

Sweet Candy Creations

Teachers: Ms. Dion, Ms. Rodriguez

Date: September 22nd, 2016 (STEM Thursday)

Subject / grade level: 7th grade Science

Materials:

1. Jello packages (20)
2. Gelatin
3. Gobstoppers
4. Nerds
5. Air Head Extremes
6. Twizzlers
7. Mike and Ike
8. Hot Tamales
9. Fruit by the foot
10. Skittles
11. Small baggies (to hold the candies)
12. 10 round containers (to make animal cells)
13. 10 rectangular containers (to make plant cells)
14. Plastic spoons (enough for each student)

TEKS:

7. 12 Organisms and environments. The student knows that living systems at all levels of organization demonstrate the complementary nature of structure and function. The student is expected to:

D) Differentiate between structure and function in plant and animal cell organelles, including cell membrane, cell wall, nucleus, cytoplasm, mitochondrion, chloroplast, and vacuole.

ENGAGE: Video “Cells Cells - Parts of the Cell Rap”

<https://www.youtube.com/watch?v=-zafJKbMPA8>

Probing/Eliciting Questions:

1. What does the video say cells are made up of?
2. What does the membrane do for the cell?
3. What organelle does plant cells have that animal cells do not?

Sweet Candy Creations

EXPLORE: Card Sort

- Students will be given sets of cards and a picture of either an animal or plant cell that is labelled with numbers.
- Twelves of the cards will have the organelle names on them
- Twelve of the cards will have organelle functions on them
- Twelve of the cards will have numbers corresponding to the pictures of the cell
- In small groups, students will play a matching game, matching the organelle to it's function and number.

Probing/Eliciting Questions:

- What does "ER" stand for? What is it's function?
- What organelle are proteins made in?
- Why is the golgi apparatus important?
- Why are plants cells rectangular and animal cells round?

EXPLAIN: Table with candy/organelle/function

Probing/Eliciting Questions:

- Class will gather together as a whole group again
- Worksheet of candies, keywords and blank boxes will be distributed
- Students will be told that they are going to make a Candy model of the cell.
- Students will be asked as a group which organelle each candy represents to fill in the chart.
- Students will be asked to describe in their own words the function of each organelle

Probing/Eliciting Questions:

1. Why is the nucleus called the 'brain' of the cell?
2. Why are mitochondria "mighty?"
3. What organelle collects energy from sunlight to make sugars?

ELABORATE:

Directions adapted from those found on:

<http://www.teach-nology.com/worksheets/science/bio/lab1/>

1. Day 1 - Getting the Jello Ready (Before the day of the activity):

Sweet Candy Creations

Follow the package directions to mix up batches of Jello gelatin mix. Pick a light colored flavor. Every 6 oz package will make up 4 or 5 cells. Add some unflavored gelatin to the Jello to make it set up a little firmer. Pour the Jello/gelatin mixture into the 10 round tins and 10 square tins until they are about two-thirds full. Put them into a refrigerator to set.

2. Day Two - Time to make the cells!

Remove the Jello cells from the refrigerator and distribute to groups of students. Also distribute plastic spoons to the students, one per student.

About 6 cells total will be made by each class, 3 animal cells and 3 plant cells.

4. Have the students use their spoons to dig out holes in the Jello/gelatin cytoplasm for the candy “organelles.” Just pushing the food pieces into the Jello causes it to crack and come apart, making for a very messy cell. Students will use picture projected SMARTboard as a guide.

5. While the students are creating their edible cells, instructors should walk around the room, asking the students questions about the cells and organelles they are constructing.

6. After reviewing the parts one final time, those students who wish to can feast on their cell. Please use clean spoons in case the spoon you were working with fell on the floor or the table.

EVALUATE : Exit Slip

Probing/Eliciting Questions:

1. What did we learn about cells today?
2. What are some of the important functions organelles perform?
3. What are some differences between plant and animal cells?
4. What questions do you still have about cells?

Closure Statement:

Today’s lesson objectives were to identify the organelles inside both plant and animal cells.

Thank you for allowing us to teach you and learn with you today! :)