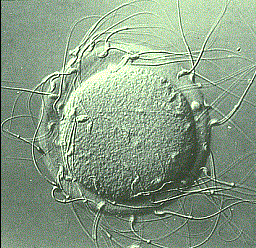
Name: \_\_\_\_\_\_\_\_\_\_\_

**Main Ideas Title: The Function and Structure of DNA** Period: \_\_\_ Seat:\_\_



What is DNA? **D = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ N = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_A = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* + DNA is a molecule that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

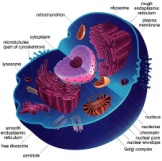
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

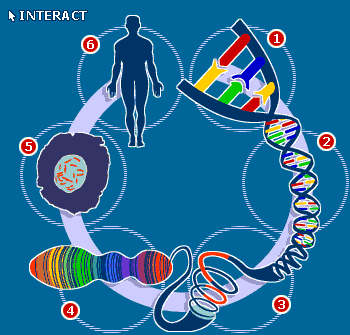
* Many of its instructions are directions for carrying out the daily activities of the cell
  + This information \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



DNA is like an instruction manual that can be read

The instructions in DNA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Where is DNA DNA is found in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Inside the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

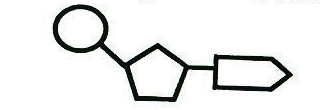
found? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and cytoplasm of prokaryotes

Cell \*\*\*Every cell in your body has the same copy of DNA instructions but…

Differentiation Cell Differentiation-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This makes cells look and behave differently

DNA structure DNA is made up of units called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 A nucleotide has three parts:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A nucleotide always has a phosphate connected to a dexoyribose sugar which is connected to 1

of 4 bases

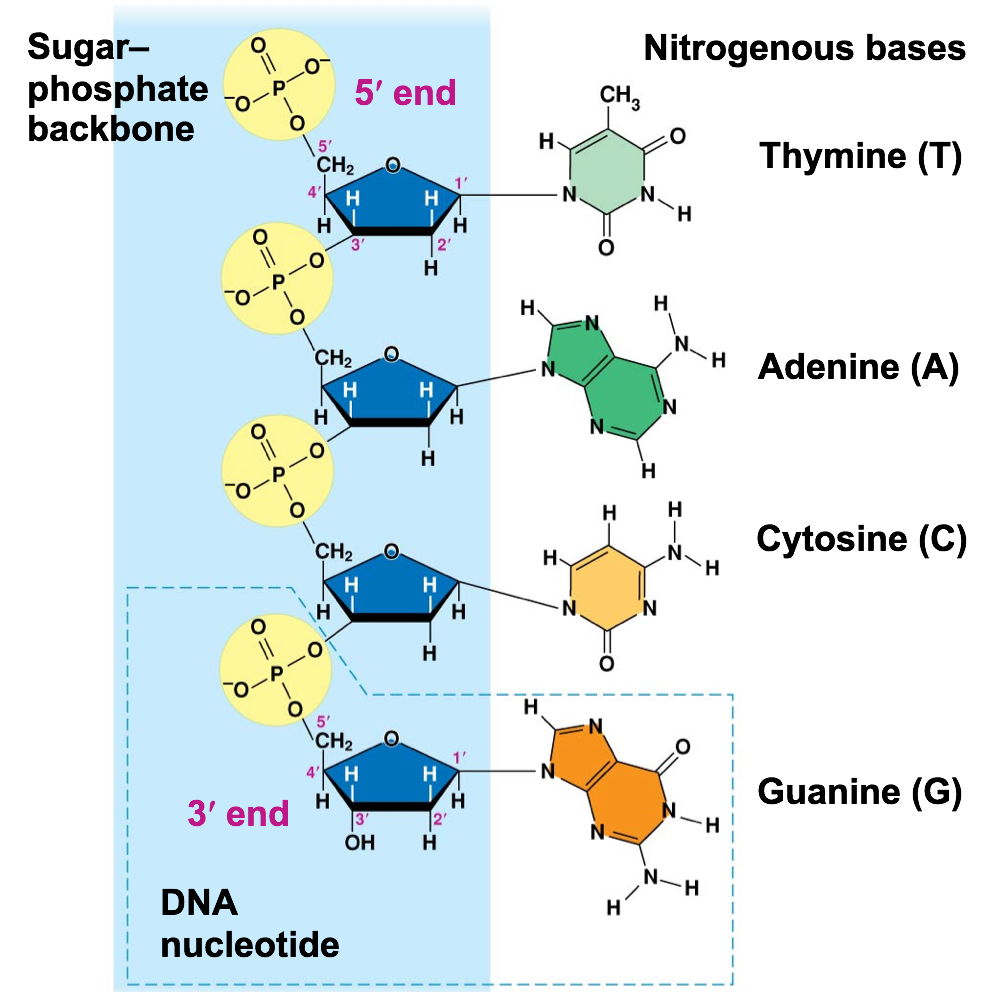
\*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \*Guanine (G) \*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \*Cytosine (C)

