

CELL PROJECT

Pre-AP Biology

Due date: 8:20am on _____

Counts as a TEST grade

You are required to make a 3-D model of a plant or animal cell. You should try to make your cell model look like the pictures we have seen in class and are in your book. Use your book and other resources to help you design the cell organelles. You may choose either an animal cell or a plant cell, but do not do both. This project should not be expensive. You may use things you find around home and school to make the cell; you may also use things you find at craft and hobby stores. Color of the organelles does not matter (except for chloroplasts, which should be green). Make sure you remember the shape of animal and plant cells. (plants cells are what shape?). NO FOOD MAY BE USED IN THE PROJECT!!!! The only exception is dry pasta.

Make sure to label the parts of the cell and include a key that lists each cell organelle/part and its function. The cell should have letters or numbers on each organelle that correspond to the key. You should not put the full name of the organelle directly on the cell model, just put a letter or number and then match it to the key. Please make sure your letters or numbers are listed in order on the key.

You will be graded in the following categories:

- Label for type of cell (animal or plant) – should be on your key (and cell if you want)
- all parts of the cell present
- organelle looks realistic (make them look like what we drew in class or what's in your book)
- correct labeling (key corresponds to organelle)
- Key of functions of organelles
- Neatness/creativity

Parts of the cell that need to be included in **both** animal cells and plant cells:

cell membrane	food vacuole	nucleus
cytoplasm/cytosol	mitochondrion	nuclear pore
nucleolus	golgi	nuclear membrane
DNA (chromatin)		Rough Endoplasmic Reticulum
ribosome (on Rough ER and free floating)		Smooth Endoplasmic Reticulum

Animal cells must include organelles from the 1st list AND the following:

centrioles	cytoskeleton
lysosome	flagella or cilia

Plant cells must include organelles from the 1st list AND the following:

cell wall	central vacuole	contractile vacuole	chloroplast
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CELL PROJECT Rubric

- 1) Type of cell labeled (5 points)
- 2) All parts of the cell present (30 points)

Parts of the cell that need to be included in both animal cells and plant cells:

cell membrane	golgi
cytoplasm	mitochondrion
nucleus	food vacuole
nucleolus	ribosome
DNA (chromatin)	Smooth Endoplasmic Reticulum
nuclear membrane	Rough Endoplasmic Reticulum
nuclear pore	

Animal cells must include:

centrioles
flagella or cilia
cytoskeleton
lysosome

Plant cells must include:

cell wall
chloroplasts
central vacuole
contractile vacuole

- 3) Information about functions of organelles on key (30 points)
- 4) Correct labeling (10 points)
- 5) Organelles look realistic (10 points)
- 6) Neatness/Creativity (15 points)

Key:

The key should be in the following format (TYPED):

Label (A, B, C or 1, 2, 3)	Name of Organelle	Function of Organelle
A	Nucleus	(function of nucleus here)
B		
C		
