

Structure of DNA

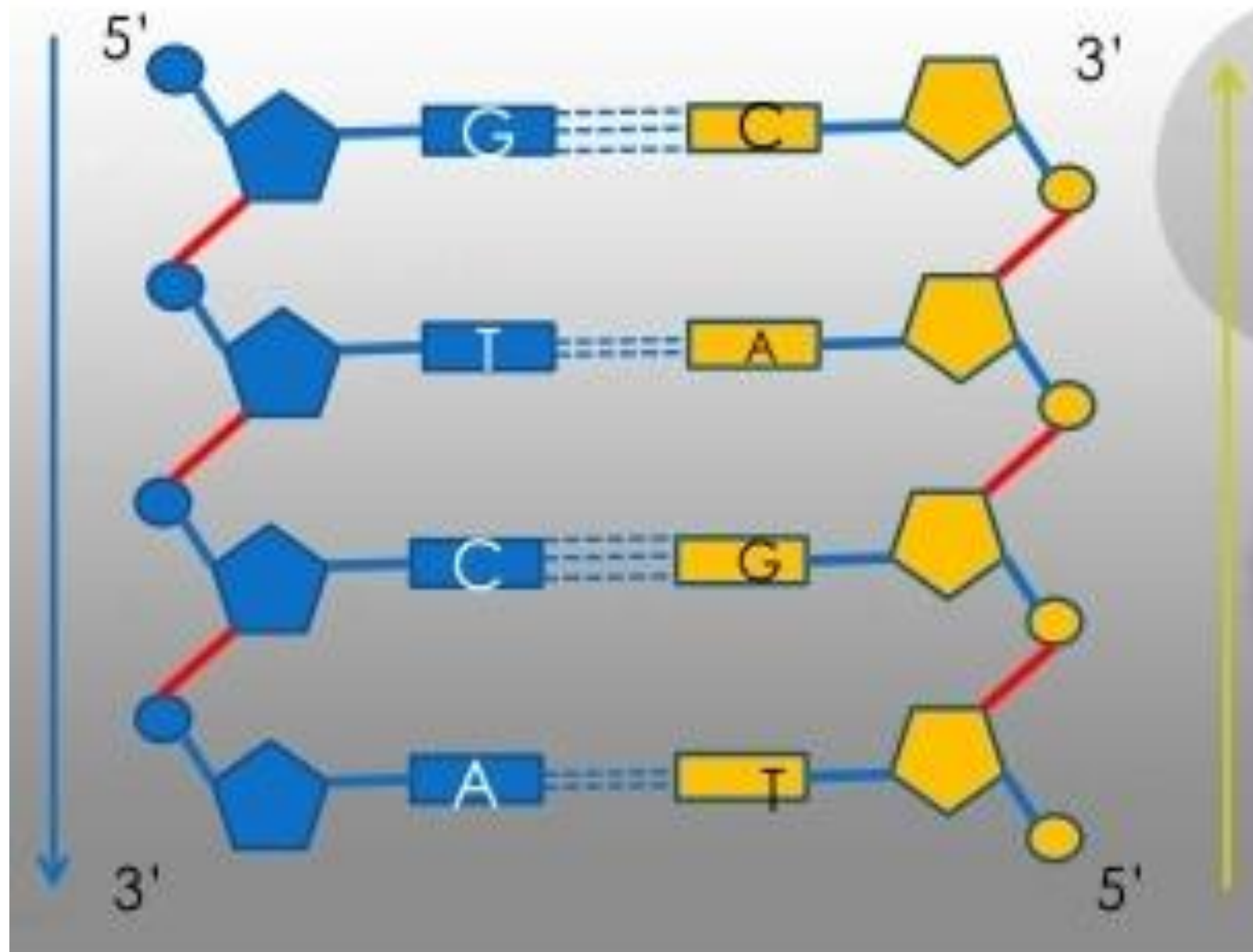
DNA has three main components

- 1. Deoxyribose (a pentose sugar)
- 2. Base (there are four different ones)
- 3. Phosphate

