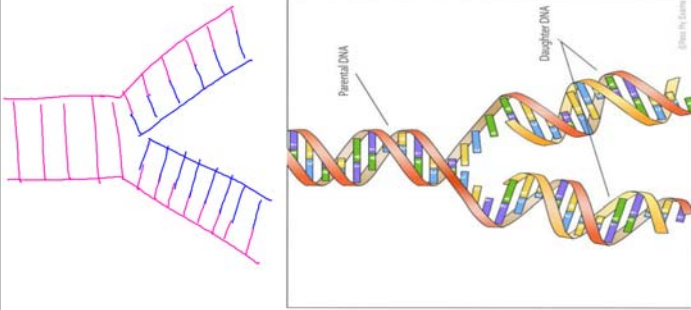


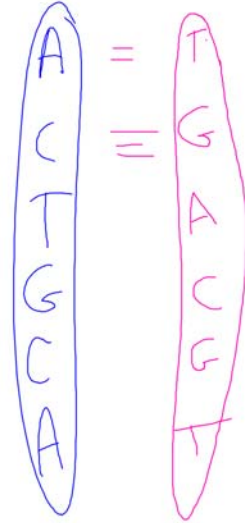
DNA REPLICATION

In order for a cell to divide, it must first replicate its DNA



DNA Replication = producing two identical DNA strands from one original DNA molecule

Practice:



