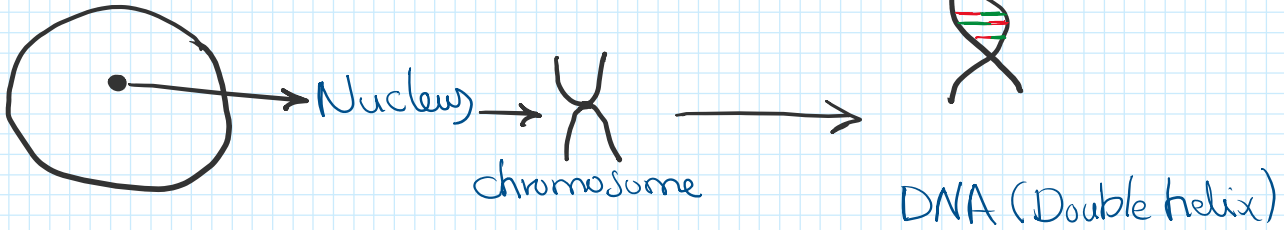


# DNA

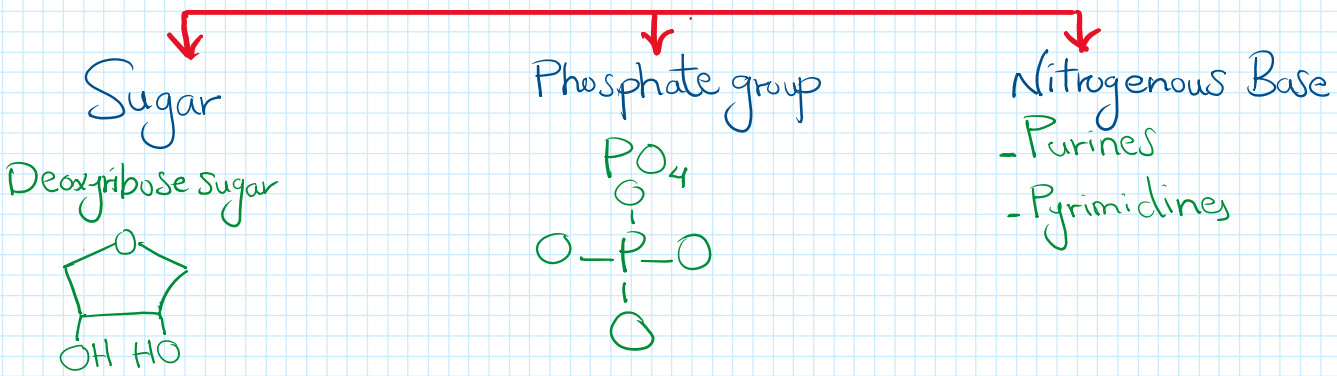
Deoxyribonucleic acid

## \* DNA & Cell :

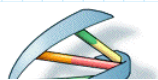
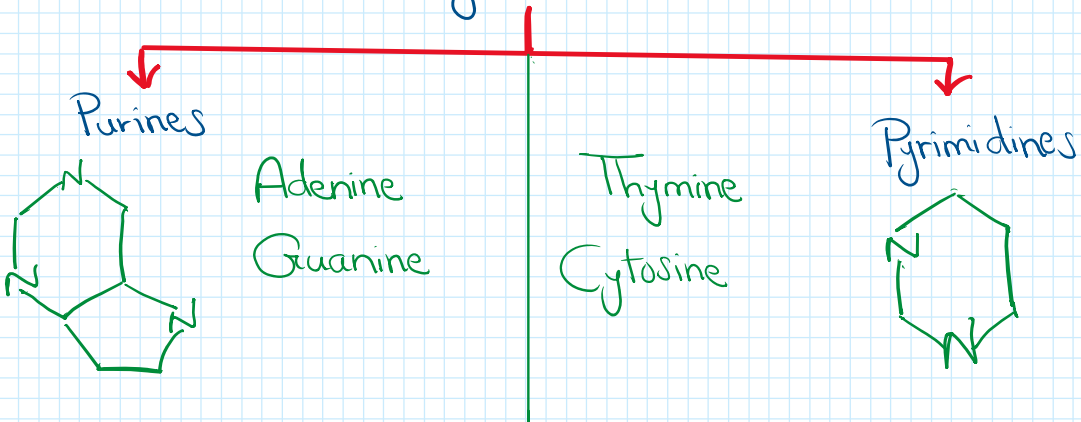


