

CELL MODEL PROJECT THE CELL-MAKE ONE FOR YOUR OWN

The purpose of this assignment is for you to get acquainted with the parts of the cell, their function and the 3-D look of the cell and its parts. You are to construct a cell with the following parts from materials that you have around your home, can get from friends, find outside, or make. Your cell is to have the following parts in it:

cell membrane (fats & proteins)	mitochondria
nucleus with pores in it	lysosomes
DNA (chromosomes)	Golgi bodies
endoplasmic reticulum	vacuole
ribosomes (at least 10)	cell wall
chloroplast	nucleolus

Please observe the following directions:

1. The cell is to be totally 3-D, no drawn or painted on parts.
2. Your name must be on the model, clearly visible.
3. It must be at least $\frac{1}{2}$ of a cell.
4. It should be able to stand on a table so it can be displayed.
5. There should be some approximate size relationships evident.
6. Draw a picture of your model, label the parts & include the functions. This labeled picture will be handed in with the evaluation.

Your cell is due _____ . (-10 if it is not graded this day)

MAKING THE CELL

This can be a very creative assignment. In past years, students have made 100% edible cells, 100% metal cells and even a cell from a hub cap. There have been clay cells and wood cells. The parts of the cell are a topic of creativity. You can use a piece of wire, string or pipe cleaner to stand for DNA. A vacuole could be made from a ball cut in half or a paper cup end. You need to include **only one** of each thing except for the ribosomes. Your cell has to be **accurate** and **realistic** structurally. It is OK to use strings or struts to hold parts in place in your cell model. Try to make them as inconspicuous as possible. Cell part functions will be included with your labeled picture.

It is best to begin working on this as soon as you can. **Do not wait until the last day!!**

GRADING

The cell is worth 120 points if you follow all of the directions. Anything that you do not have on the cell will cost you points. Grading will be on a negative system. Each student will start with the total number of points and we will subtract from there for mistakes.

BONUS POINTS

Those who have a cell in on time and earn at least 90% (108) on it are in the running for the following bonus points:

1. 5 points for the largest model of a cell (l + w + h)
2. 5 points for the smallest model (all parts to be 3-D) (l + w + h)
3. 5 points for the model voted the most creative and original by the class

*Developed by Bud Ellis
Addison High School*

CELL MODEL GRADING SHEET

THIS CELL BELONGS TO _____

In general, we will be grading on a negative system. All students who bring a cell in will have 100% of the points. Each mistake will be subtracted from the total resulting in a final grade.

In column **A**, check to make sure that part is actually there, 3 dimensional, with the specific feature indicated. If it is, then put a check mark. If there is a problem, then place -5 in the A column. Remember, nothing is to be drawn in or painted on in place of having a 3-D part.

In column **B**, check to make sure the part's function is included with the labeled picture. If the function is not included, or is wrong, place -5 in the B column. If OK, then put a check mark.

	A	B
1. cell membrane (fats & protein)		
2. nucleus with pores		
3. nucleolus		
4. DNA (chromosomes)		
5. endoplasmic reticulum		
6. ribosomes (10 of them)		
7. chloroplast		
8. mitochondria		
9. lysosome		
10. Golgi body		
11. vacuole		
12. cell wall		
TOTAL NEGATIVE POINTS		

Check for the following specifications. If not present or incorrect, then take off -5 points for each mistake. If OK, then put a check mark.

	C
13. at least 1/2 of a cell	
14. student's name clearly on the model	
15. relative size is OK of the parts	
16. model can sit on the table	
17. picture of your model with labeled parts (and functions if necessary) (if not, -10)	
18. graded in class on required day (if not, -10)	
TOTAL NEGATIVE POINTS	

Total negative points _____ + _____ + _____ = _____

Possible points 120

-- _____ negative points

FINAL GRADE _____

Graded by _____