

Name: _____

Cell Analogy Project

Objectives:

- Relate a working eukaryotic cell to a real world system
- Relate cell organelles and their functions to real world systems
- Produce a product that is neat, clear, and creative

Procedure:

- Each student will work independently
- Choose a real world working system and decide how each organelle of the eukaryotic cell can be compared to the components and functions of the real world system.
 - Examples:
 - School
 - Hospital
 - City
 - Mall
 - Restaurant
 - Etc...
- Neatly draw the real world system you are comparing the cell to. This must be on poster paper (***this will be provided for you***). It must be colored and show high effort.
 - Not artistic? Trace diagrams, make pictures of the computer... get creative!
- The cell organelle and the relation to the real world system image must both be labeled.
- On a separate sheet of paper, attached to the front or back of your poster paper, include a 3 column chart. This will include the organelle, the structure you are relating it to, and a sentence that explains the analogy.
- By the end of ***today*** you will tell me the real world system you will be comparing the cell to and whether you will use a plant or animal cell.

Organelles to be included:

1. Cell Membrane
2. Cytoplasm
3. Endoplasmic Reticulum
4. Golgi Complex
5. Lysosome
6. Mitochondria
7. Nucleus
8. Ribosome
9. Vacuole
- 10. Cell Wall (plant cells only)***
- 11. Chloroplasts (plant cells only)***

Example of 3 Column Chart

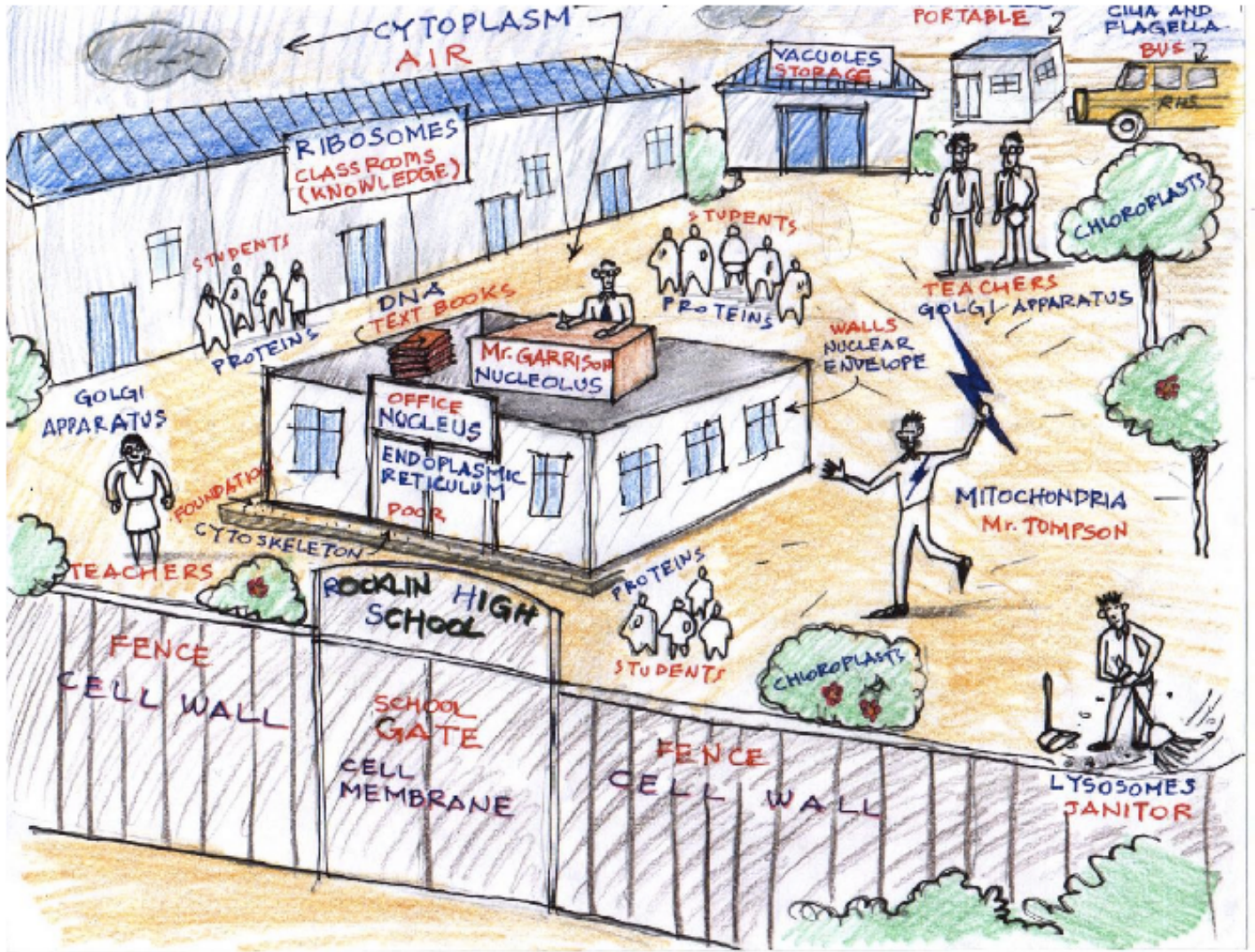
Real World System Analogy: Football Team (yours will include ***all*** organelles and you may not use this)

Cell Organelle	Analogous Structure	Explanation
Nucleus	Coach	The coach directs all of the activities and makes the plan for the game, the like nucleus directs all cell activities and contains all information
Cell Membrane	Sidelines of the Field	The sidelines of the field define what is in the field and what is out, the like cell membrane is the boundary between the inside and outside of the cell.

Name: _____

Cell Analogy Project

Example (you may not use)



Name: _____

Cell Analogy Project

Real World System Analogy: _____

Cell Organelle	Analogous Structure	Explanation
Cell Membrane		
Cytoplasm		
Endoplasmic Reticulum		
Golgi Complex		
Lysosome		
Mitochondria		
Nucleus		
Ribosome		
Vacuole		
Cell Wall (plant cell only)		
Chloroplast (plant cell only)		

Name: _____

Cell Analogy Project

Name: _____

Cell Analogy Project

Real World System Analogy: _____

Cell Analogy Project Rubric

	4 Points	3 Points	2 Points	1 Point	0 Points	Total Points
Analogy	Accurate analogy explained clearly	Analogy stated clearly but is not accurate or partially accurate	Analogy is unclear or has many inaccuracies	Analogy does not fit the cell	No analogy	
Organelles	All organelles on chart are labeled on drawing and have appropriate analogy	1-2 organelles missing functions or good analogy.	3-4 organelles missing functions or good analogy.	Over 4 organelles missing or missing function.	No organelles	
Aesthetics and Illustrations	Main analogy and each organelle analogy illustrated/labeled colorful and neatly done	1-2 organelles missing analogy pictures/labels or pictures not visible/neat	3-4 organelles missing analogy pictures/labels or the picture is not visible/neat. Some disorganization	Over 4 organelles missing analogy pictures/labels or pictures not visible/neat. disorganized	No illustrations, very disorganized, not neat	
Creativity	Original idea, excellent application	Unoriginal idea with a new perspective or twist	Unoriginal idea – some effort was made	Unoriginal Idea, little effort displayed	No creativity or effort apparent	
						_____ x3= _____/48