

## Project 3: Using Tableau to Become a Plant Cell

Animal and Plant Cells • Relationships/  
Parts of a Whole/Comparison



### Project Essential Questions

- What are the functions of the various plant cell organelles?
- How can I use tableaux to analyze the functions of the organelles in a plant cell?

#### PROJECT DESCRIPTION

Students will integrate their knowledge of previously taught organelles in a plant cell with theatre arts. Students will use the different organelles (chloroplast, cell wall, cell membrane, cytoplasm, and nucleus) to construct tableaux of plant cells. They will then dramatize the organelles by understanding their function in the cell and their relationship with the other organelles.

#### LEARNING TARGETS

“I Can...”

- Identify the various parts and functions of a plant and animal cell
- Use theatrical arts (tableaux) to demonstrate my understanding of the organelles, their function, and their relationship with one another

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Units provide differentiated ideas and activities aligned to a sampling of standards. The units do not necessarily imply mastery of standards, but are intended to inspire and equip educators.

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Cherokee County (GA) School District and ArtsNow, Inc.

**DURATION: 2 days**

Lesson Description	Learning Targets
<p>Students will integrate their knowledge of previously taught organelles in a plant cell with theatre arts. Students will use the different organelles (chloroplast, cell wall, cell membrane, cytoplasm, and nucleus) to construct tableaus of plant cells. They will then dramatize the organelles by understanding their function in the cell and their relationship with the other organelles.</p>	<p>“I Can...”:</p> <ul style="list-style-type: none"> <li>● Identify the various parts and functions of a plant and animal cell</li> <li>● Use theatrical arts (tableaus) to demonstrate my understanding of the organelles, their function, and their relationship with one another</li> </ul>

**ESSENTIAL QUESTIONS**

<ul style="list-style-type: none"> <li>• What are the functions of the various plant cell organelles?</li> <li>• How can I use tableaus to analyze the functions of the organelles in a plant cell?</li> </ul>
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**STANDARDS**

Curriculum Standards	Arts Standards
<p><b>S5L3.</b> Students will diagram and label parts of various cells                      b. Identify parts of a plant cell (membrane, wall, cytoplasm, nucleus, chloroplasts) and of an animal cell (membrane, cytoplasm, and nucleus) and determine the function of the parts</p> <p><b>S5P1.</b> Students will verify that an object is the sum of its parts</p>	<p><b>TAES5.3.</b> Acting by developing, communicating, and sustaining roles within a variety of situations and environments</p> <p><b>TAES5.7.</b> Integrating various art forms, other content areas, and life experiences, to create theatre</p>

**KEY VOCABULARY**

Content Vocabulary	Arts Vocabulary
<ul style="list-style-type: none"> <li>● Chloroplast</li> <li>● Cytoplasm</li> <li>● Cell wall</li> <li>● Cell membrane</li> <li>● Nucleus</li> <li>● Function</li> <li>● Structure</li> </ul>	<ul style="list-style-type: none"> <li>● Tableau</li> <li>● Principles of tableau:                             <ol style="list-style-type: none"> <li>1. Levels</li> <li>2. Facial expression</li> <li>3. Relationships between characters</li> <li>4. Audience visibility</li> </ol> </li> </ul>

### ASSESSMENTS

Formative	Summative
<ul style="list-style-type: none"><li>Teacher can monitor students through anecdotal notes for understanding of tableau elements, plant cell organelle concept understanding, and teamwork.</li></ul> <p><b>Questions to ask after tableaus are created:</b></p> <ol style="list-style-type: none"><li>Why did you choose that body level for your organelle?</li><li>Why did you choose that facial expression?</li><li>What is the relationship that your organelle had with the other organelles?</li></ol>	<ul style="list-style-type: none"><li><b>Informational Writing Piece:</b> Students will write a monologue from the viewpoint of their cell organelle “character.”</li><li><b>Informational Cell Monologue Rubric</b> (see Downloads)</li><li><b>Written Reflection</b> (see Downloads)</li></ul>

### MATERIALS

Index cards with plant cell organelles listed individually (chloroplast, cell wall, cell membrane, cytoplasm, nucleus), **Informational Cell Monologue Rubric** (see Downloads)

### Activating Strategy

- Begin this project by letting students know that “tableau” means “frozen picture.”
- Explain to students that today we will use our bodies to create frozen pictures.
- Begin by having students stand up and create the following tableaus:
  - 102 year old grandparent crossing the street
  - Baseball player focusing on hitting the ball
  - A chef that dropped a pizza

\*Introduce the “**principles of tableau**” and discuss how creating a strong tableau requires a clear body level (low, mid, high) and big facial expressions.

- Direct students to get into small groups (3-5 students) so we can now explore creating relationships.
- Direct students to create a tableau of:
  - A family portrait
  - A teacher and students in class
  - A castle (using just their bodies)

\*Draw attention to how creating a strong tableau requires establishing clear relationships and making sure the audience can see our faces.

**Classroom Tips:** When cueing students to create a tableau as a group, give them a count down. Ex: “Okay class, get into your tableau on a 3, 2, 1, FREEZE!”

Teacher will describe to students that in today’s lesson, they will create a tableau. Teacher will then hand out individual index cards with the plant cell organelle names listed to students. (Teacher might differentiate lower level cards—easier organelles/functions—to lower level students).

**Process**

**Part 1: Idea**

- Teacher will list each specific organelle on the board for students to make sure that it is in the tableau that they are going to create.

**Part 2: Research**

- Teacher will review the tableau elements. (Reminder to students about level, audience awareness, facial expression, and relationships.)
- Students will quickly review the functions of each organelle.

**Part 3: Create**

- Students will create a small group tableau that shows how the organelles relate to one another.
- Students will have 1 minute to strike their organelle tableau. (Example: Nucleus could be shown by holding the head for the “brain” and pointing to another organelle in an authoritative manner.)
- Teacher will then walk around the classroom and tap individual students on the shoulder. The student that is tapped must then be able to reply with a 1 sentence statement regarding the function of their organelle. This is called thought-tracking.

**Part 3: Evaluate/ Rework**

- After the tableau, students will then be directed in writing an informational narrative from the point of view of their cell organelle. The student must take what they know as the function of that organelle and produce an informational monologue, which will eventually be presented to the class.
- Students must write from the viewpoint of that character and be sure to include all applicable content area vocabulary relevant to their organelle. Students will be graded using the **Informational Writing Rubric** (see Downloads).

**Part 4: Present**

- Students will then share their cell organelle monologue with the class. Other classroom students may provide constructive feedback on theatrical delivery (diction, facial expression, tone, volume, pitch, etc.) using theatre arts vocabulary.

**REFLECTION**

**Reflective Strategies**

**Writing Reflection** (see Downloads)

- 1) How did using tableau help me understand the plant cell and the roles of the organelles?
- 2) My facial expression in the tableau was \_\_\_\_\_. I made this choice because....

**DIFFERENTIATION**

**Option:**

- Group students for tableaux in heterogeneous groups, combining below level/EL/above grade level students together for better explanation/mastery of content.

**Below Grade Level/EL Students:**

- Create a whole-class tableau to model the various elements of a tableau before having the students break into small groups and performing their own individual tableau.

**Above Grade Level:**

- Have the students create a sketch of their tableau to show the relationship and connection/location between each cell organelle and explain its specific function. On the sketch, students must label the organelles and describe the function of each organelle in 4 words or less (for each organelle).

**APPENDIX**

- **Informational Cell Monologue Rubric**
- **Tableau Self Assessment**
- **Written Reflection Sheet Project 3**

**CREDITS**

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