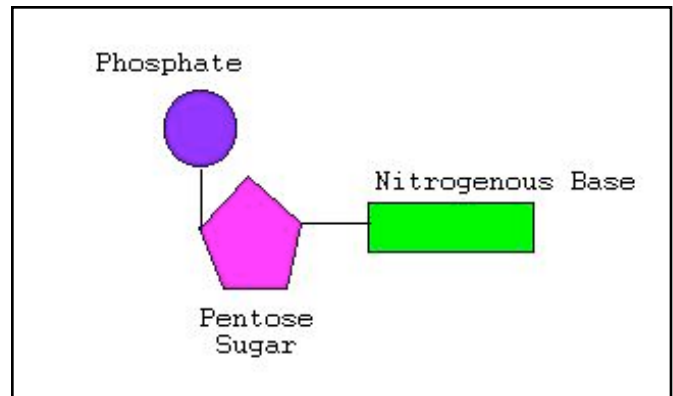


DNA Structure

DNA: Genetic Blueprint

- DNA consists of two molecules that are arranged into a ladder-like structure called a **Double Helix**.
- A molecule of DNA is made up of millions of tiny subunits called **Nucleotides**.
- Nucleotide consists of:
 - Phosphate group
 - Pentose sugar
 - Nitrogenous base
- The **phosphate and sugar form the backbone** of the DNA molecule, whereas the bases form the “rungs”.
- There are four types of nitrogenous bases.
 - 1) Adenine
 - 2) Guanine
 - 3) Cytosine
 - 4) Guanine
- Each base will only bond with one other specific base.
 - ADENINE(A) and THYMINE(T) form a base pair
 - CYSTINE(C) and GUANINE (G) form a base pair
- Because of this **complementary base pairing**, the order of the bases in one strand determines the order of the bases in the other strand.
- To crack the genetic code found in DNA we need to look at the sequence of bases.
- The bases are arranged in triplets called **codons**.
 - Codon examples: ACT - GGC - TAT



Use what you know about complimentary base pairing to predict the corresponding strand of DNA

A - T - T - C - G - G - C - T - A - A - C

DNA Structure

- A gene is a section of DNA that codes for a protein, which in turn codes for a trait (skin tone, eye colour)
- Each unique gene has a unique sequence of bases.
- Sequence of bases will code for the production of a unique protein.