

Name: _____

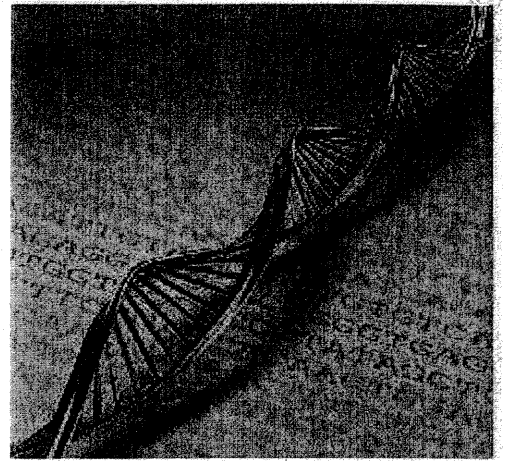
Per: _____ Date: _____

Project Cover Sheet: Build Your Own DNA- In Class Project

Purpose:

Materials:

List your materials here and what each one represents.



Procedures:

A. Make sure you have labeled and identified, or made a key to represent:

1. Phosphate
2. Sugar
3. Adenine
4. Thymine
5. Cytosine
6. Guanine
7. Hydrogen Bond

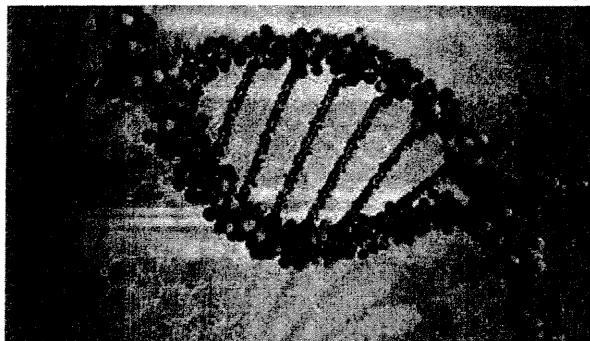
B. Partner Involvement: Please use this space to evaluate each of your roles in this project. Comment on who brought supplies, who did what amount of work etc... If you do not have a partner, please comment on what you did to prepare for today's project.

DNA Structure Project Rubric

	4	3	2	1	0
Content	The DNA project contains all parts listed and are labeled correctly: Phosphate, Sugar (Deoxyribose), Adenine, Guanine, Cytosine, Thymine, Hydrogen Bond	The DNA structure includes most of the parts and are labeled correctly.	The DNA structure includes some of the parts and are mostly labeled correctly.	The DNA structure contains little of the parts and are not labeled or incorrectly labeled.	No attempt was made
Construction	The deoxyribose sugars and phosphate group are in the correct location or are illustrated/written correctly (backbone). The nitrogen bases and hydrogen bonds are in the correct location (inside of the ladder) The nitrogen bases are correctly paired together or illustrated/written about correctly	The model, illustration, or art project mostly identifies the correct location of the backbone and inside of the ladder.	The model, illustration, or art project has some of the key parts labeled and identified.	The model, illustration, or art project has few of the key parts labeled and identified.	No attempt was made
Completion	The DNA project correctly displays/describes the structure of DNA in a double helix format with all essential aspects included.	The DNA project mostly displays/describes the structure of DNA in a double helix format with all essential aspects included.	The DNA project somewhat displays/describes the structure of DNA in a double helix format with all essential aspects included.	The DNA project does not correctly displays/describe the structure of DNA in a double helix format with all essential aspects included.	No attempt was made
Creativity	Project is neat and creatively displayed. Different structures are easily distinguishable and identifiable.	Project is neat but could have been creatively displayed	Project is neat and was not creatively displayed	Project is lacking neatness and creativity. There is no creative display.	No attempt was made

*Overall Grade will be out of 64 points. You can earn up to 4 points in each category for a total of 16. This score will then be multiplied by 4 for a total of 64 points.

Build Your Own DNA Model – In Class Project



Mission: You and your partner have just been commissioned by the National DNA Learning Center (NDLC) to construct your representation of the DNA molecule as a resource to educate visitors about DNA. This mission will be on Block Day Nov 5th and 6th. Your job is to construct one of the following for their display:

1. A three dimensional model using common household products (example:
2. A three dimensional painting or mural
3. A lyrical masterpiece (ie poem or song lyric)
4. A short graphic novel/flip book

There are a few requests made by the NDLC,

1. For the 3D Model:

Since this will be on display for years to come, in no way can a model be made out of perishable materials. This means, NO FOOD PRODUCTS! Secondly, the model must be constructed out of materials, of your choice, brought from home. I do have scissors, glue, markers, and colored pencils. Finally, a key must be provided labeling all parts of the model and what it represents. Your model should be an appropriate size for others to learn from. Some example materials would be:

- a.) Popsicle sticks
- b.) Beads
- c.) Pipe cleaners
- d.) Play-doh
- e.) Craft supplies
- f.) YOUR OWN IDEAS ARE BEST!

2. For the 3D Art project (painting, mural, etc.)

The art project must be in 3 dimensions and extremely creative, like it were to be placed in an art gallery. Each of the DNA parts must be clearly labeled on the project. You are responsible for bringing in your art supplies that you would like to be using.

3. Lyrical Masterpiece

Your poem or song lyrics must be a representation of how the DNA structure was formed. You must include the different parts of the structure as well as the key people involved in its discovery. Your poem or lyrics may not be turned in on a piece of paper only. It should be displayed as if it were in the musical hall of fame. Please bring all display supplies.

4. Graphic Novel/Comic Strip

This will be the story of DNA. Tell us how the DNA structure was discovered and by whom. Also, in your story you must include all key parts to the structure. The novel must be in color and displayed in a creative fashion. You are responsible for bringing any extra supplies you need to display this creatively.

*No matter which option you choose, you are responsible for including and labeling/identifying:

1. Phosphate
2. Sugar (deoxyribose)
3. Nitrogen bases
4. Adenine
5. Guanine
6. Cytosine
7. Thymine
8. Hydrogen Bond

DNA Essay Assignment

You are completing this assignment because you failed to bring the necessary supplies needed for the "Build Your Own DNA" Lab. Your essay assignment will be graded out of the same number of points as the In-Class Project (64 total points).

1. Essay Requirements: Format
 - A. Your Essay will be hand written in class, and typed up at home 12 font, double spaced and needs to be in a formal essay format. This includes an introduction, a body, and a conclusion. Also include a "works cited" page for your sources.
 - B. You MUST use at least 5 internet resources and 3 book resources.
2. Essay Prompt:
 - In your Essay, you are to cover all aspects of DNA including:
 - A. How DNA was discovered, the process used, and the story behind who really discovered it. Include important names and dates.
 - B. Details on the structure and function of DNA (i.e. what is it made of)
 - C. Why the discovery of DNA is so important
 - D. How the discovery of DNA plays a role in modern medical advancements (include examples of how DNA is used today (for example, DNA testing, Paternity Testing, Crime Scenes, Stem Cells etc...))
 - E. Finally, discuss how DNA technology affects our current society.

Due: Friday November 7th, 2014