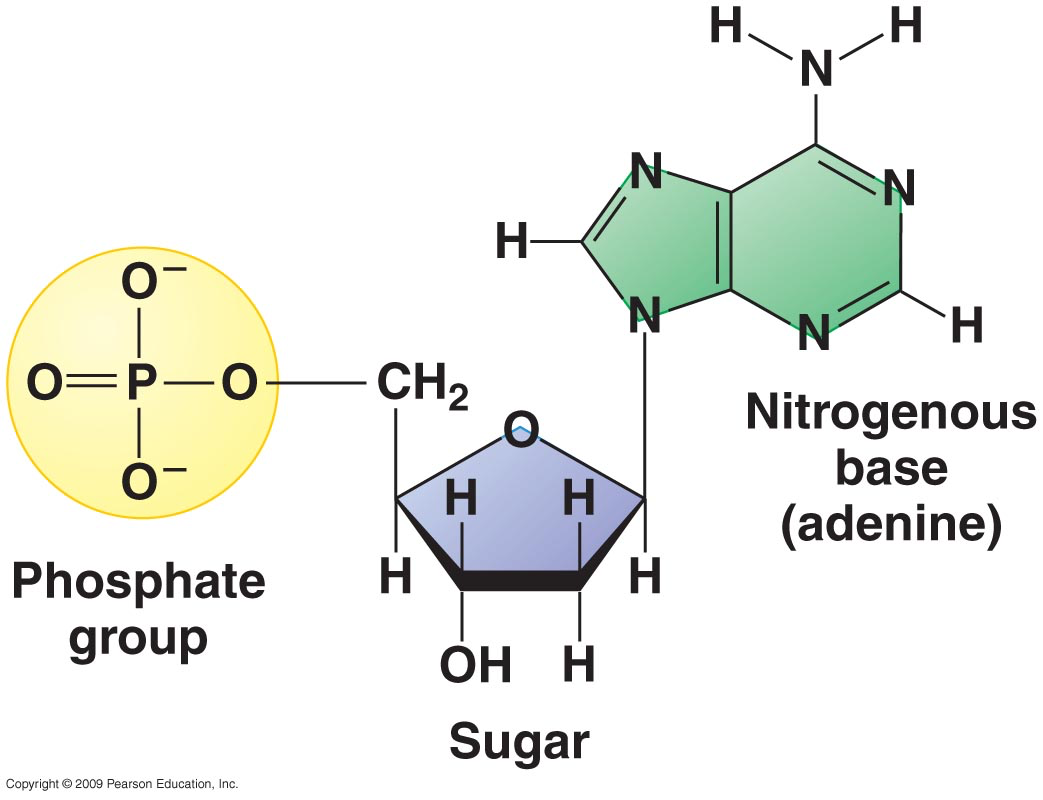
Purines and 2 categories of bases: Purines- 2 ring structures…adenine and guanine

Pyrimidines Pyrimidines- 1 ring structure…thymine and cytosine

How is DNA A DNA molecule is made by using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

made? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the next– forming a long single strand

