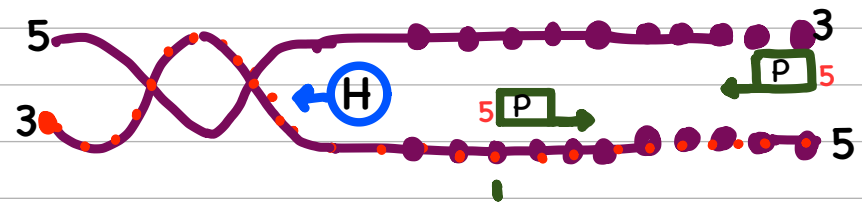
Front side of helicase will be taken care by ……

Step 6



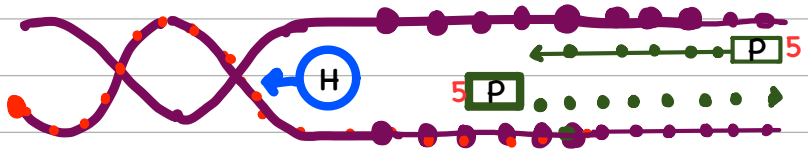
Polymerization of new strand of DNA occurs always from…… Direction so , …… is synthesized at …… end of new DNA strands.

Step 7



Polymerization of new DNA strand via -

From …… direction



Mean while -



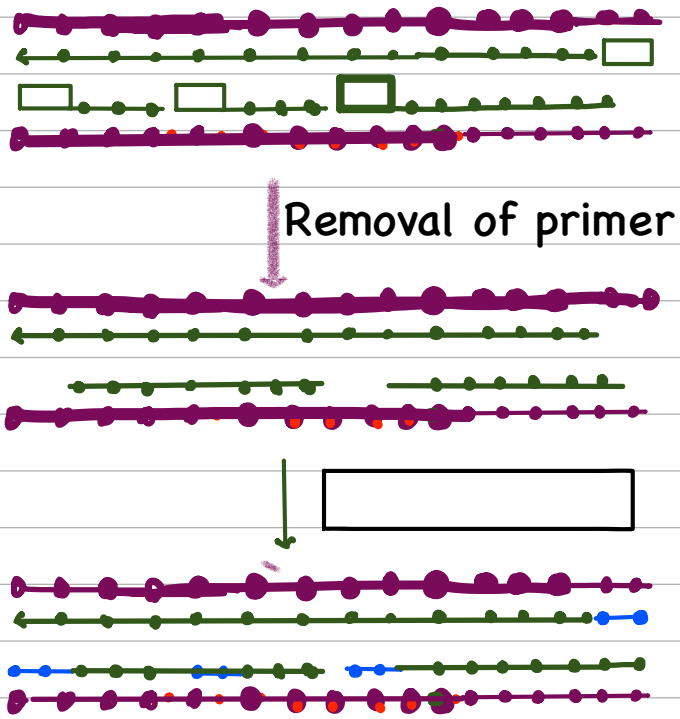
☆ The strand which is polymerized in the same direction as helicase will grow continously so called as - …… strand or …… strand .

☆ The strand which is polymerized in the opposite direction as helicase will NOT grow continously so called as - ……strand or …… strand .

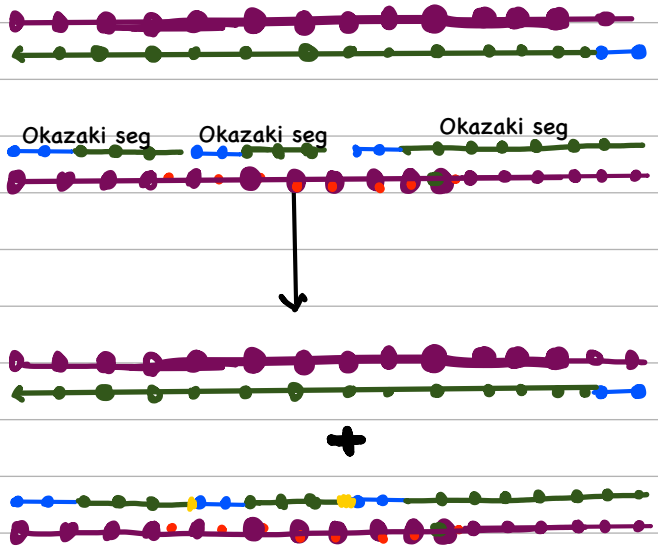
☆ For lagging strand - multiple primer are required.

☆ On lagging strand -DNA is polymerized in small segment called ……segments.

Step 8



Step 9



DNA replication

1 - identification of. …… 2 . Opening of helix via ……

3. To prevent reanealing …… 4. To remove supercoil……

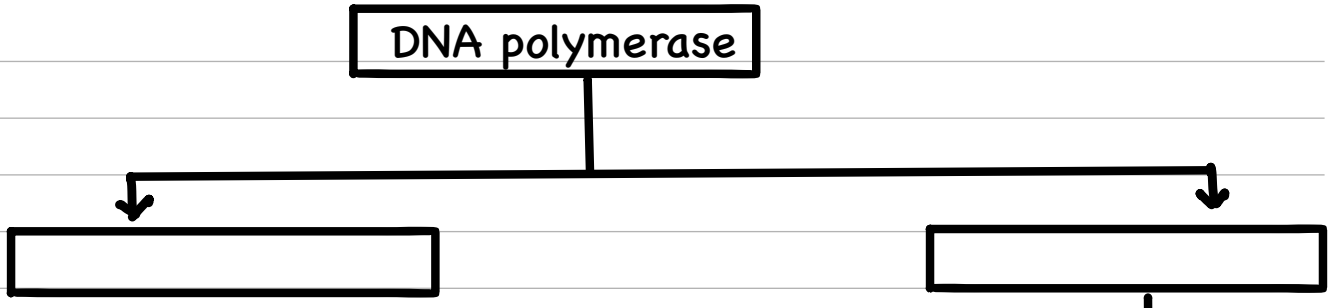
5 - formation of ……fork

6 synthesis of ……at ……end

7- polymerizatio of new DNA Strand via DNA polymerase ……

8- removal of primer and gap filling via -DNA pilymerase ……

9. Ligation of okazaki segment -

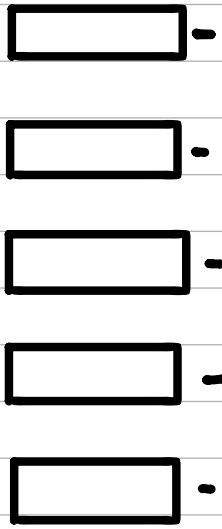


DNA Polymerase ……

Gap filling and removal of primer + ……+ ……

DNA Polymerase ……

Leadind and lagging strand synthesis + …… ……



DNA replication disorders

1.Mismatch repair defect -

2 . Defect in helicase and ligase. - ……

3. Nucleotide excision repair defect





