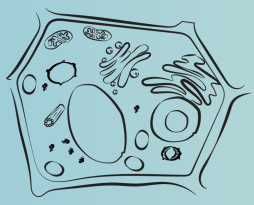

EXPLORE PLANT CELLS DAY 2: BRING YOUR OWN VEGETABLE

DISCOVER PARTS OF A CELL AND THEIR FUNCTIONS

INTRODUCTION
10 min

Students continue their investigation to see how plant cells from different vegetables can look, and explore how cells have organelles inside them and use their observations to create cell art.

"The closer the lens got, the more I saw food – and consumers of food – as part of a larger eco-system. Processed foods are very sharp and spiky, whereas unprocessed or more organic foods sort of have a repetitive pattern.
— Caren Alpert for The Smithsonian

Say: "In our last lab, we explored potato and tomato cells under a microscope. Today, we get to view a vegetable of your own choice! You have all brought your own vegetables, and observing them under Meeka microscope will be a treat for the eyes and our scientific discoveries."

READING TIME
20-30 min

Read the informational text and sort cards:

Read the Text. Lead a class discussion about what you read.

STEM TIME
60-90 min

Explore plant cells through vegetable peels and make cell art

Say: "Prepare a sample of your vegetable and look at it under Meeka microscope. Make a detailed drawing. What do you see? Which dye do you think you will use, if any? How is your view different with and without dye?" Remind your students about peeler safety, shining the bottom light, and the parts they might find in a plant cell. Have them fill out the lab sheet.

Then, have your students make a detailed model of the cell they observe. You can use any craft material you have available, such as colored pencils, paint, or play dough.

STEM TIME

60-90 min

Materials:

- Students' vegetables
- Peelers
- Trash bag table cloth (one per student group station)
- Dye (methylene blue and red iodine)
- Meeka microscope
- Petri dishes
- Student lab sheet
- Scissors
- Mezzie measuring tape
- Paint/art supplies + paper
- Play dough (colored)

Instructions:

Note: This lab will require many of the same materials as last time, except the observation will be of a new vegetable that students bring from home. If a long time has passed since the last lab, you may want to watch the teacher prep video again.

Please have the Student lab sheets ready from last time (today is when students will fill in the third circle).

Please also remember to send a reminder or note home a day before the lab about 'Bring Your Own Vegetable Day'.

1. Get students to prepare their samples from the vegetables they brought in.
2. Remind them of how to: use a peeler safely (peel away from the body), take a sample (a very thin slice so light shines through), and observe their samples with 2X and 4X objective lens settings and bottom lighting.
3. Have students fill out the lab sheet.
4. Circulate and ask questions about students' vegetable, what they see, and why they chose it.
5. Have the students make a model of a cell based on what they see using the art supplies.

Note: If your students did not get enough time in the last lab or if they would like to engage more after completing their model, this is a great time to have them do the Mezzie measuring tape activity!

6. Call students to the front of the room to share their lab sheet and model. Use the concepts they learned about plant and animal cells during their discussion and presentation.
7. Allow students to take a 'museum walk' and circulate all around the room to see their classmates' models. Leave lots of time for them to also look at the fascinating selection of vegetables through Meeka microscope!
8. Display your students' models around school!

CLEAN UP

5 min

Clean up

Have students carefully put away their microscopes and materials. Their lab sheets are now complete if they would like to take them home. Recap the parts of a cell and how they work to function as a whole. High-five your students!