

CELL PROJECT

The purpose of this project is to show your knowledge of cell structures and their functions. Each organelle must be included with the correct jobs explained. **This assignment is due Monday, November 20th.**

You will need to choose one of the following project options:

- 1) **CELL MODEL:** You could construct a model of either a **plant cell** or an **animal cell**. Cells could be made of edible materials, or clay, metals, wood, cloth, yarn, etc. The cell is to be 3-dimensional and the model organelles should be made similar in appearance to true organelles. You must include a key to the model with the function of each organelle. Remember plant cells have two extra structures!
- 2) **CELL POSTER:** You could draw a quality "classroom wall worthy" visual aid of a cell. It could be of either a **plant cell** or an **animal cell**. The poster would need to include ALL correct organelles and an explanation of the functions of each organelle. Must be colorful and completed in ink (not pencil).
- 3) **CHILDREN'S BOOK:** You would create a children's book for a child to "meet a cell." The book would be designed for elementary school children and would need to teach the organelles and their functions. There are many creative ways to do this ... through a "meet the cell" story, through a "diary of a wimpy cell" story, or even an A-Z simplified encyclopedia. Be sure to include ALL organelles with functions and what they look like (picture or description). Teach a lesson but have fun at the same time.
- 4) **NEWSPAPER "HELP WANTED" ADS:** Combine and apply knowledge of cell parts and functions to create "help wanted" advertisements for a cell newspaper. You will model the ad after real help wanted ads. Include qualifications, list responsibilities for the organelle, list of benefits in doing the job, etc. based on what cells need and what the cell parts do! Be sure to list the names of the organelles within the ads along with the jobs. All organelles must be included!
- 5) **CELL-fie PHOTO ALBUM:** You will need to create cards for each organelle WITH the function and then head out around town taking selfies of you with the organelle card with the place in the background that also does the same job as the organelle. You will then need to put these selfies into a photo album (digital photo album or old fashioned prints). Include a close up shot of the card you created for the organelles in the photo album.
- 6) **OTHER IDEAS:** Maybe you are a technologically gifted individual. So come up with a PowerPoint, a Moodle, a video or song (what does the cell say?), a Prezi, or some other computer whiz project. You will include the functions AND structures of ALL organelles in the project since the purpose is to show your knowledge of structures and functions.

All cell structures and correct functions must be included for a PROFICIENT grade. To achieve ADVANCED on this project you will need to make comparisons of ALL the cell organelles to the real world (analogy style). Do not add organelles (you will likely discover more organelles than what we are discussing during our science class). ONLY INCLUDE THE ORGANELLES FROM THE CHECKLIST. More is NOT better and does not illustrate better understanding. Analogies show that! **ALL projects need to be neatly done in ink or typed and with color where appropriate (no pencil).**

This cell project will assess 3 standards: SEP (modeling to illustrate scientific concepts); Molecules to Organisms: Structures and Processes; and Work Ethic.

STRUCTURES AND FUNCTIONS:

cell membrane	Y	N	cytoplasm	Y	N
nucleus	Y	N	mitochondrion	Y	N
chromosomes (chromatin)	Y	N	Golgi bodies	Y	N
endoplasmic reticulum	Y	N	lysosome	Y	N
ribosomes (at least 10)	Y	N	vacuole or vesicle	Y	N
cell wall (<i>plant cells only</i>)	Y	N	chloroplast (<i>plant cells only</i>)	Y	N

Analogy comparisons to the real world

Y Advanced

N Proficient