Dear Student,

I am pleased to inform you that I have chosen your firm to design a location in my new Megalopolis city. As you know, I have always been fascinated by the biology of cells. Therefore, I have decided to model my new city after the structure of a cell.

Your job is to design a building that will be present in my new city. Some examples are: a factory, a school, an amusement park, sports stadium, etc. Each part of the location will need to function like a cell! I have faith in your firm's ability to complete this project.

Decide: Will your location work like a Plant cell or an Animal cell?

- 1. Please present your product to me either in a well-constructed drawing OR a 3-D model. Include a title with your name.
- 2. Choose: Which part of my city are you going to design? All locations have to have a specific purpose. For example: a factory makes shoes (you cannot use my example). (NOTE: Nothing with peanuts)
- 3. Include at least 6 cellular organelles or parts that would have a *similar* function in a building or location.

location.		
4. Lastly, please be sure to label each cell compo	onent AND its building or location component.	
***Be sure to use the phrase, "The	(cell part) is like the	_
(location/factory part) because		•
Sincerely,		
Mr. Brennan & Mrs. Reese		

^{*} Fill in the chart below, keeping in mind that each part of a cell is compared to a part of a building or location.

Building/location component	Function
	Building/location component

1. How might the blueprints for a building or location be compared to the DNA in cells?				
2. Would it be more advantageous for a building or location to work like an animal cell or a plant cell? Decide which one with two supporting reasons.				

Answer the following questions *in complete sentences* and turn in with your factory.

3. What would happen if an organelle went on strike? Choose an organelle to go on strike a provide three specific outcomes in the cell due to the organelle going on strike.					

Name:

Cellular Structure Performance Task Rubric

Category	4	3	2	1-0
Representation of Cell Structures as Factory/City Structures in the model	All 6 structure/ factory functions are accurate	At least 5 are accurate	At least 4 are accurate	3 or less are accurate
Labels - Description of cell and location function	6-5 parts are accurately labeled with description of cell and location function	4-3 parts are accurately labeled with description of cell and location function	2-1parts are accurately labeled with description of cell and location function	0 parts are accurately labeled with description of cell and location function
How might the blueprints for a building or location be compared to a DNA in cells?	Student explains: The purpose of a blueprint is to determine the structure and function of a building or location. The purpose of DNA is to determine the structure and function of a cell.	Student explains ONLY: The structure OR function of a blueprint and DNA, they do not explain both.	Student only explains the purpose of a blueprint OR the purpose of DNA.	Student does not accurately answer the question correctly
Would it be more advantageous for a building or location to work like an animal cell or a plant cell? Decide which one and give two supporting reasons.	Student explains: Which type of cell would be more advantageous and includes 2, accurate supporting reasons.	Student explains: Which type of cell would be more advantageous and includes only 1 accurate, supporting reason.	Student explains: Which type of cell would be more advantageous and includes 1-2 inaccurate reasons.	Student explains: Which type of cell would function better but does not provide supporting reasons.
What would happen if an organelle went on strike?	Student chooses an organelle to go on strike and provides 3 outcomes to the cell.	Student chooses an organelle to go on strike and provides 2 outcomes to the cell.	Student chooses an organelle to go on strike and provides 1 outcome to the cell.	Student does or does not choose an organelle to go on strike but does NOT provide any outcomes to the cell.