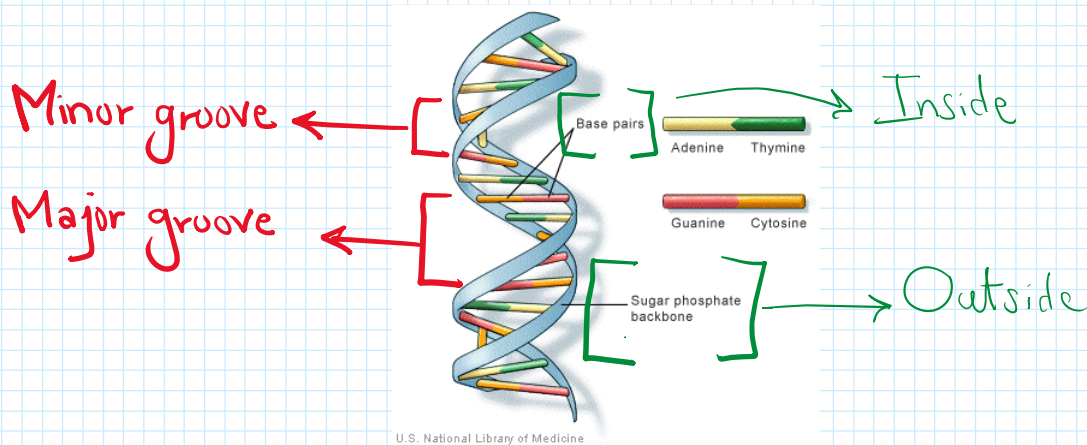
## \* DNA Structure :

### Nucleotides (Building Blocks)



### Nitrogenous Base





U.S. National Library of Medicine

## Double Helix

### \* Bonds:

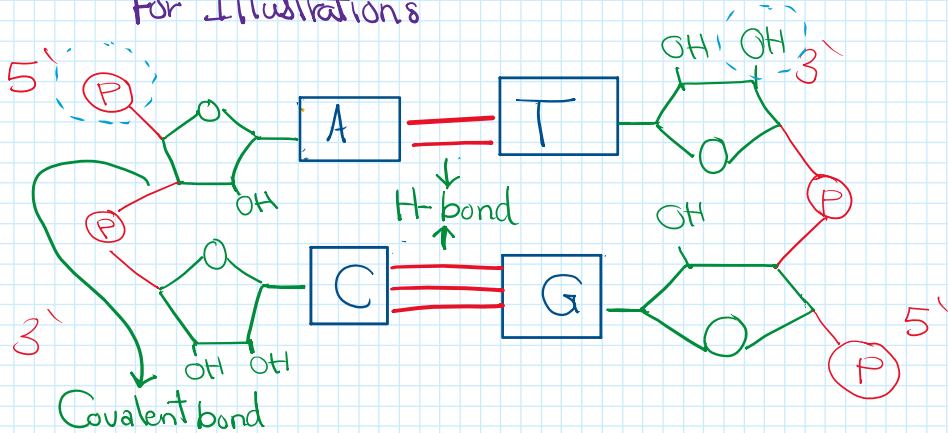
#### 1) Hydrogen Bond

- Adenine — Thymine
  - Guanine — Cytosine
- ↓  
H-bond

#### 2) Covalent bond

- Nucleotides of the same chain link together by Covalent bond through sugars &  $PO_4$ .

### For Illustrations



- Anti-parallel

- Complementary

- 5' end →  $PO_4$  group

- 3' end → Hydroxyl (OH)  
comes from deoxyribose sugar

### \* Notes

- One complete turn is formed in the double helix every 10.4 base pairs.
- Center to center distance between adjacent nucleotide pairs is 3.4 nm.

Sara Shubagy  
7/12/2025