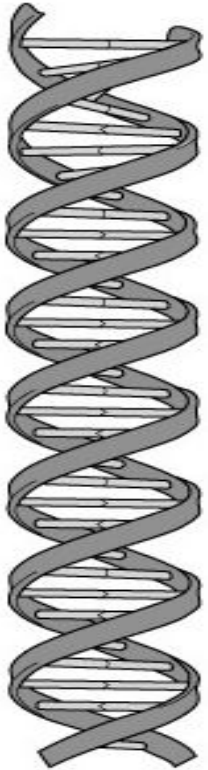
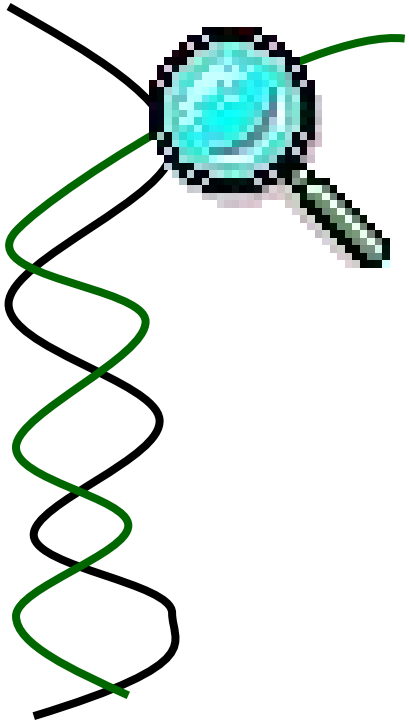
DNA Replication

DNA Shape

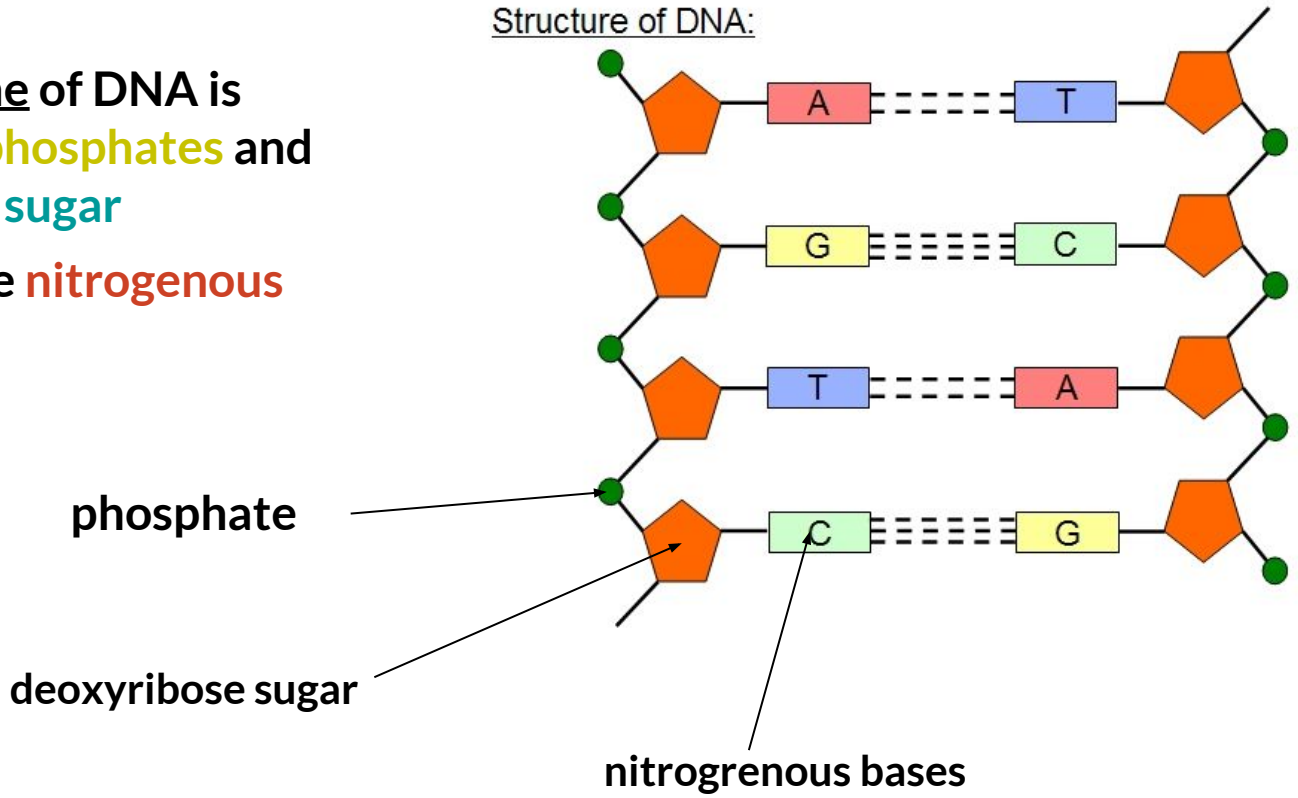
- DNA is a very long polymer.
- The basic shape is like a twisted ladder (escalera retorcida) or zipper (cremallera).
- This is called a *double helix*.
  - The DNA double helix has two strands twisted together.