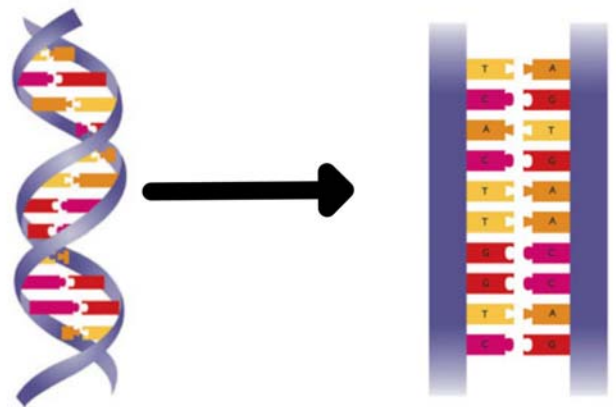
DNA REPLICATION



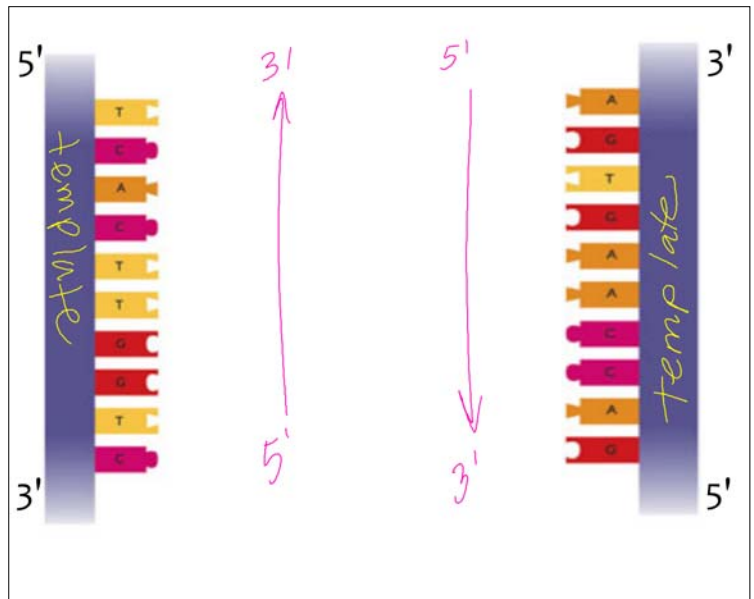
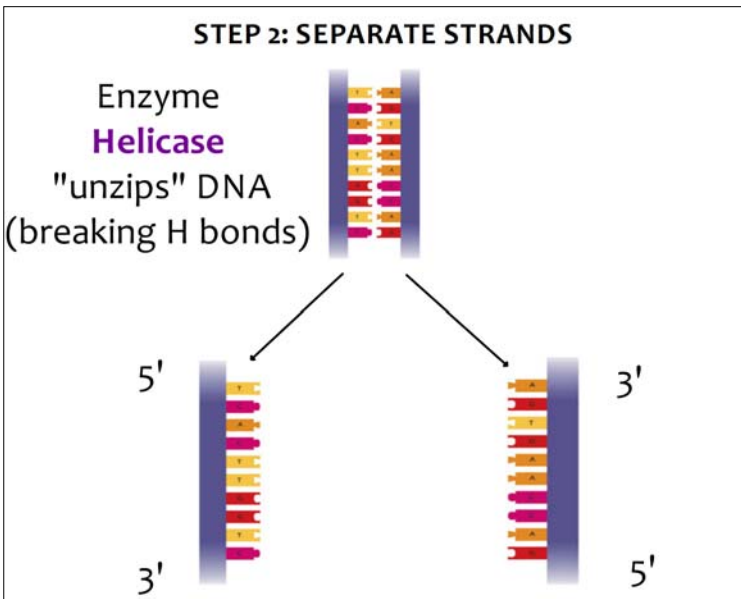
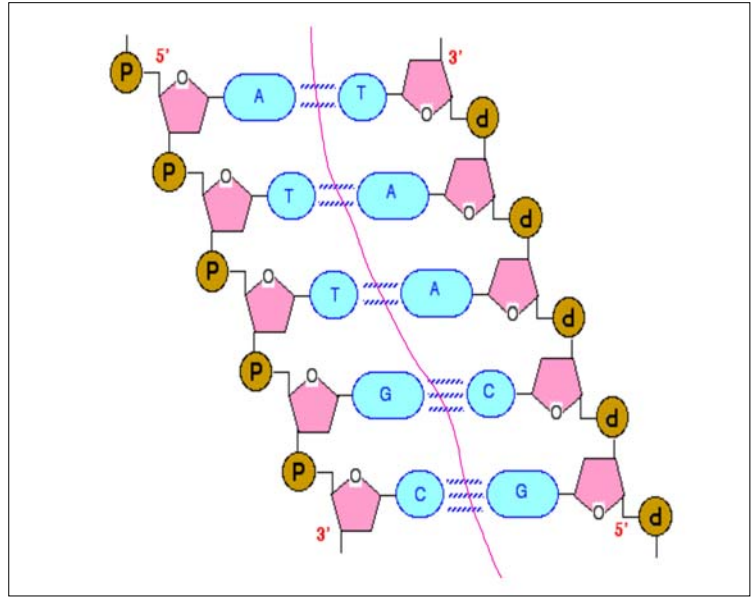
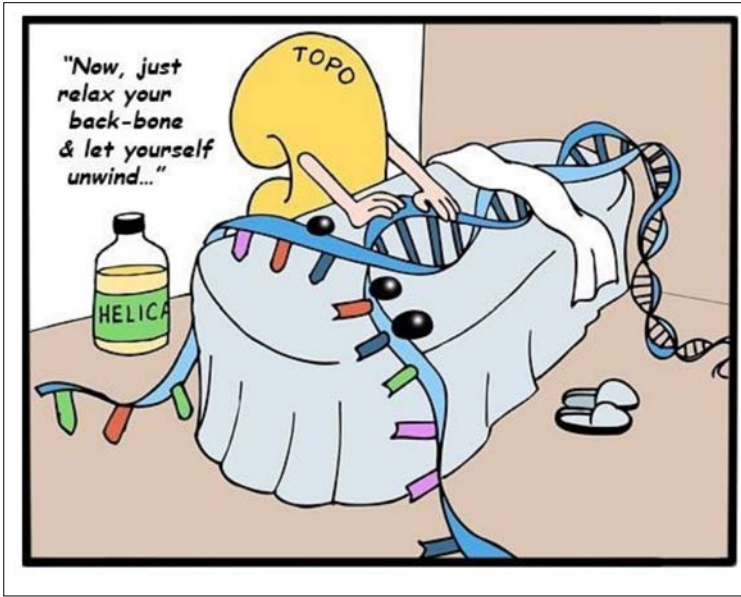
Steps in Replication:

