Assignment Number:\_\_\_\_\_\_\_

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

**DNA Structure**

Remember: In a eukaryotic cell \_\_\_\_\_\_ is located in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ ever \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Nucleic Acids - Informational Macromolecules:**

1. DNA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ acid
2. RNA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ acid
3. Proteins
* Are often called the three informational macromolecules because of their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**What is a gene?**

-It is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ that stores the code for the sequence of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ in a single \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Where is a gene?**

-DNA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ stays in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-The \_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ and can be used to make \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ only when decoded and moved within the cell by \_\_\_\_\_\_\_\_\_\_

-DNA is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-It creates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (that align with the genetic information) through protein synthesis which has 2 parts \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

- All cells in an individual have the same \_\_\_\_\_ (except \_\_\_\_\_\_\_\_\_\_ have half the amount) but \_\_\_\_ all cells \_\_\_\_\_\_\_ all their DNA to make proteins

 -\_\_\_\_\_\_\_\_\_\_\_\_\_\_ types of \_\_\_\_\_\_\_\_ express \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ and make \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

**DNA Structure**

Information: In \_\_\_\_\_\_\_\_ the information is encoded into \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ called purines and pyrimidines

**Types of Bases:**

-Two types of pyrimidines \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Two types of purines \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Shape of DNA:**

-The basic shape (uncoiled) is similar to a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

-The ‘sides’ are made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (big) bonded by small \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ groups

-The ‘rungs’ are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bonded to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ with a hydrogen bond connecting them in between

-One \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ base always bonds with one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ base

**Who bonds with who?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ALWAYS bonds with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ALWAYS bonds with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and nitrogenous \_\_\_\_\_\_\_\_\_\_\_\_ make up a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Multiple nucleotides bonded together make up DNA!!

Draw and label a nucleotide:

⏵The ladder is wrapped in a spiral turning around itself like a spiral staircase. The whole structure of DNA is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_