# Biology

## DNA

### *DNA Replication*

· Topoisomerase: Unwinds DNA to be broken in half
· Helicase: Breaks H-Bonds between bases to make two strands
· DNA-Primase: Places RNA primer for DNA-Polymerase
· DNA Polymerase: Builds DNA in 5' to 3' direction
· DNA Ligase: Combines Okazaki fragments and replaces RNA primer w/ DNA

### *Transcription*

Process

· Template Strand vs Coding strand: Template strand will used by the RNA polymerase to create a copy of the coding strand
· RNA Polymerase: Attaches to promoter and creates RNA strand in 5' to 3' direction
· Terminator Region: Signals RNA Polymerase to stop; in prokayotes the RNA forming a hair pin loop is common

Post Transcription Modification

· 5' Modified Guanine Cap
· 3' Poly-A tail
· Introns spliced out and exons merged together

Translation

· Ribosome sizes: Eukaryotic: 40, 60, 80; Prokaryotic: 30, 50, 70
· Single Amino acid mass is 110 Daltons