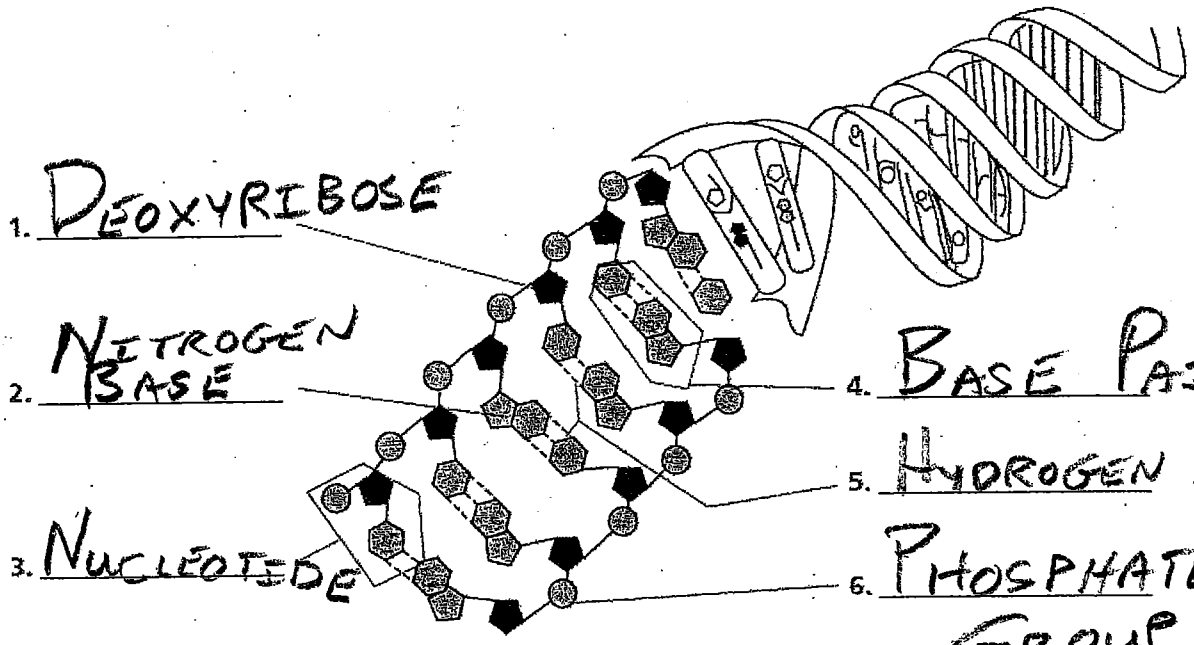
DNA PRACTICE!!!!

Name KEY

Label the diagram. Use these choices: nucleotide, deoxyribose, phosphate group, nitrogen base, hydrogen bonds, base pair.



Complete each statement.

7. ADENINE, guanine (G), cytosine (C), and thymine (T) are the four NITROGENOUS BASES in DNA.

8. In DNA, CYTOSINE always forms hydrogen bonds with guanine (G).

9. The sequence of BASES carries the genetic information of an organism.

10. The process of REPLICATION produces a new copy of an organism's genetic information, which is passed on to a new cell.

11. The double-coiled shape of DNA is called a DOUBLE HELIX

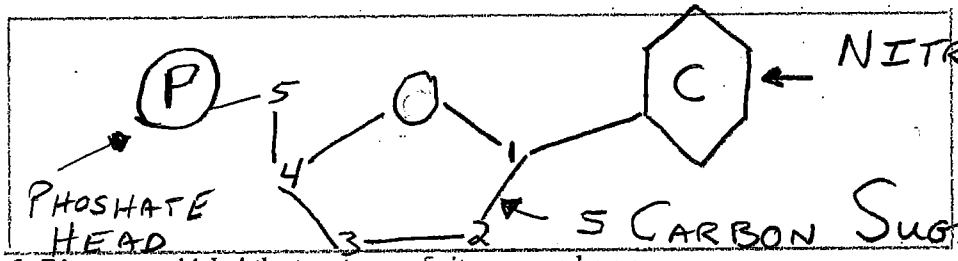
MORE DNA PRACTICE!!!!!!

