Life Science - DNA Structure and Replication Notes (Courtesy of Mrs. Musto) **Binder Page _____**

Name: _____ **Date:** **Period:**

DNA

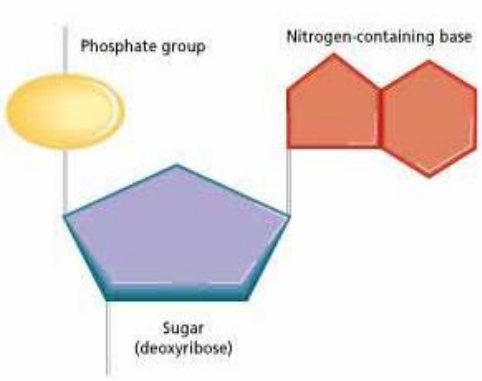
• Function: Stores _____ information to make_____.

• Structure: double sides chain of _____ that form a

_____.

• Parts of a DNA nucleotide:

1. _____
2. _____
3. _____
   - **a.** _____
   - **b.** _____
   - **c.** _____
   - **d.** _____

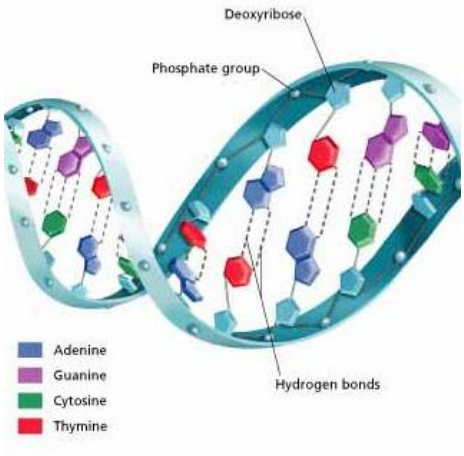


The Double Helix

• 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).

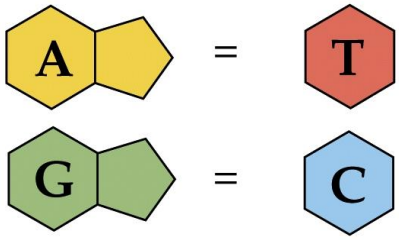
• Backbone is made of alternating _____ and _____.

• Bases attach the two strands _____.



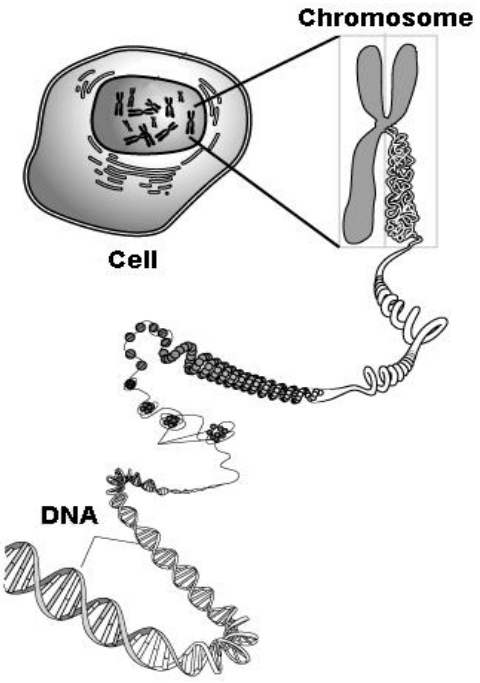
Complementary Base Pairing

• 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



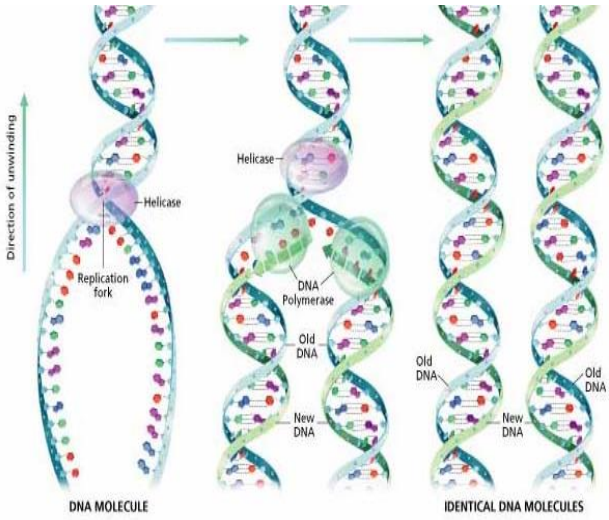
So how does it all fit?

• 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

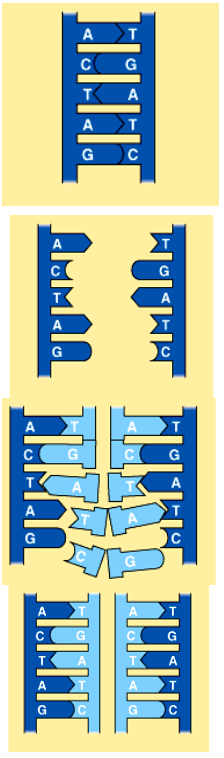


• DNA Replication **is the** _____ _____.

• 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.