

DNA:

Double Helix Structure

Carries genetic information

Made up of nucleotides

Deoxyribose Sugar

A / T / C / G

RNA:

Single Stranded

Short chain

Ribose Sugar

A / U / C / G

The carbon atoms in the pentose molecule are numbered:

3' (3-prime) and 5' (5-prime)

The 5' carbon has an attached phosphate group while the 3' has a hydroxyl group.

Two strands are antiparallel = one strand runs in a 3' to 5' direction and the other a 5' to 3' direction.

Complementary

Bases:

Adenine (A)

Thymine (T)

Guanine (G)

Cytosine (C)

Uracil (U)

DNA:

A === T

C === G

RNA:

A === U

C === G

Nucleic Acids

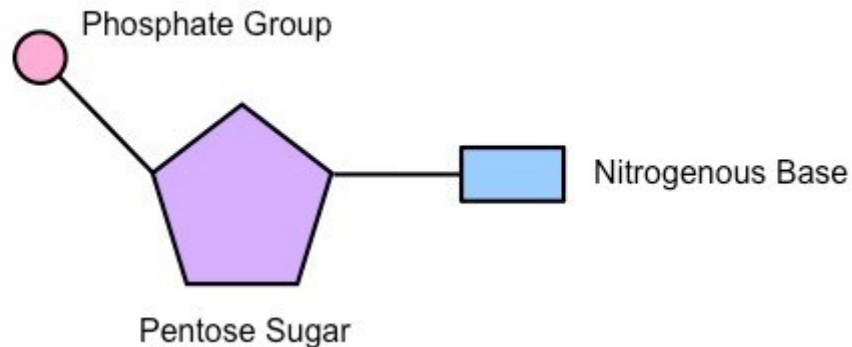
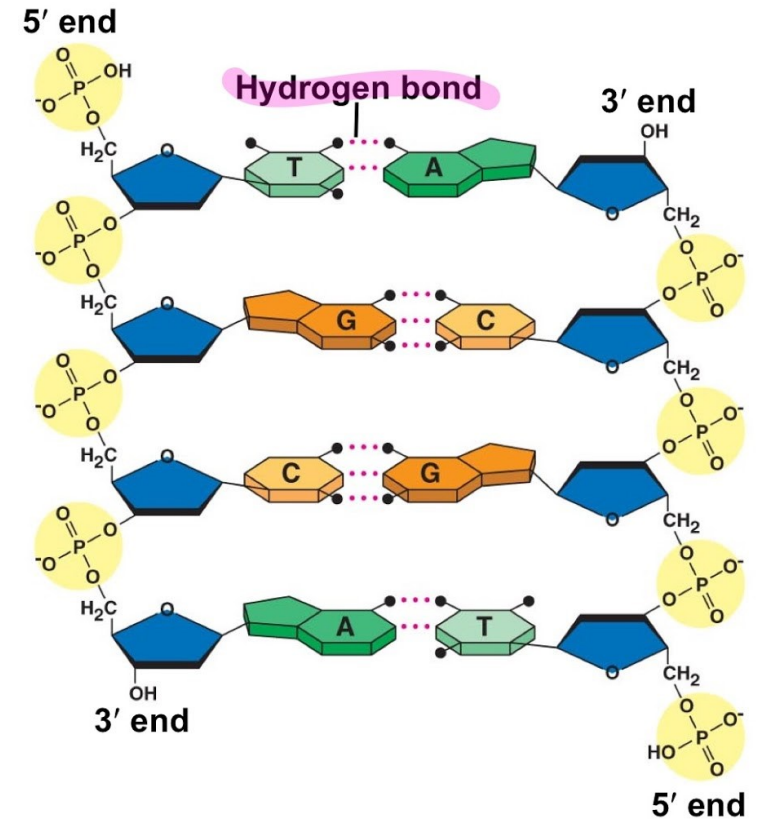
DNA is the hereditary material responsible for passing genetic info from cell to cell.

DNA is stable because:

Phosphodiester backbone protects organic bases inside the double helix

Hydrogen bonds link the organic base pairs

1953—Watson and Crick = discovered structure of DNA following work by Rosalind Franklin on X-Ray diffraction.



Nucleotide:

A pentose Sugar

Nitrogen containing base

Phosphate group