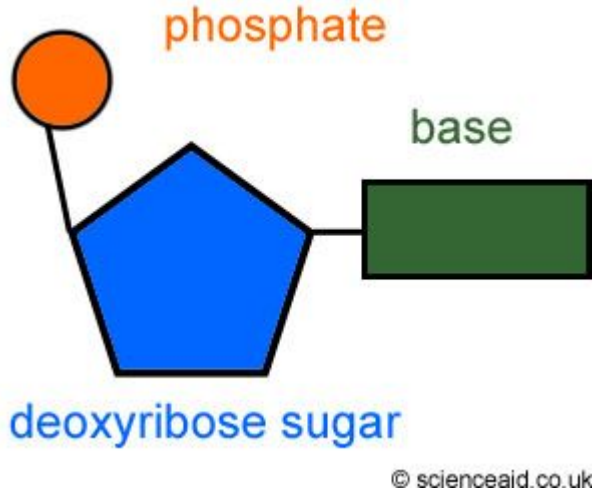
DNA Components

- The backbone of DNA is alternating phosphates and deoxyribose sugar
- The teeth are nitrogenous bases.



Nucleotides

One deoxyribose together with its phosphate and base make a ***nucleotide***.

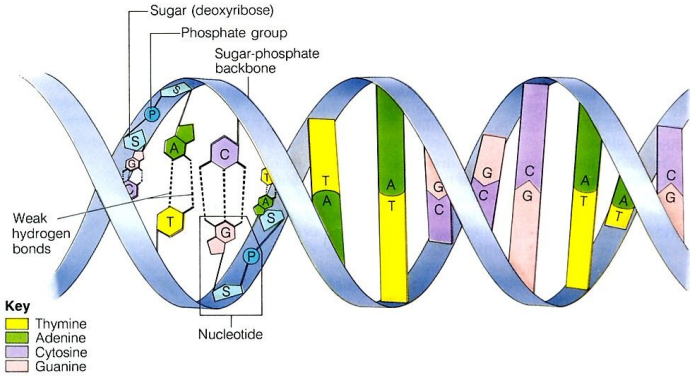


- *One strand of DNA has millions of nucleotides*

Nitrogenous Bases

DNA has four different bases:

1) Cytosine (C)
2) Thymine (T)
3) Adenine (A)
4) Guanine (G)



- Adenine always pairs up with Thymine
  - A-T
- Guanine always pairs up with Cytosine
  - G-T

Hydrogen Bonds

- The bases attract each other because of ***hydrogen bonds.***
- Hydrogen bonds are ***weak*** but there are millions and millions of them in a single molecule of DNA.
- Adenine always pairs up with thymine
- Guanine always pairs up with Cytosine