Name KEY

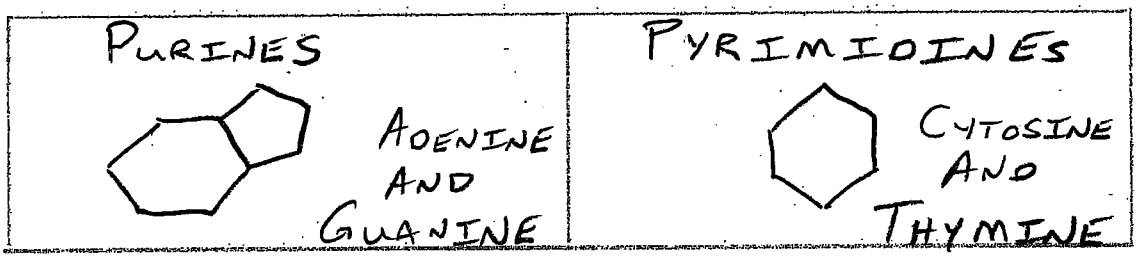
Structure of Nucleic Acids

1. The building blocks of nucleic acids are known as NUCLEOTIDES

2. Draw and label the three parts of a nucleotide.



3. Diagram and label the two types of nitrogenous bases.



Function of DNA

1. The acronym DNA stands for DEOXYRIBONUCLEIC ACID

2. DNA makes up chromosomes, which are located in the NUCLEUS of a cell.

3. Small sections of a DNA molecule that determine genetic traits are called GENES

Structure of DNA

1. The sugar found in DNA is DEOXYRIBOSE $C_5H_{10}O_4$

2. The pyrimidine bases are CYTOSINE and THYMINE

3. The purine bases are ADENINE and GUANINE

4. In complimentary base pairing, C bonds with G and A bonds with T.

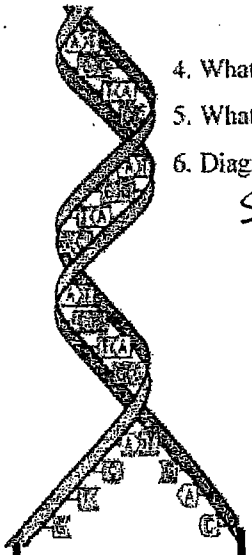
Diagram of DNA molecule

1. A DNA molecule consists of TWO strands.

2. DNA is a long chain made of repeating units called NUCLEOTIDES

2. Nucleotides are attached by bonds between the SUGARS and the phosphate group.

3. DNA is shaped like a DOUBLE helix.

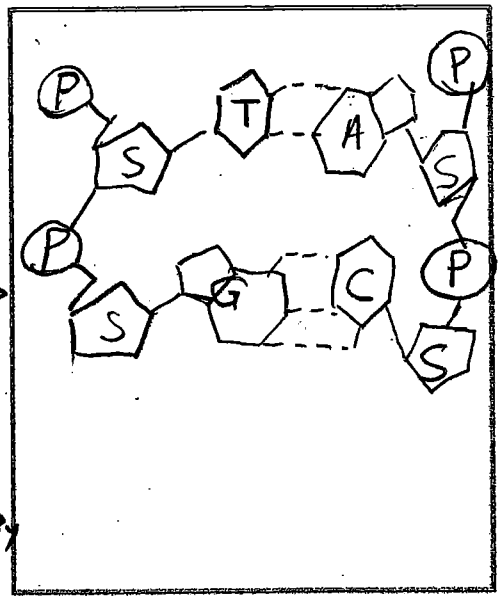


4. What are the "sides" of the DNA ladder made of? RAILS - MADE OF P-S

5. What are the "rungs" of the DNA ladder made of? COMPLIMENTARY BASE PAIRS

6. Diagram and label a section of DNA

SEE p. 504 → SHOW FOUR DETAILED NUCLEOTIDES COMPOSING TWO COMPLEMENTARY BASE PAIRS



C-G C-G
A-T A-T
C-G C-G
T-A T-A
G-C G-C
A-T A-T
T-A T-A
C-G C-G
G-C G-C
A-T A-T
C-G C-G
T-A T-A
G-C G-C
A-T A-T
C-G C-G
G-C G-C
A-T A-T
C-G C-G

DNA Replication

1. The replication (exact duplication) of DNA begins with the UNWINDING AND UNZIPPING of the double helix.

2. DNA replication is said to be SEMI-CONSERVATIVE because each strand acts as a template to construct the other half of the molecule.

5. Show the complimentary base pairing that would occur during replication of this DNA molecule to the left. Notice how two strands are made from one.

6. Below, fill in the missing bases from this DNA molecule.

G C T A T G C A C G T C G C A

C G A T A C G T G C A G C G T