



# Cell Theory, Structure and Transport

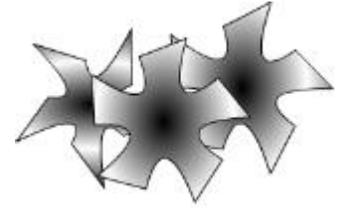
Name: \_\_\_\_\_

Period: \_\_\_\_\_

## Cell Analogy Project - Travel Brochure

Start thinking analogies...

**Cell City Analogy :** In a faraway city called Cookie City, the main export and production product is the steel widget. Everyone in the town has something to do with steel widget making and the entire town is designed to build and export widgets. The town hall has the instructions for widget making, widgets come in all shapes and sizes and any citizen of Cookie can get the instructions and begin making their own widgets. Widgets are generally produced in small shops around the city, these small shops can be built by the builder's union (whose headquarters are in town hall).



After the widget is constructed, they are placed on special carts which can deliver the widget anywhere in the city. In order for a widget to be exported, the carts take the widget to the postal office, where the widgets are packaged and labeled for export. Sometimes widgets don't turn out right, and the "rejects" are sent to the scrap yard where they are broken down for parts or destroyed altogether. The town powers the widget shops and carts from a nuclear power plant that is in the city. The entire city is enclosed by a large wooden fence, only the postal trucks (and citizens with proper passports) are allowed outside the city.

Match the parts of the city (underlined) with the parts of the cell.

- |                                |                        |
|--------------------------------|------------------------|
| 1. Mitochondria _____          | 6. Protein _____       |
| 2. Ribosomes _____             | 7. Cell Membrane _____ |
| 3. Nucleus _____               | 8. Lysosomes _____     |
| 4. Endoplasmic Reticulum _____ | 9. Nucleolus _____     |
| 5. Golgi Apparatus _____       |                        |

### Project Reminder!

1. include typed labels for all organelles?    2. include a legend of analogies matching your model?    3. cite all sources?

#### Plant Cell Checklist

- |                     |                       |                 |
|---------------------|-----------------------|-----------------|
| _____ Cell Membrane | _____ Nucleus         | _____ Cytoplasm |
| _____ Mitochondria  | _____ Golgi body      | _____ Smooth ER |
| _____ Rough ER      | _____ Ribosome        | _____ Cell Wall |
| _____ Chloroplast   | _____ Central Vacuole | _____ Lysosome  |
| _____ Nucleolus     |                       |                 |

#### Animal Cell Checklist

- |                     |                  |                 |
|---------------------|------------------|-----------------|
| _____ Cell Membrane | _____ Nucleus    | _____ Cytoplasm |
| _____ Mitochondria  | _____ Golgi body | _____ Smooth ER |
| _____ Rough ER      | _____ Ribosome   | _____ Lysosome  |
| _____ Cytoskeleton  | _____ Cilia      | _____ Centriole |
| _____ Nucleolus     |                  |                 |



# Cell Theory, Structure and Transport

Name: \_\_\_\_\_ Period: \_\_\_\_\_

## Visiting the Cell – Travel Brochure

You will be designing a Travel Brochure that describes a cell as if it were a real life attraction.

\*Think of attractions like: amusement parks, ball parks, zoos, farms, malls, etc., there are certainly more possibilities than this.

**The Task:** Accurately describe/paste/draw/explain the **12 organelles** (attractions) in the table below and justify how they have represented their functions.

Plant Cell	Animal Cell
Cell Membrane	Cell Membrane
Nucleus	Nucleus
Cytoplasm	Cytoplasm
Mitochondria	Mitochondria
Golgi Body	Golgi Body
Endoplasmic Reticulum (smooth and rough)	Endoplasmic Reticulum (smooth and rough)
Ribosome	Ribosome
Cell Wall	Lysosome
Chloroplast	Cytoskeleton
Central Vacuole	Cilia
Lysosome	Centriole

### The Requirements:

1. Front cover includes student name, date, class period, as well as the attraction that is being used (i.e. amusement park, mall, etc.)
2. Brochure includes the 12 specified organelles and their corresponding functions.
3. An organelle picture and a 'real-world' attraction picture should be included for each organelle.

### -Possible entry for a sample organelle-

	<p>The Golgi packages secretions. Be sure to visit the Golgi center inside the gift shop, and have your purchases gift wrapped for you</p>	
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4. Must be in a brochure-like format. Please do not turn in random pages stapled together – be creative!
5. Make sure you have a good justification as to why you have represented your organelles in the manner you have in your brochure.

### Grading Rubric

Characteristic	Total
Includes the 12 required organelles with picture representation (2 pts each)	/24 points
Function for each organelle (4 pts each organelle)	/48 points
Justified 'real-world' attraction entry with picture for each organelle (3 pts each)	/36 points
	<b>/108points</b>
Total Percentage	%