

DNA Structure and Replication Notes

DNA

• Function: Stores _____ information to make_____.

• Structure: double sided chain of _____ that form a

_____.

• Parts of a DNA nucleotide:

1. _____

2. _____

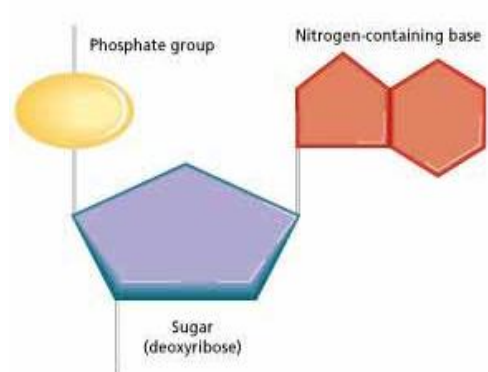
3. _____

a. _____

b. _____

c. _____

d. _____

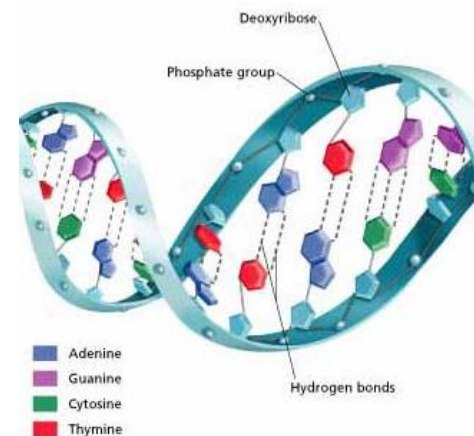


The Double Helix

• In 1953, James Watson and Francis Crick suggested a model for DNA as a _____ (two nucleotide chains wrap around each other in a double spiral).

• Backbone is made of alternating _____ and _____.

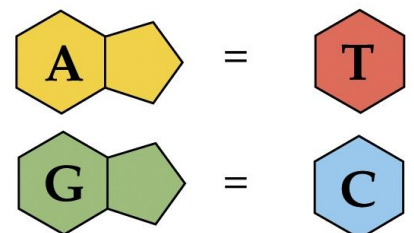
• Bases attach the two strands _____.



Complementary Base Pairing

• The bases are connected to each other in the double helix by hydrogen bonds. (Chargaff's Rule)

Chargaff's Rule states that A= _____ and C= _____.

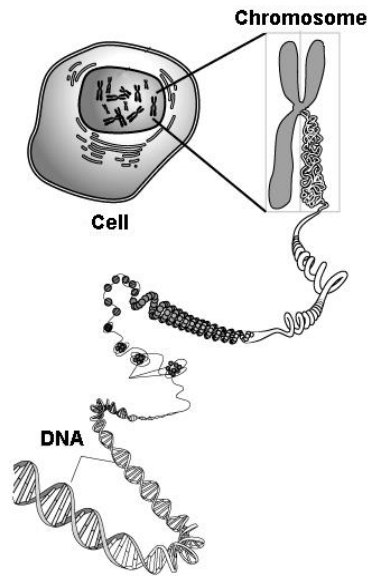


Chromosomes and DNA Replication

DNA Organization

So how does it all fit?

- DNA is tightly wrapped and coiled into chromatin which is wrapped and coiled into _____.



Organization of DNA

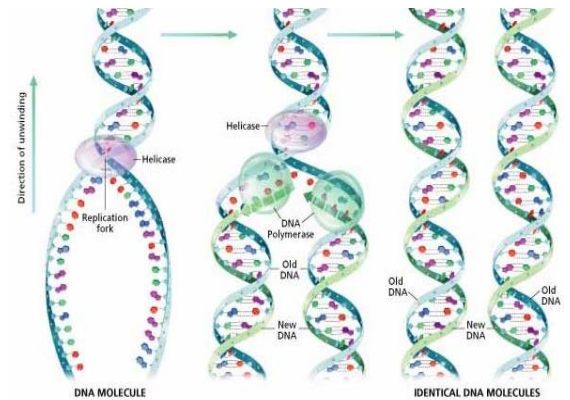
- DNA makes up _____ and genes make up _____.

DNA Replication

- DNA Replication **is the** _____.

- The strands of DNA _____ (using enzymes) and make copies using the _____ base pairing rules.

- Makes _____ copies of DNA



The Steps of DNA Replication

1. DNA begins with 2 _____ original strands.
2. DNA strands separate or _____.
3. New nucleotides are added to the original strand following _____ rules.
4. Result is 2 exact copies of DNA, each having one _____ strand and one _____ strand.

