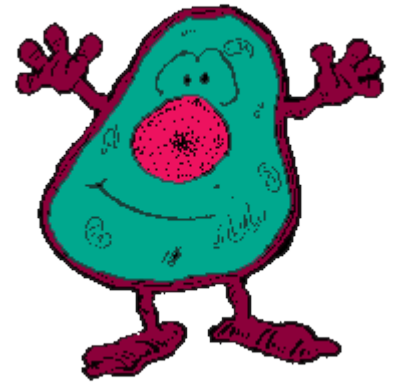


# Cell Analogy Project



## Objectives:

- ✓ Relate cell organelles and their functions to real world systems.
- ✓ Illustrate the systems of a working cell in terms of the systems of the real world.
- ✓ Produce a product that is neat, clear & creative.

## Procedure:

- ✓ Students will work with a team of 4-5 students
- ✓ Choose a real world working system & decide how each organelle can be compared to the components and functions of the real world system. Some ideas of real world systems are...

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- ✓ Illustrate the real world system and the cell you are comparing it to. This must be on poster paper (will be provided for you), and neatly drawn by your team. It must be colored and show very high effort. Not artistic? Trace diagrams, make pictures on the computer...get creative!
- ✓ The cell image AND real world system images both must be labeled.
- ✓ On a separate sheet, create a three column chart that includes the organelle, the analogous structure, and 1-2 sentences that explains the analogy. Make sure you have all the organelles.
  - Example of a 3 column chart

Cell Organelle	Analogous Structure	Explanation
Nucleus	Coach	The coach directs all of the activities & makes the plan for the game...like the 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...like the cell membrane is the boundary between the inside and outside of the cell.

Name \_\_\_\_\_ Due: **Wed. 02/24/16** Period \_\_\_\_\_

## Cell Analogy Project Rubric

We are comparing an animal / plant cell (circle one) to:

\_\_\_\_\_

### Mandatory Organelles:

Nucleus, cell membrane, vacuole(s), mitochondria, cytoplasm, Golgi body, endoplasmic reticulum, ribosomes, cell wall (if plant), chloroplasts, (if plant)

### Optional Organelles: 1 pt. extra credit each

Lysosomes, nucleolus, nuclear envelope, chromatin, cytoskeleton

	<b>4 points</b> <i>Excellent</i>	<b>3 points</b> <i>Good</i>	<b>2 points</b> <i>Needs work</i>	<b>1 point</b> <i>Needs much work</i>
<b>Poster Title</b> <i>Ex. A cell is like a city.</i>	Large, clear, obvious.	Title is clear	Title is a little confusing	Title is unclear or unrelated to project
<b>Labeled Poster of System and Organelles</b> <i>Ex. See examples shown in class</i>	All parts of system & all organelles clearly labeled	Most parts of the system and organelles labeled	1-2 parts of the system and/or organelles missing	3 or more parts of the system and/or organelles missing
<b>Explanation</b> <i>Ex. Nucleus is like city hall because...</i>	Explanations of what the organelle is compared to are logical, clear.	Explanations of what the organelle is compared are mostly logical, and clear.	Explanations of what the organelle is compared are somewhat logical, and clear, but not all.	Missing organelles and/or many of the analogies are not logical or are unclear.
<b>Neatness and Creativity</b>	Entire poster is neat, colorful and creative. Entire team took part in creating final product.	Poster is mostly neat and creative. Most all members of team took part in creating final product.	Poster is somewhat neat or creative. Could have taken more time on final product. About half of team took part in creating final product.	Poster is messy and/or uncreative. Lack of effort greatly shows. Majority to team did NOT take part in creating final product.
<b>Self/Team-Score</b>	4	3	2	1
<b>Self/Team Reflection</b>				
<b>Teacher Score</b>	4	3	2	1
<b>Teacher Comments</b>				

**Final Grade:** \_\_\_\_\_/32 (an average of a groups "team scores" will be taken; this has to be an HONEST reflection of the effort and work of the team)