12-2 Structure of DNA

Components of DNA

* Deoxyribonucleic acid is made up of joined into long strains of ( electrons)
* Nucleic Acids
* Made up of smaller with basic components (5 carbon sugar, phosphate, and a )

Bases

* There are four main bases in the DNA structure:
* A, T, C, G
* The sugar and molecules attach to each other and the nitrogen bases
* The nitrogen bases contain a chemical used to
* The different of the nitrogen bases provide the for different

Solving the Structure

* Edwin Chargraff discovered that the bases of adenine and thymine were almost of and the same for the other two.
* Chargraff’s rule became that

Franklin X-Ray

* Rosland Franklin in 1952 discovered
* She isolated . She monitored the and it gave the familiar
* The X shape shows that the

Watson and Crick

* Scientists James Watson and Francis Crick started to design
* After seeing Franklins , the idea clicked and the Model they came up with wasn’t just a helix but a in which nucleotide bases were in the

Double Helix Model

* The twisting ladder appearance of DNA supports of matching
* It showed that DNA now can have a
* The sides run – opposite directions
  + This allows each side to similar to letters and words in a
  + letter alphabet

Hydrogen Bonding

* The bases are held together with
* H2 bonds are and this allows DNA to to be
* As this was more understood, Chargraffs rule became
* Pairing between the nucleotides have almost a perfect with each other and this became