artsNOW
Integrated learning solutions

UNIT: THE ART OF CHANGE–
A CHEMICAL AND PHYSICAL ADVENTURE
DRAMATIZING PHYSICAL AND CHEMICAL CHANGES THROUGH MOVEMENT

Grade Band: 5, 7

Content Focus: Theatre & Science



LEARNING DESCRIPTION

Students will use their bodies and movement to personify and dramatize physical or chemical changes. They will create a two-part moving picture and dialogue to support their dramatization.

LEARNING TARGETS

Essential Questions	"I Can" Statements
How can theatre strategies be used to demonstrate understanding of what constitutes a physical change versus a chemical change? How can moving through two tableaux be used to dramatize materials as they undergo physical or chemical changes?	I can use my body and movement to dramatize the changes of an object involved in chemical or physical change. I can create a two-part tableau and incorporate dialogue that helps communicate the story and my understanding of chemical and physical changes. I can justify my artistic choices using my knowledge of both physical and chemical changes.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Grade 5: S5P1. Obtain, evaluate, and communicate information to explain the differences between a physical change and a chemical change. a. Plan and carry out investigations of physical changes by manipulating, separating, and mixing dry and liquid materials. b. Construct an argument based on observations to support a claim that the physical changes in the state of water are due to temperature changes, which cause small particles that cannot be seen to move differently. c. Plan and carry out an investigation to determine if a chemical change occurred based on observable evidence (color, gas, temperature change, odor, new substance produced).	**Grade 5:** TA5.PR.1 Act by communicating and sustaining roles in formal and informal environments.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Grade 7: 7-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.	**Anchor Standard 3:** I can act in improvised scenes and written scripts.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary

• State of matter - The distinct forms that different phases of matter take on: solid, liquid, gas and plasma
• Physical change - A change from one state of matter to another without a change in chemical composition
• Chemical change - A change that produces one or more new substances and may release energy
• Substance - A type of matter that has a unique set of properties
• Material - Relating to, derived from, or consisting of matter
• Heat - The movement of thermal energy from one place to another
• Reversible change - A change that can be undone; often called a physical or temporary change
• Irreversible change - A process that is not reversible
• Mixtures - A combination of two or more substances that can be separated by physical means
	• Tableau - A frozen picture representing a scene or moment in a story that occurs during a theatrical performance. When creating a tableau in theatre, the following principles should be applied:
	  ○ Create body levels (low, mid, high);
	  ○ Use facial expressions to communicate thoughts and feelings;
	  ○ Show relationships between the various characters in the setting; and
	  ○ Make sure the audience can all see your face.
	• Dialogue - A conversation between two or more persons
	• Scenario - The outline of action in a play
	• Thought-tracking - A theatre technique in which individuals participating in tableau, or members of the class observing a tableau, are invited to speak the thoughts or feelings of a portrayed character aloud

• Compound - A substance made up of two or more elements that are chemically combined. For example, carbon dioxide is a compound that is chemically combined	

MATERIALS

- Anchor Charts - Tableau and Physical versus Chemical Changes
- Tableau Preparation Template
- Suggested prompts for dramatizing physical and chemical changes
- Markers
- Chart paper
- Index cards
- Pencils

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

- Introduce the art form of tableau with a warm-up: Silent Tableau.
- Students will form small groups. Groups will be asked to form various shapes within their groups silently. (Ex: circle, crescent moon, diamond)
- Go over the Principles of Tableau (Anchor Charts - Tableau and Physical versus Chemical Changes (slide 1).
- Groups will then be asked to form various scenarios within their groups silently. Dialogue will be added into the silent scenes through thought-tracking. Groups will practice forming two-part tableaux of a particular scenario.
    - Examples: Students are on a picnic and it begins to rain; students are playing with a ball in the living room until someone hits a lamp and it breaks; a group of friends wait to yell “surprise” for a surprise birthday party.

Work Session

- Review the concept of physical versus chemical changes.
    - Model by tearing up a piece of paper. Ask the class if this was a physical or a chemical change.
    - As a class, create an anchor chart that lists the characteristics that classify a physical versus a chemical change. (Anchor Charts - Tableau and Physical versus Chemical Changes - slide 2).
- Divide class into small groups and assign a particular chemical or physical change on an index card. (Suggested prompts for dramatizing physical and chemical changes).
- Groups will discuss their change and determine together whether it is physical or chemical.

- Then they will form a two-part dramatization of the scenario undergoing the change. The two tableaux will dramatize how the change occurred and the cause and effect of the change.
- Direct students to use the Tableau Preparation Template to help with the next step.
- In each scenario, students will create dialogue that helps support the type of change that occurred.
- After the groups have had time to rehearse, groups share their tableaux in an informal class performance. The goal is for the audience to be able to determine the materials that changed and whether it was a physical or chemical change based on the performance.

Classroom Tips:

- *Use cueing methods when directing tableaux in your classroom: "3-2-1- Freeze" and "Actor's Neutral".*
- *Make your expectations for the tableau science task explicit and go over these before the group work begins. Post them in the room so that students can refer back to them if they need to during their group working time.*

Closing/Reflection

- Have students respond to the following reflection questions in small groups or through a written reflection:
  - How did engaging in the arts support and build upon your understanding of chemical and physical changes?
  - How did this tableau help you understand chemical and physical changes in the world around you?
  - If you were to go through this artistic process again, what would you do differently? Why?

ASSESSMENTS

Formative

- Observations of students in the artistic process (rehearsing, performing, visual arts process)
- Tableau Preparation Template

Summative

- Final performance of Chemical/Physical Change with movement and dialogue
- Reflection questions from the Tableau Preparation Template

DIFFERENTIATION

Accelerated:

- During the student performances of the tableau, digital pictures or video can be taken for integration on a final group presentation of a Thinglink. The class will work in groups to create a Thinglink example of their physical or chemical change. They may link their digital pictures or videos to a place in the artwork. Other content to include on the Thinglink should be the definition of the physical or chemical change, other examples of the physical or chemical change, why the change is important, and a definition of a tableau.
    - Technology Resources Thinglink https://www.thinglink.com (also available as an App for Android and iOS Devices)

Remedial:

- Use modeling and guided practice by going through the process of creating a tableau to show a physical or chemical change. Ask the class to help you decide how to show the before and after of the change.
- Provide students with images of physical and chemical changes. Ask students to show those images with their bodies.

ADDITIONAL RESOURCES

CREDITS

U.S. Department of Education- STEM + the Art of Integrated Learning

**This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

Revised and copyright: June 2025 @ ArtsNOW