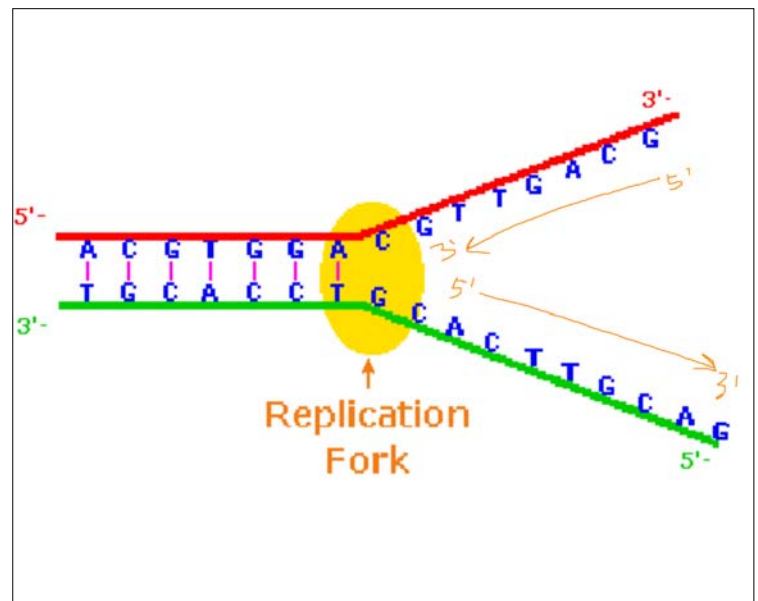
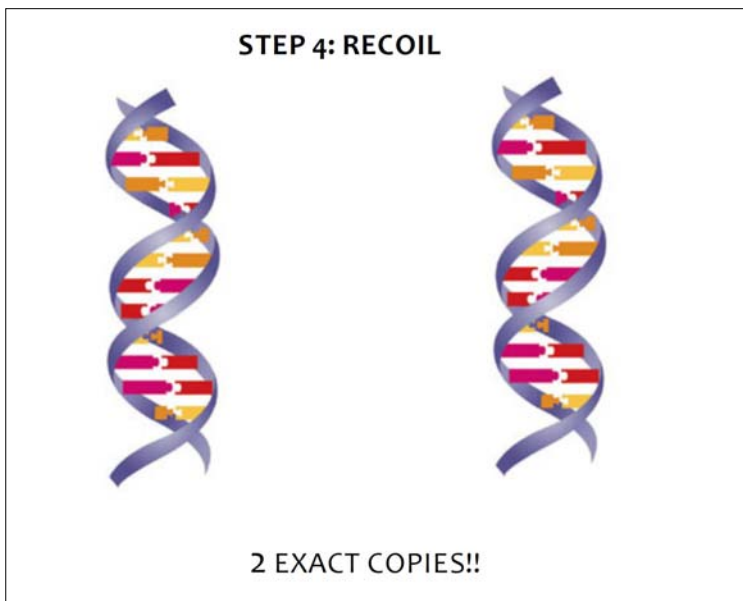
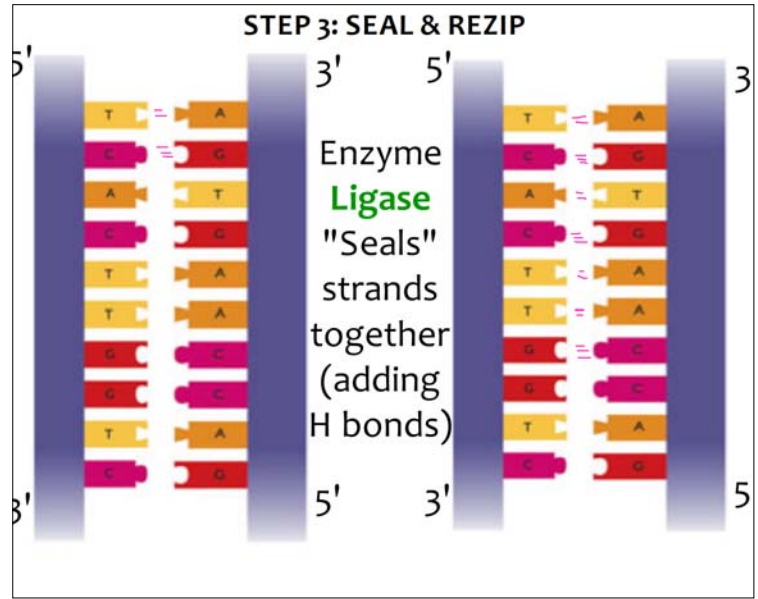
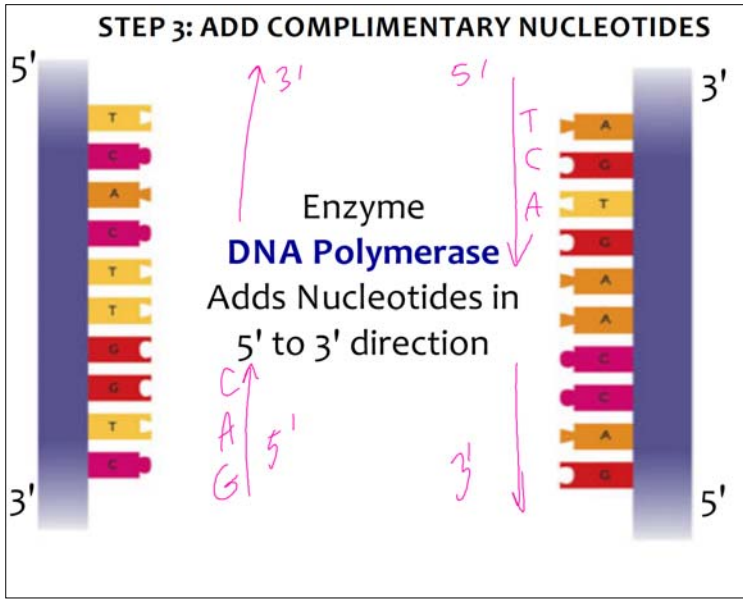
1. Uncoil/Relax
2. "Unzip" (separate strands)
3. Add Complimentary Nucleotides & Rezip
4. Recoil

STEP 1: UNCOIL



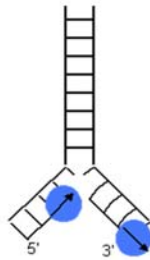
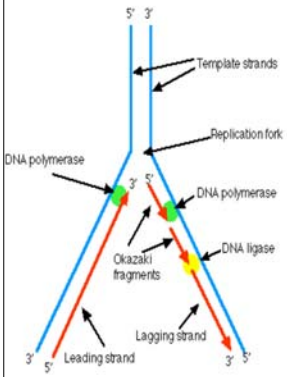
ENZYME: **TOPOISOMERASE**
relaxes Chromatin





Leading strand

- Built toward replication fork
- Completed in 1 piece
- **CONTINUOUS** 5' → 3' direction



Lagging strand

- Built away from the replication fork
- Made in sections called Okazaki fragments
- **DISCONTINUOUS** 5' → 3' Direction