Name: Class:
Team Sterling Grade:

Construct a Cell Model

Overview: You and 2 other students will construct a plant or animal cell model. The model should include organelles that are unique to either type of cell. The models are required to accurately represent the following cell organelles below:

- Cell membrane
- Nucleus
- Cytoplasm
- Mitochondria
- Rough Endoplasmic Reticulum (Rough ER)
- Smooth Endoplasmic Reticulum (Smooth ER)
- Vacuole
- Cell Wall
- Chloroplasts

Furthermore, each group member should be able to describe and teach the function for each cell organelle to others (as if you're presenting to a 5th grade student)
To exceed the standard include:

- Ribosomes
- Golgi Bodies
- Lysosomes
- Nuclear Envelope

Additionally, your model may be a plant cell OR an animal cell. Be sure to include organelles that are found only in your type of cell.

Timeline (tentative based on student needs):
Day 1 (10/27/22): Build and construct knowledge using resource list below and the graphic organizer to learn about the different cell organelles.
Day 2 (10/38/22): Build and construct knowledge using resource list below; When the graphic organizer is complete, your group may begin constructing model.
Day 3 (10/31/22): Construct and Complete Model; Peer review another group
Day 4 (11/1/22): Present to class and decide upon 2 to keep as exemplars for following discussions about cells.

Advice: Keep it simple! Building an accurate cell model from household materials is just as effective as building a cell from store bought materials. Choose your partners wisely! Decide on a decision-making process (e.g. democratic, etc.) as a group. Divide tasks so that everyone is included and can contribute. Decide what materials you may need and how you will get them.

Resources:
1. Life Science Text Book 60-67
2. The internet: www.cellsalive.com
3. The library (in the science class and in MMS)
4. Other?

Name: Class:

Construct a Cell Model

Partners:

1.

2.

Model Cell Type: List if your group is doing a plant cell or an animal cell below.

Cell Model Planning Organizer

What Needs to Be Done?	By Whom?	Date/Time	What resources will (did) you use?	What is your evidence of successfully completing this task?

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Cell Model Checklist

	Yes	No
1) Is the model a plant or an animal cell?	____	____
2) Did the group include all of the required cell organelles?	____	____
3) Does the plant or animal cell correctly model organelles unique to that cell type? (ie. Plant cells shown squared shape, chloroplasts, etc.)	____	____
4) Can each student accurately describe the function of the cell organelles? ____		
5) Did group members finish the project by the deadline (day 4)?	____	____
6) Did group meet required data for exceeding the standard?	____	____

Reflections

How did the transferable skills (1. Clear and Effective Communication, 2. Self-Direction, 3. Creative and Practical Problem Solving, 4. Responsible and Involved Citizenship & 5. Informed and Integrative Thinking) come into play during this process?

What were your thrively strengths from the online survey? How did your thrively strengths come into play?

Evaluate your contribution to the group using specific evidence:

Building a Cell Model

Name: **Class:**

CATEGORY	**4**	**3**	**2**	**1**
Cell Structures	Student group included all of the required cell structures AND included structures beyond what was required.	Student group included all the required cell structures (organelles.) - Cell Membrane - Cell Wall (plant) - Cytoplasm - Nucleus - Smooth and Rough endoplasmic reticulum. - Mitochondria - Chloroplasts (plant) - Vacuole	Student group is missing 1 or 2 cell structure requirements.	Student group is missing more than 2 cell structure requirements.
Cell Functions	Student can describe the function for all required cell structures	Student can describe the function for all required cell structures.	Student can describe the function for most of the cell organelles.	Student can describe the function for some of the cell organelles.
Model		Model cell accurately depicts an animal or plant cell.	Model partially depicts an animal or a plant cell	Model does not accurately depict an animal or plant cell.
Meeting Deadlines		Student group met project deadline on time.	Student group met project deadline within a day.	Student group did not complete project or did not make deadline within 2 days.
Collaborate as needed to advance learning	I can support others to advance their learning during times of collaboration and meet all the criteria for a level 3.	I can use collaboration to exchange ideas, using others to advance my learning with reasoning and evidence.	I can Initiate collaboration to advance my learning.	I can Identify situations when collaboration would advance my learning.