Edible Cell Lesson Plan

Teacher

School

Date

SLE #: LS.2.5.4: Model & identify the parts of animal cells and plant cells: cell wall, cell membrane, nucleus, cytoplasm, chloroplast

Objectives:
Content: I will be able to model the parts of animal cells and plant cells. I will be able to identify the parts of animal cells and plant cells.
Language: I will be able to use the vocabulary words correctly when diagramming animal and plant cells.

Assessment: The teacher will be able to assess students throughout the activity on their participation and will also be able to assess their learning through the students’ completed activity sheet.

Technology/Materials: paper plate, plastic knife/spoon, vanilla frosting, chocolate chip cookies, graham crackers, assorted candies (mini gummy bears, M&M's, Skittles, Twizzlers, etc), activity sheet

NOTE: Find the cheapest candy that would work. If you buy name brand, it’s expensive!

Vocabulary: animal cell, plant cell, organelle, cell wall, cell membrane, nucleus, cytoplasm, chloroplast

Bloom’s: □ Remembering □ Understanding □ Applying □ Analyzing □ Evaluation □ Creating

Questions: Describe the difference between an animal cell and a plant cell. What are some ways to distinguish between a plant cell and an animal cell? What parts would be present in a plant cell that would not be present in an animal cell? If you were to have to model each of the cells using the candy provided, which would you use for each part of the cell and why?


Instructional Strategies:
Set: Activate prior knowledge by asking questions from above. Then, on a piece of large paper (butcher or chart) draw a cell and label it “Animal cell”. Ask the students to name some parts of the cell that would need to be placed in the cell and also ask where they would need to be positioned. A great way to do this would be to have students write the parts on sticky notes and then come up to the paper and stick them onto the paper.

NOTE: Most students will have the misconception that the nucleus must go in the exact center of the cells. They also have the misconception that animal cells are perfectly circular and plant cells are rectangles. However, for this activity, we are using circular and rectangular cookies as the backing for the cell since the cells do tend to be similar to those shapes.

After diagramming the animal cell, move on to the plant cell making sure to emphasize the vocabulary words as they are used by the students. Once you have completed both cells, inform the students that today they will be creating their own edible animal cells.

Model: To begin, pass out the student activity sheets for the Animal Cell. Explain that during the activity, no one can eat anything (candy or cookies) until they are instructed to do so by the teacher. Take one Chips-Ahoy (or similar) cookie to show the students. Model how to use the frosting to create a backdrop to add cell parts to. (You will not need a lot of frosting as this will make it more difficult to fit items on the cookie.) Begin to place the candy or other items you have chosen to your cell.

HINT: Having students assign candy or items to specific cell parts the previous day would be
beneficial. This way, all the students' cell models will have the same candy representing the same cell part (ie Skittle = nucleus) You may elect to allow students to choose their own representations and then draw a key to help you during grading. Some suggestions for which candy to use are at the end of the lesson plan.

**Guided Practice/Strategies:**  See above. You will need to walk around and help facilitate during the activity. Redirect students and remodel as needed.

**Intervention Strategies:**  Redirection and remodeling as needed.
**Accommodations & Modifications (IEPs)** Allow students to work in pairs or only represent specific cell parts.

**Independent Practice/Activities:**  Allow students to work on their models. When they have completed their models, they will need to then sketch them onto the activity sheet and label their sketches. They will then need to complete the rest of the activity sheet filling in what candy they used for which part and what the function of each cell part is. When completed, they will place animal cell into a baggie with their name on it for the next day.

For Day Two:  Follow same steps except that they will be modeling a plant cell instead of an animal cell. When they have completed the animal cell, allow students to compare their animal and plant cells and then create a T-Chart or Venn Diagram (or other graphic organizer) to show similarities and differences between plant and animal cells. When they have completed that, the teacher has the option of allowing the students to eat their models.

**Enrichment Activities:**  Allow students to use other candies to represent parts of cell not specifically addressed through this activity.

**Closure:**  Have students write about what worked in the activity and also what did not work. Have them write about what they would do differently the next time and how using the candy could help them remember the parts of the cells.

**Homework:** NA

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**Cell Parts and what you could use!**

Cytoplasm- vanilla frosting  
Mitochondrion- raisons or mini gummy bear  
Nucleus- Skittle  
Cell Membrane- Twizzler Pull and Peel  
Vacuoles- Nerds or sprinkles

**Optional Parts**  
Nucleolus- Red hot on top of Skittle  
Rough Endoplasmic Reticulum- Sour gummy worms  
Smooth Endoplasmic Reticulum- Regular gummy worms  
Golgi apparatus- Mike and Ikes

**Plant Cell Only**  
Cell Wall- Regular Twizzlers  
Chloroplast- Green Mike and Ikes, Green Jelly Beans, or use green Skittles

These are merely suggestions and can be altered to fit the class.
When you buy the materials, you will not need to buy too much.
If you have 2 classes:

A medium sized bag of Skittles
2 bags of gummy bears
2 bags of candy corn
2 containers of frosting (Always Save is best)
2 bags of chocolate chip cookies
2 sleeves of graham crackers