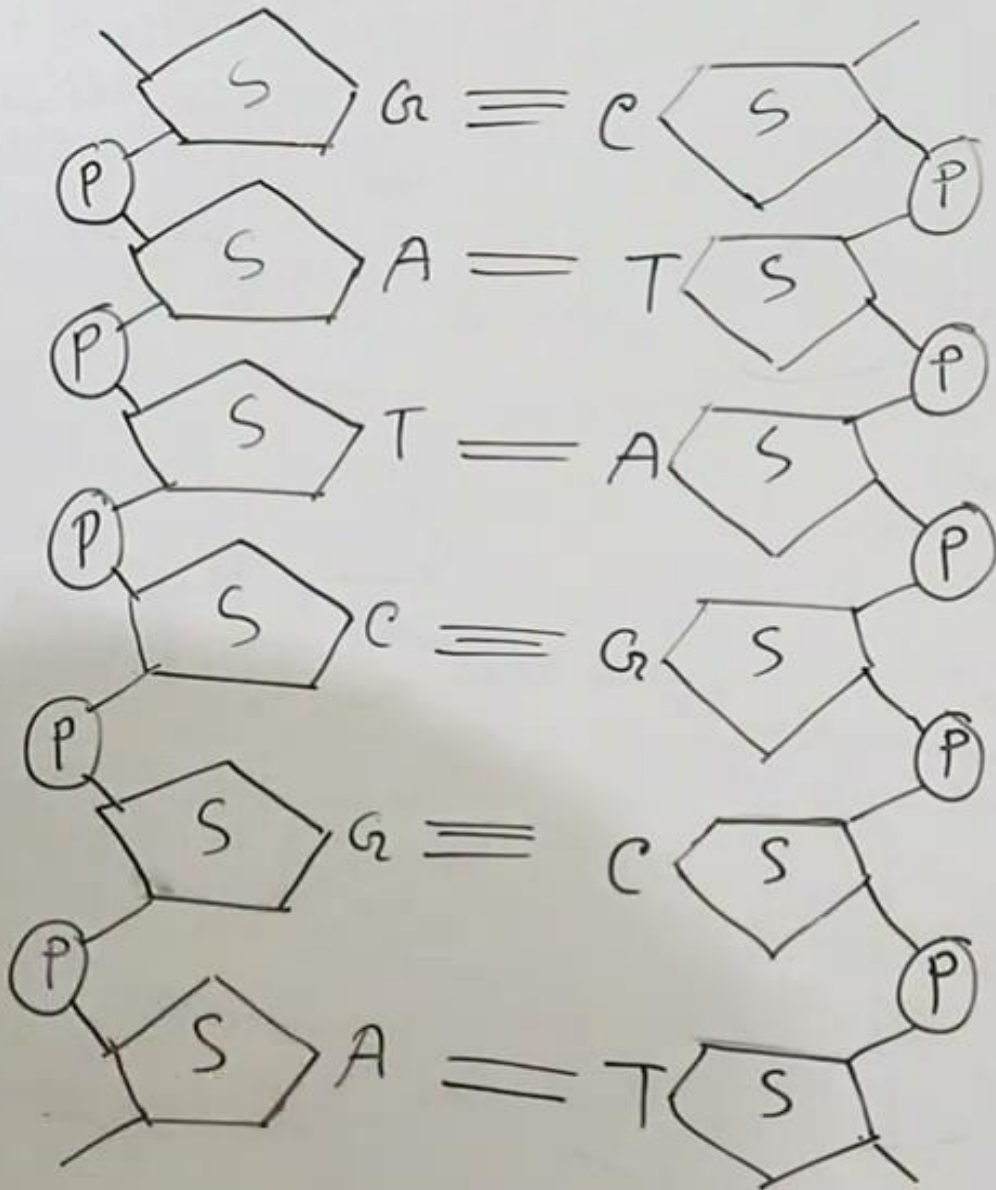
Structure of DNA

It is made of two polynucleotide chains which is constitutes by Sugar –phosphate and bases

The two chains Have anti-parallel polarity it means if one chain has the polarity 5'- 3', the another has 3'-5'



Structure of DNA



DNA Double Helix & Hydrogen bonding

- The bases in two strands are paired through hydrogen bond (H-bonds) forming base pairs.
- Adenine forms two hydrogen bonds with Thymine from opposite strand and vice-versa.
- Guanine is bonded with Cytosine with three H-bonds.

RNA (Ribonucleic Acid)

Nucleotides

Purine

- Adenine
- Guanine

Pyrimidines

- Cytocine
- Uracil

Sugar is Ribose

Single stranded- a single strand of nucleotides

Nitrogen bases: : AUCG

Transcription= process of making RNA from DNA

➤ Translation= RNA directions are used to make a protein from amino acids

- DNA→RNA →Protein

➤ Transcription Translation nucleus
Cytoplasm on ribosome

Codon and Anticodon

Codon-found on mRNA Anticodon-found on tRNA

TRANSLATION- Assembling proteins- in the cytoplasm

- rRNA- a part of the structure of ribosomes
- mRNA leaves nucleus and enters cytoplasm
- tRNA molecules with the complementary anticodon and a specific amino acid arrives at the ribosome where the mRNA is waiting.
- tRNA molecule leaves and a new one comes with another amino acid.

Amino acids continue to attach together until the stop codon and a protein is formed