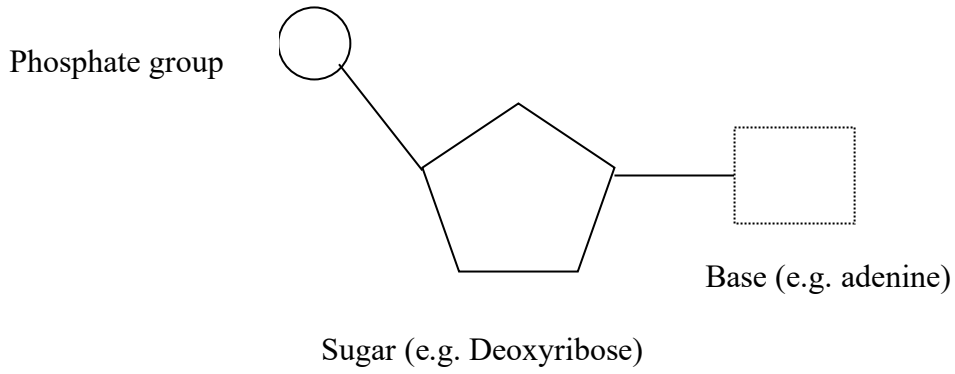
2.4 DNA STRUCTURE

Many ***nucleotides*** joined together form ***nucleic acids*** (i.e DNA & RNA)

The Structure of a typical ***nucleotide:***

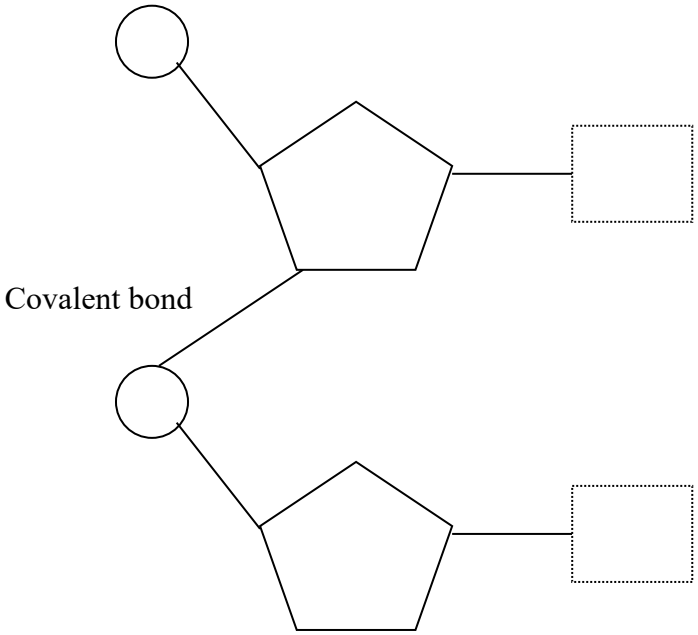


The four bases in DNA:

- Cytosine
- Thymine
- Adenine
- Guanine

How are DNA nucleotides linked together?

- They are linked together by covalent bonds between the sugar of one nucleotide and the phosphate group of the other into a single strand



Formation of DNA double helix

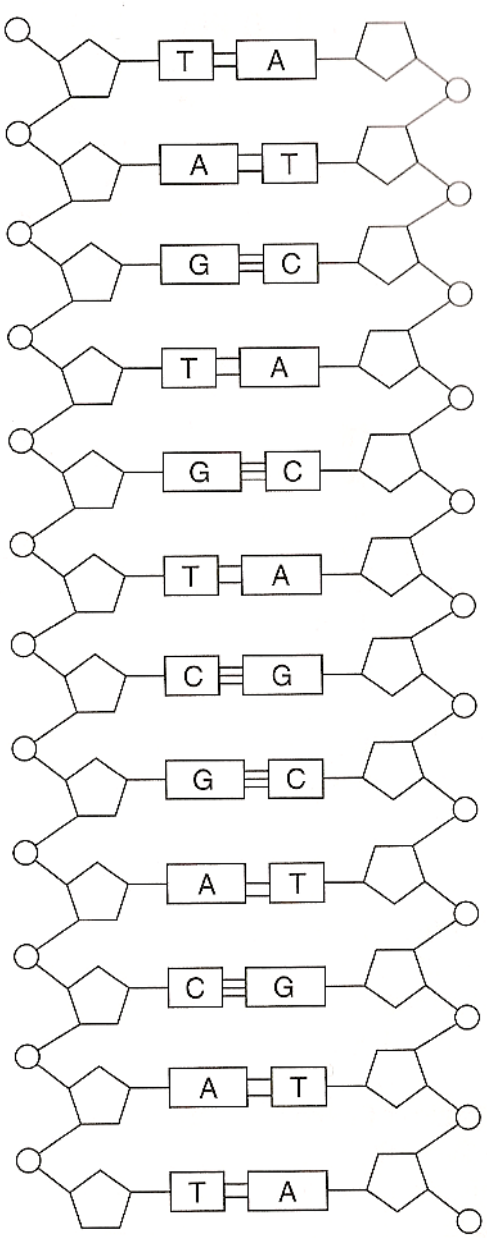
DNA molecules consist of two strands of nucleotides forming a double helix. The two strands are linked together by ***hydrogen bonds***. These hydrogen bonds form between the ***bases*** of the two strands:

- Adenine bonds with thymine (A – T)
- Cytocine bonds with guanine (C – G)

This is called ***complementary base pairing***

Diagram of the molecular structure of DNA

In DNA the two strands are antiparallel, they run alongside each other but in opposite directions.



Other scientists had produced X-ray diffraction data showing the DNA to be helical. But it was Crick and Watson who were able to build their famous model of the structure of DNA and win the Nobel Prize.