

Name: _____

Period: _____ Date: _____

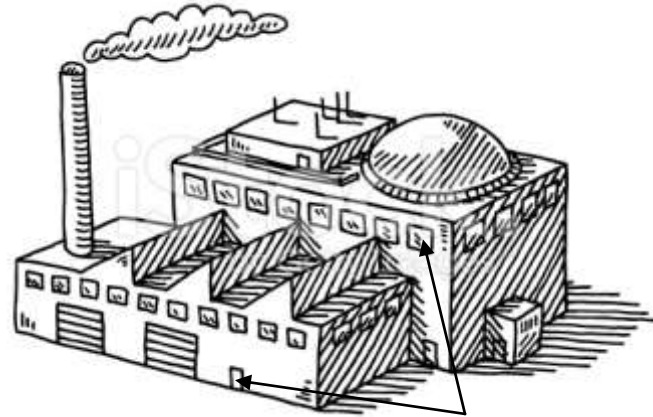
Project: Cell as a Factory

Purpose: The purpose of this activity is to better understand the job of each cell part (**organelle**) within eukaryotic cells. To do this, we are going to compare a cell to parts of a factory.

Directions:

1. Fill out the table and include:

- The job/function of every cell part (use your notes)
- A part of your factory that the cell part is similar to (**analogy**)
- An explanation of why you think the cell part is similar to the part of your factory (explain your reasoning).



Doors & Windows (cell membrane)

2. Decide if you would like your factory to be similar to an animal cell or a plant cell. (Fill in the blank below)

3. Pick 9 (nine) cell parts that you are going to draw as part of your factory.

- If your factory is to be like an animal cell, pick lysosome and cytoskeleton.
- If your factory is to be like a plant cell, pick cell wall and chloroplast.

3. Draw and label your factory (on a separate sheet on paper).

For each part you must label what it is AND label the cell part it represents. For example, if you think the door of your factory is the cell membrane, you would label like in the picture above.

4. Color your project (keep things as neat as possible).

Grading:

This project will have two parts: filling in the table below (50 points) and an illustration of your factory (50 points). See the directions below the table for how to complete your drawing.

- Draw your factory & each of the 8 factory structures that you chose to represent organelles. (16 points)
- Draw the doors and windows of the factory that represent the cell membrane. (2 points)
- **Label** each structure with the **factory part THEN write the organelle it represents in parentheses**. Refer to the example above. (18 points)
- Your drawing should be **neat**. (5 points)
- Your drawing should be in **color**. (5 points)

This project is worth a lab grade!

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Cell Factory represents a(n) _____ cell. (2 points)

Organelle	What's its job?	Factory Part	Explanation of Your Analogy
Ribosome			
Cell Membrane	Protects the cell and lets substances in and out	The walls, doors, and windows of the factory building	The walls protect the equipment inside the building and the doors and windows let things in and out
Chloroplast <i>(only plant cell)</i>			
Nucleus			
Mitochondria			
Endoplasmic Reticulum			
Golgi Body			

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Organelle	What's its job?	Factory Part	Explanation of Your Analogy
Cell Wall <i>(only plant cell)</i>			
Vacuole <i>(only plant cell)</i>			
Lysosome <i>(only animal cell)</i>			
Cytoskeleton <i>(only animal cell)</i>			

Make sure to turn in this sheet, with the table completed, and staple it to your factory drawing.

Grading:

- Animal or plant cell? _____ / 2 points.
- Completed Table _____ / 50 points.
- Drawing of the 8 factory structures that you chose to represent organelles _____ / 18 points.
- Doors and windows of the factory that represent the cell membrane _____ / 2 points.
- **Each structure is labelled** properly _____ / 18 points.
- Drawing is **neat** _____ / 5 points.
- Drawing is **in color** _____ / 5 points.

FINAL GRADE: _____