

Name:

Period:

## DYNAMIC DNA WEBQUEST!

### PART ONE: STRUCTURE OF DNA

<http://learn.genetics.utah.edu/content/begin/tour/>

Take the tour of DNA by clicking on "What is DNA?" and answer the questions below:

1. In what organelle (CELL PART) would I find your DNA (YOUR INSTRUCTIONS)? \_\_\_\_\_
2. What does DNA stand for? \_\_\_\_\_
3. The DNA molecule comes in the form of a \_\_\_\_\_ ladder and scientists call its shape a \_\_\_\_\_.
4. The MIDDLE of the DNA MOLECULE is made of bases. These bases will only pair up in a particular way:  
A always pairs with \_\_\_\_\_.  
C always pairs with \_\_\_\_\_.
5. What makes up the handrails or SIDES of a DNA molecule(have to look at the picture) SUGAR and \_\_\_\_\_.
6. G stands for \_\_\_\_\_.  
A stands for \_\_\_\_\_.  
T stands for \_\_\_\_\_.  
C stands for \_\_\_\_\_.

**GO BACK TO THE TOUR PAGE AND CHOOSE "WHAT IS A GENE?"**

1. GENES are \_\_\_\_\_ manuals for our bodies.
2. GENES are made of \_\_\_\_\_.
3. A gene or protein called \_\_\_\_\_ is responsible for our RED BLOOD CELLS to carry \_\_\_\_\_.

4. If our hemoglobin gene is normal, the hemoglobin protein will work fine. But if the instructions in the gene are changed, or \_\_\_\_\_, changes in the hemoglobin could result in the disorder\_\_\_\_\_.

5. TRUE or FALSE: YOUR DNA or GENES are responsible for your EYE COLOR.

**GO BACK TO THE TOUR PAGE AND CHOOSE "WHAT IS A CHROMOSOME?"**

1. If you pulled the DNA from one of your cells, it would be how long?

2. How does all of that DNA fit inside your cells? \_\_\_\_\_

3. \_\_\_\_\_are storage units for DNA.

4. TRUE or FALSE: Different organisms have a different number of chromosomes inside each cell.

5. How many chromosomes do humans have? \_\_\_\_\_

6. You received \_\_\_\_\_of your chromosomes from your \_\_\_\_\_ and \_\_\_\_\_ from your dad.

7. Males have \_\_\_\_\_ and \_\_\_\_\_sex chromosomes. Females have \_\_\_\_\_ sex chromosomes.

8. How many chromosomes does a mosquito have? \_\_\_\_\_

How many chromosomes does an onion have? \_\_\_\_\_

How many chromosomes does a carp have ? \_\_\_\_\_

## PART TWO: DNA REPLICATION

<http://www.pbs.org/wgbh/aso/tryit/dna/>

CHOOSE DNA WORKSHOP ACTIVITY

CHOOSE DNA REPLICATION

1. \_\_\_\_\_, the molecule that holds \_\_\_\_\_,  
makes an \_\_\_\_\_ copy of itself whenever \_\_\_\_\_.

**In this activity, it's up to you to make the copy.**

2. LOOK AT THE LOWER RIGHT HAND CORNER...Where are you located?  
Draw a picture that is LABELED where you are located:

3. What is the FIRST STEP OF DNA REPLICATION? \_\_\_\_\_

4. Where does the DNA molecule UNZIP? \_\_\_\_\_

NOW MATCH THE BASES TO MAKE A NEW DNA STRAND

5. A (ADENINE) always goes with \_\_\_\_\_(THYMINE)

C(CYTOSINE) always goes with \_\_\_\_\_G (GUANINE)