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 *Thursday*, *November 21*st.

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 organelles and an explanation of the functions of each organelle. Must be colorful and completed in ink (not pencil).
- 3) **CELL DIARY**: You could write a diary for "a day in the life of a cell..." in which you would teach about the functions of the organelles within a cell. You could be a cell organelle and discuss who you interact with, what you observe, and what you feel. Be sure to include all organelles in your day! You need to be informative as well as creative!
- 4) 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 stories, through pictures, or like a simplified encyclopedia. Be sure to include all organelles. The object would be to teach a lesson but have fun at the same time.
- 5) **NEWSPAPER "HELP WANTED" ADS:** Combine and apply knowledge of cell parts and functions to create "help wanted" advertisements for a cell newspaper. You would model the ad after real help wanted ads. Include qualifications, list responsibilities, list of benefits, 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.
- 6) **OTHER IDEAS**: Maybe you are a technologically gifted individual. So come up with a powerpoint, a moodle, a video (what does the cell say?), a prezi or some other computer whiz project (can you say iPad?). You still need to include the functions AND structures in the project.

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). ALL projects need to be neatly done in ink or typed and with color where appropriate.

STRUCTURES AND FUNCTIONS:

| STRUCTURES AND TURCTIONS | <u> </u> | | | | |
|---------------------------------------|----------|---|---|---|---|
| cell membrane | Y | N | cytoplasm | Υ | Ν |
| nucleus | Υ | N | mitochondrion | Υ | Ν |
| nuclear membrane | Υ | N | Golgi bodies | Υ | Ν |
| nucleolus | Υ | N | lysosome | Υ | Ν |
| chromosomes (chromatin) | Υ | N | ribosomes (at least 10 for a model) | Υ | Ν |
| endoplasmic reticulum | Υ | N | vacuole or vesicle | Υ | Ν |
| cell wall (<i>plant cells only</i>) | Υ | N | chloroplast (<i>plant cells only</i>) | Υ | N |

ADVANCED: made analogy comparisons to the real world