

DNA Model Requirements & Rubric: Due Date :

The following lists the requirements for your DNA project and the method in which it will be graded. You must submit this sheet to the teacher in class on the day the model is due.

If all students in your class turn in the cell model on time, each student in the class will earn an extra 5 points bonus. Models will be judged and awarded 10 bonus points for "best in class", 5 bonus points for second place, and 3 bonus points for third place. Be creative and have fun! Use the DNA diagram online (www.LearningtoSaveTheEarth.com) and page 233 in your text as a guide.

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| _____ (5 pts) | 1. The model must be free-standing or able to hang. |
| _____ (10 pts) | 2. The model must have <u>at least</u> six nucleotides on each side (12 total) of the double helix (six "steps" on the ladder) |
| _____ (20 pts) | 3. The deoxyribose sugars and phosphate groups are in the correct locations. They should make up the "backbone" of the model and be staggered (sugar, phosphate, sugar, phosphate, sugar, phosphate....). The nitrogen bases (adenine, thymine, guanine and cytosine) should form the rungs of the ladder shape and come off of the deoxyribose sugars only (not off the phosphates or in-between the phosphates and sugars!!) |
| _____ (25 pts) | 4. The adenines are paired with the thymines (and come off the deoxyribose sugars), and the guanines are paired with cytosines (and come off the deoxyribose sugars). A hydrogen bond should be shown between each base pair. |
| _____ (25 pts) | 5. The model must have a legend indicating the colors or materials used for each of the following: deoxyribose sugar, phosphate group, adenine, thymine, guanine, cytosine, hydrogen bonds. |
| _____ (15 pts) | 6. The model must go through at least one complete twist. This is the hardest part, and if you are unsure of what this means, examine the pictures online, look at the models in class, or ask me to re-explain it to you. |
| _____ (25 pts) | 7. The model must be neatly and/or creatively done. You must invest time and effort into making your model accurate and look good. |

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