Name

Chapter 12- Activity DNA Model

Using the model of DNA that you just built as a guide, follow the instructions below.

- 1 Label the different parts of your DNA model on the drawing below. Use the following letters to represent the different parts of the nucleotide. Be sure to label your key.
 - S Deoxyribose Sugar
 - P Phosphate

- A Adenine
- T Thymine
- C Cytosine
- G Guanine
- 2 Color each part of the nucleotide the correct color as specified in the DNA MODEL KIT- STUDENT WORKSHEET. Be sure to color the following items and color the key.

Deoxyribose Sugar Phosphate Sugar-Phosphate Bond (yellow) Hydrogen Bond Adenine Thymine Cytosine Guanine





Answer the questions on the DNA MODEL KIT- STUDENT WORKSHEET in the space provided below.

<u>Part 1-</u> 12.1

- 1 What is the general structure of the DNA molecule?
- 2 Name the two molecules which alternate to make the "backbone" of a DNA molecule.
- 3 What is the name of the specific molecule that attaches to nitrogenous bases?
- 4 Name the molecules or parts of a nucleotide that are joined by a hydrogen bond to attach the double strand of DNA.
- 5 If there are four thymine bases on you model, how many adenine will there be?

<u>Part 2-</u> 12.2

6 What are the bases on the left side of the DNA molecule you constructed? The right side?



7 If you were to "unzip" the entire molecule along the hydrogen bonds, what bases would the left side attach to? The right side?

Left Side	Right Side

- 8 Would the 2 new DNA molecules contain the same base nucleotides?
- 9 Would the 2 new DNA molecules be exact copies of each other? Explain.

Part 3- 12.3

10 Based upon this information what are the messenger RNA molecules that the left side of your DNA molecule would construct? The right side? (remember- thymine is replaced by uracil in RNA)

Left Side	Right Side