

CELL PROJECT

The cell is vitally important to all living things. Please complete ONE of the following four projects to reinforce our study of the cell structure and function. Be prepared to describe your work to the class on the day the project is due. Project due: Friday, September 30th, 2016

REQUIRED ORGANELLES:

cell membrane	cell wall	cytoplasm
mitochondrion	ribosome	smooth endoplasmic reticulum
lysosome	rough endoplasmic reticulum	
chloroplast	nucleus	flagellum or cilia
Golgi apparatus	vacuole	

REQUIRED PROCESSES:

osmosis, diffusion, cellular respiration, photosynthesis, active transport, and passive transport (as they apply to the cell)

OPTION ONE:

Cell Analogies Collage

Webster defines analogy: "A comparison between two things which are similar in some respects, but otherwise are different; an explaining of something by comparing it point by point with something else."

For this project, you will need: poster paper; text with illustration of cell structures to refer to; scissors; paste; drawing pencils or pens; magazines and/or newspaper ad sections.

Step 1: Draw a plant or animal cell in pencil in the center of the poster board. Include the following structures (if you are drawing a plant cell, only include structures that are found in plant cells; if you are drawing an animal cell, only include structures that are found in animal cells):

Step 2:

Correctly identify your cell as a plant cell or an animal cell.

Step 3:

Find out the function (or main job) each structure has in the cell.

Step 4:

Find a magazine or newspaper picture of an everyday object that has a similar function (or use) as each cell structure (you may also draw the everyday object if you can't find a picture). Write an analogy to show the similarity between the cell part and the everyday object. Be sure to explain the reasoning behind your analogies. (For example: "The Golgi apparatus is like a post office because it modifies, sorts and packages protein for delivery like a post office packages and sorts mail for delivery.")

Step 5:

Paste the pictures of everyday objects at the edges of the poster board. Label the pictures with your neatly written analogies and make a pointer to the correct structure in your cell drawing.

Step 6:

Be certain that there are at least 11 analogies.

Step 7: Identify the organelles that are involved in the process of osmosis, diffusion, cellular respiration, photosynthesis, active transport, and passive transport as they apply to the cell.

OTHER OPTIONS CONTINUE ON THE NEXT PAGE.

OPTION TWO: 3-D Model of a Plant or Animal Cell

Make a three dimensional model of a plant or animal cell. Identify the type of cell (plant or animal). Include all the appropriate organelles listed in Option 1 that are appropriate for your type of cell. Use whatever materials you like (Styrofoam, wood, clay, etc.) Be creative!!! The cell must be at least 20 centimeters wide and long. Again, it must contain the appropriate organelles and the organelles should be identified with their functions listed; either directly on the model or typed on a separate piece of paper. Location of all cell processes should be identified. (See your class notes, the internet, or the textbook for information on organelles.)

OPTION THREE: Design and Create a T-Shirt With a Picture of the Cell.

Design and create a T-shirt with a picture of a cell on it. Identify the type of cell (plant or animal). Include the appropriate organelles as listed above Option 1 and label each directly on the shirt with the functions listed either on the front or back of the shirt. Location of all cell processes should be identified. Use fabric paints, puff paints, scraps of fabric, beads, ribbon, or anything else you would like. You may not find a picture of the cell on the internet and use iron-on paper to attach it to a t-shirt; it must be designed by you! Be creative! (See your class notes, the internet, or the text book for information on organelles.)

OPTION FOUR: Cell Story Book Project

Create a story book about a cell of your choice with the appropriate organelles and functions along with the processes listed in Option 1. Your targeted audience for the book is 2nd – 4th graders. Your book must have a well-designed front and back cover, a catch title, and an About the Author section on the back cover.

RUBRIC:

Depicted appropriate organelles for the cell chosen (3pts.each)	30points
Correctly described the function of each structure (3pts. each)	30 points
Identify the specific organelles involved in cell processes (2pts. each)	10 points
Organization and neatness	15 points
Creativity	5 points
Spelling (2 points per misspelled word – up to 10 pts).	10 points

TOTAL GRADE: _____

**For 5 bonus points, have your parent sign that they have seen your project and approve that it is ready to be turned in for a grade:

Parent Signature: _____