

Ivory Kate B. Dumale
PSYCH3A

Nucleotides Basic building blocks of nucleic acids, consisting of a phosphate group, a pentose sugar, and a nitrogenous base.

DNA (Deoxyribonucleic Acid): A double-stranded molecule responsible for storing genetic information.

RNA (Ribonucleic Acid): A single-stranded nucleic acid involved in protein synthesis and gene expression.

Nitrogenous Bases: The purines (adenine, guanine) and pyrimidines (cytosine, thymine in DNA, and uracil in RNA) that pair to form the rungs of the DNA ladder.

Base Pairing: Adenine pairs with thymine (or uracil in RNA), and guanine pairs with cytosine through hydrogen bonds.

Double Helix: The three-dimensional structure of DNA where two strands coil around each other.

Complementary Strands: The two strands of DNA are complementary, meaning the sequence of bases on one strand dictates the sequence on the other.

Antiparallel Structure: DNA strands run in opposite directions (5' to 3' and 3' to 5').

Replication: The process by which DNA is copied before cell division.

Transcription: The synthesis of RNA from a DNA template.

Translation: The process where ribosomes synthesize proteins based on the sequence of an mRNA molecule.

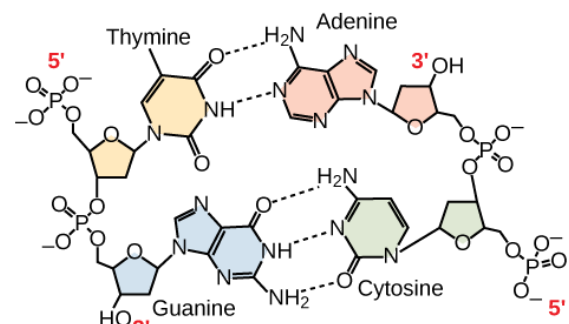
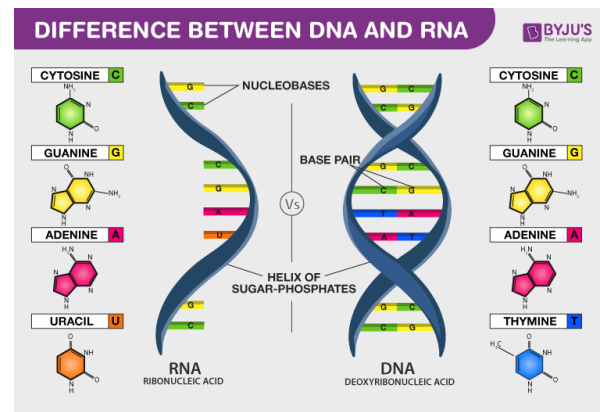
mRNA (Messenger RNA): Carries the genetic code from DNA to the ribosome for protein synthesis.

tRNA (Transfer RNA): Transfers amino acids to the ribosome to build a protein, according to the sequence of the mRNA.

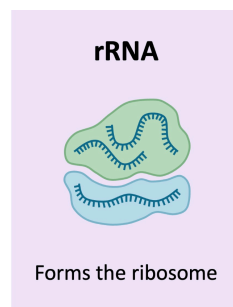
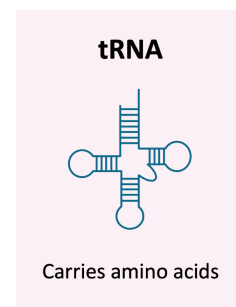
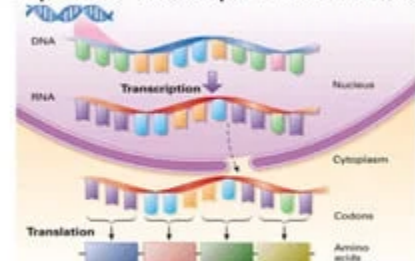
rRNA (Ribosomal RNA): Forms part of the structure of ribosomes, facilitating the translation process.

Gene: A segment of DNA that codes for a specific protein or function.

Mutations: Changes in the nucleotide sequence of DNA that can lead to changes in protein function.



DNA replication transcription and translation



Chromatin: DNA-protein complex found in eukaryotic cells, making up chromosomes.

Genome: The complete set of an organism's genetic material.

DNA Polymerase: An enzyme that synthesizes new DNA strands by adding nucleotides to a pre-existing strand during replication.

Central Dogma of Molecular Biology: Describes the flow of genetic information: DNA → RNA → Protein.