DNA Ladder Project (In-class)

Instructions

1. Get a small brown envelope and put your name on it in the top right hand corner (flap side underneath)…this envelope will be used by you to put all of your cutouts in. If you lose anything, you must replace it.
2. Retrieve 1 sheet of construction paper – each color - (7 sheets total)
3. Retrieve 1 pair of scissors
4. Using a pencil, stencil out the following templates:
   I. phosphate…a circle about the size of a quarter – **turquoise** (24 of these)

   II. sugar…a pentagon about 1 inch – **magenta** (24 of these)

   III. base (T)…**yellow sheet** (1/2" wide X 2" long) (8 of these)

   IV. base (A)…**light blue sheet** (1/2" wide X 2" long) (8 of these)

   V. base (G)…**red sheet** (1/2" wide X 2" long) (4 of these)

   VI. base (C)…**green sheet** (1/2" wide X 2" long) (4 of these)

5. You will be constructing a DNA chain with the following amino acids (3 base pairs) – to make a protein chain.
6. You must construct your DNA chain with the data given.
7. The sides of the ladder are alternating phosphates and sugars.
8. The rungs of the ladder are attached to the sugars…these are the base pairs.
9. Your DNA chain should look like this:

□G – C□

□G – C□

□T – A□

□T – A□

□T – A□

□A - T□

□G – C□

□C – G□

□A – T□

□A – T□

□A – T□

□A – T□

10. EVERYTHING MUST TOUCH WHEN YOU GLUE THE PIECES TO THE WHITE CONSTRUCTION PAPER.
11. With a black SHARPIE, write the letter that represents each item…**phosphate=P; sugar=S; Thymine=T; Adenine=A; Cytosine=C; Guanine=G**…in the middle of each mounted piece.
12. DNA Ladder Project should be in the top left hand corner or in the middle of the DNA Ladder at the top of the paper. Your name should be in the bottom right hand corner on the front.