5’ and 3’ End



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

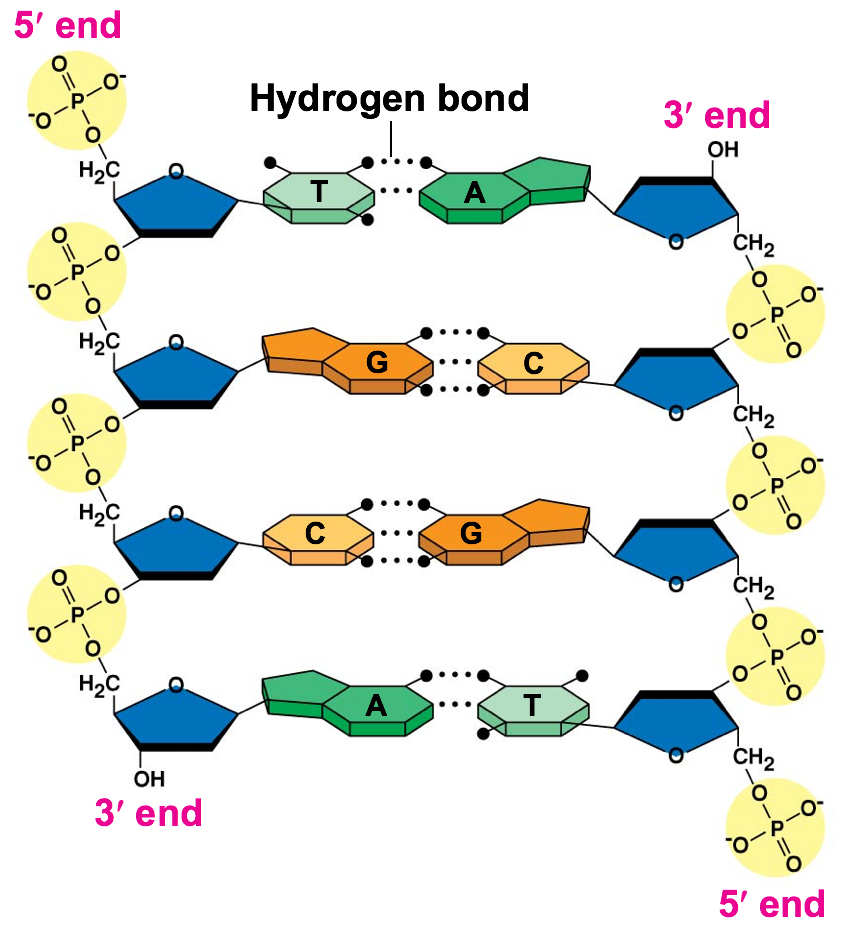
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_

2 Strands and DNA is made up of 2 strands connected in the middle by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chargaff’s Rules This looks like a ladder with a sugar/phosphate backbone and bases as steps

 Chargaff’s base pairing rules (Always! Always! Always!):

Adenine Thymine

A T

Cytosine Guanine

C G

The Double Helix The hydrogen bonds between the two strands twists them around each other into a double helix (twisted ladder).

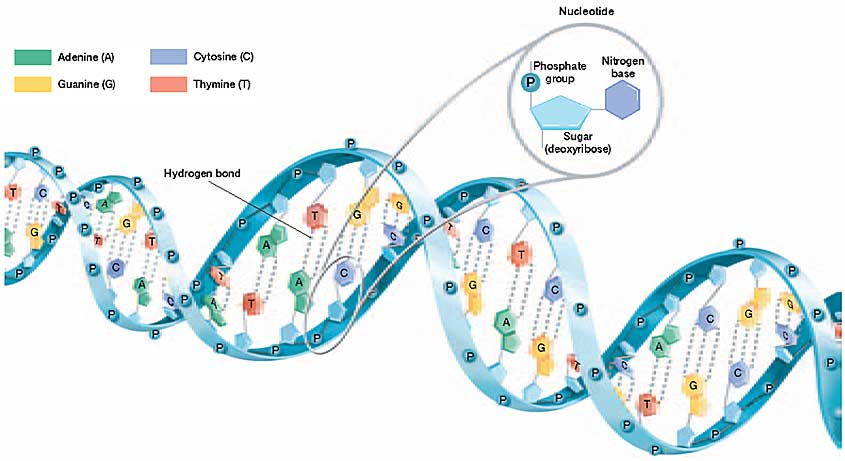
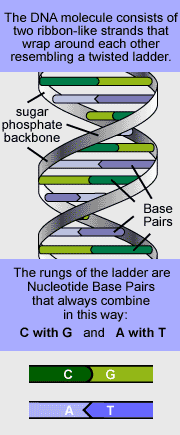
The two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to each other

Photo 51 Scientist Rosalind Franklin used X-ray diffraction to conclude DNA was a double helix with 2

negatively charged sugar-phosphate backbone on the outside with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

bases facing inward



Where are the -DNA has its “written” language or “secret code” to spell out instructions which

“instructions”? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-All the genetic instructions are coded in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Create your own sequence of at least 12 bases





Its universal!!! All living things have DNA for instructions

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Each living thing/individual has a different set of instructions

Summary