

Discovery of DNA Structure Notes

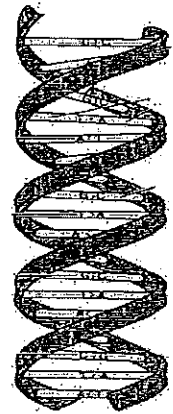
1. The Importance of the Discovery of DNA Structure

DNA is the molecule that contains genetic information for all living things

DNA needs to be able to...

- replicate itself
- have enough diversity to code for all dif. orgs.

The shape of a DNA molecule can be described as a double helix.



Many scientists contributed to the discovery of DNA structure...

2. Watson and Crick...

Were the first to come up with double helix model of DNA.

Rather than carrying out experiments in the lab, they brought together
data from dif. researchers

3. Rosalind Franklin...

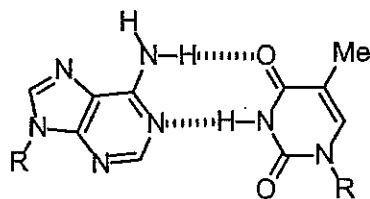
Was an expert in a technique for determining the structure of molecules
called X-ray crystallography.

Her famous image called photo 51 suggested a helical, two stranded
structure for DNA.

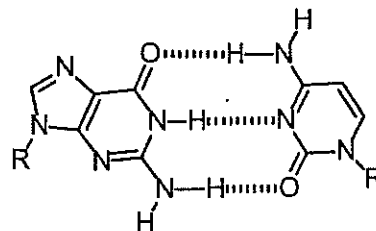
4. Erwin Chargaff...

Analyzed DNA and found out it was composed of A, T, C, G bases.

Chargaff's rule says that amount of A = T amount of C = G



A·T base pair



G·C base pair

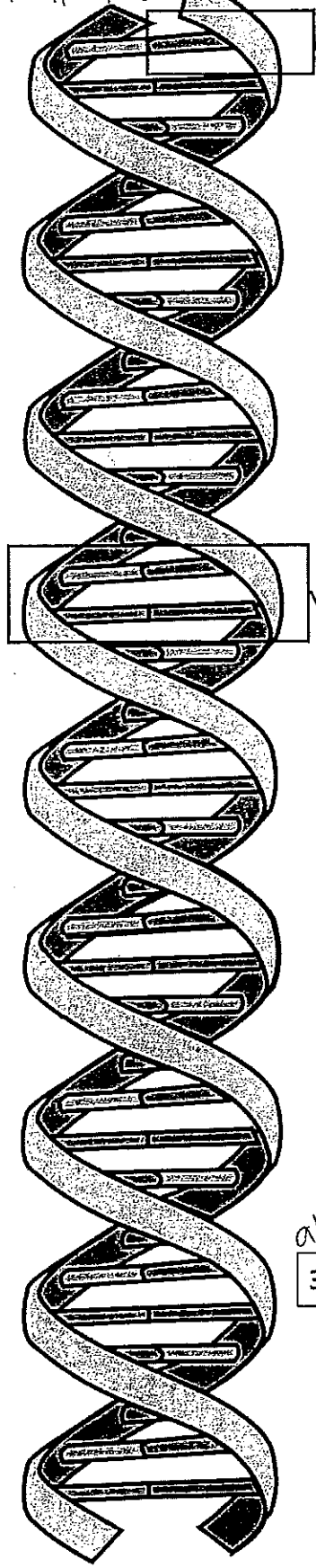
Race to Discover

How is genetic info stored, organized, passed on?
most ppl thought protein in chromosomes

structure revealed function.

DNA STRUCTURE

nucleotide = monomer



DNA is built from nucleotides, small molecules made of a base, a **sugar**, and a **phosphate**. Many nucleotides bind with each other to make a DNA double helix. The sides of the helix, or the backbone, are made of strands of sugars and phosphates.

Nitrogenous base

Sugar

Phosphate

what holds it together

Adenine Thymine

Cytosine Guanine

Sugar-phosphate backbone Bases Sugar-phosphate backbone

The rungs are made of two bases, one from each side of the helix. There are four bases; **adenine**, **guanine**, **cytosine**, and **thymidine**. Each base can only bind with one other base. Adenine always binds with thymidine, and guanine always binds with cytosine.

LABEL EACH PART OF THE DNA STRUCTURE BELOW:

1. cytosine

2. guanine

3. sugar

4. phosphate

5. thymine

6. adenine

always bi phosphate