artsNOW
Integrated learning solutions

HEAT DANCE
Grade Band: 2-3
Content Focus: Dance & Science

LEARNING DESCRIPTION

In this lesson, students will choreograph and perform dances to demonstrate their understanding of the different ways that heat energy can be transferred. Students will be able to explain which changes can be reversed and which cannot and why.

LEARNING TARGETS

Essential Questions	"I Can" Statements
How can choreography be used to demonstrate heat transfer? How is heat transferred? Which changes due to heat transfer can be reversed and which cannot?	I can create choreography that demonstrates examples of heat transfer using the Elements of Dance. I can explain the sources of heat energy. I can explain why some changes caused by heat transfer can be reversed and why some cannot.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Grade 3: S3P1. Obtain, evaluate, and communicate information about the ways heat energy is transferred and measured. a. Ask questions to identify sources of heat energy. (Clarification statement: Examples could include sunlight, friction, and burning.)	**Grade 3:** ESD3.CR.1 Demonstrate an understanding of the choreographic process. ESD3.CR.2 Demonstrate an understanding of dance as a form of communication. ESD3.PR.1 Identify and demonstrate movement elements, skills, and terminology in dance ESD3.RE.1 Demonstrate critical and creative thinking in dance.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Grade 2: 2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	**Anchor Standard 1:** I can use movement exploration to discover and create artistic ideas and works. **Anchor Standard 2:** I can choreograph a dance. **Anchor Standard 3:** I can perform movements using the dance elements. **Anchor Standard 7:** I can relate dance to other arts disciplines, content areas, and careers.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
• Heat transfer - The movement of thermal energy from one object or substance to another due to a temperature difference • Friction - A force that opposes the relative motion or tendency of such motion of two surfaces in contact • Burning - A chemical process that produces heat and light	• Energy/Force - Force propels or initiates movement, or causes changes in movement of body position • Space - An element of movement involving direction, level, size, focus, and pathway • Movement phrase - A series of movements linked together to make a

	distinctive pattern • Choreography - The art of composing dances and planning and arranging the movements, steps, and patterns of dancers • Choreographer - A person who creates dances • Elements of Dance - Body, action, space, time and energy

MATERIALS

- Sound source and music with a steady beat
- Anchor chart/poster paper
- Markers

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

Classroom Tips: Set up chairs and tables in a circular format to maximize students' engagement and ability to see their peers during the activity and performance. Also establish parameters for acceptable movement choices and discuss audience behavior/etiquette with students.

- Begin with teacher-led mirror exercises to get students focused and warm-up for dance activities.
- Explain to students that as you perform a movement, they should "mirror" the movement as though they were looking at their reflection in a mirror.
- These exercises may lead into the "Name Game" or "Pass the Movement". Or, move directly into the lesson teaching students about the Elements of Dance.
- Name Game:
    - Have students stand in a circle.
    - Demonstrate the Name Game by stating your name while making a movement or gesture to accompany your name.
    - The circle then collectively repeats your name and gesture. Continue with the next person stating his/her name and making a gesture. The circle repeats the new person's name and gesture. Then, starting with the person of origin, repeat all the names and gestures shared to that point. Continue until everyone in the circle is included.
- Pass the Movement:
    - Begin by having students stand in a circle.
    - The objective of the game is to create a sequence of movements by passing a dance move around the circle or group, with each student adding their unique twist.

- Each student will create a simple movement and "pass" it to the next student, who will then repeat the movement and add their own.
- Choose one student to start the game. This student will perform a simple movement, such as a clap, a jump, a spin, or a wave. Encourage students to focus on creating shapes and angles with their bodies.
- The starting student then "passes" this movement to the next student by making eye contact and gesturing towards them.
- The next student repeats the initial movement and then adds their own unique movement.
- This student then "passes" the combined movements to the next student.
- Each subsequent student repeats the previous movements in the correct order and adds their own new movement.
- Continue passing the movement around the circle or along the line until all students have had a turn.
- Once the movement has gone all the way around, have the group perform the entire sequence together from start to finish.

Work Session

- Begin by engaging students in movement that introduces students to the Elements of Dance: Body, action, space, time and energy.
  - Have students arrange themselves in the classroom with enough personal space to move freely without touching a neighbor.
  - Turn on instrumental music with a steady beat.
  - Element of Body: First, have students bring awareness to their bodies by leading them through gentle stretches starting from the head and moving to the toes (e.g., head circles, shoulder shrugs, toe touches, etc.). Then, ask them to make different shapes with their bodies.
  - Element of Time: Next, bring students' awareness to the rhythm of the music by having them march in place to the beat, gently swinging their arms by their sides.
  - Element of Energy: Now, direct students to explore energy variations with different movement qualities such as sharp movements–quick, precise actions like punches or snaps, and smooth movements–slow, flowing actions like waves or circles with arms.
  - Element of Space - Levels: Bring students' attention to levels (high, middle, low) with movements such as stretching up high and moving on tiptoes, crouching in a small ball close to the floor, and bouncing in place at a middle level.
  - Element of Action - Locomotor/non-locomotor: Tell students that these movements they just performed were non-locomotor, meaning that they didn't move to a new location. Direct students to perform a movement that requires moving from one place to another, such as step-together, step-together moving side to side.
  - Have students practice what they just learned by saying words such as "locomotor" and have students create a spontaneous locomotor movement.
  - Have students return to their seats.
- Tell students that they will be using movement to explore some of the ways that heat energy is transferred: Burning, friction, sunlight and any others you would like to include.
- Divide students into small groups. Pass out large chart paper or poster paper and markers.
- Have students divide paper (or pre-divide paper for students) into three sections. Students should label each section burning, friction, and sunlight.

- Assign each group one type of heat transfer. Students will complete their section of their chart describing the type of heat transfer using words and drawings. Students should add examples of each type of heat transfer.
- Allow groups to share. If you have a document camera, this is a great way for students to share their work.
- Groups should add responses to the two types of heat transfer that they did not include to their charts.
    - After each group shares, discuss which changes can be reversed and which cannot. For example, sunlight causing water to evaporate can be reversed but a forest fire burning down trees cannot.
- Tell groups that they will receive an example of heat transfer, such as a forest fire or evaporation. In their groups, students will create a “Heat Dance” to demonstrate the way heat energy is transferred in their example.
    - Students will need to be able to determine which form of heat energy transfer is used and whether the change can be reversed.
    - Set requirements for choreography, such as it must have at least four movements and use at least two of the following elements of dance: Energy, space, body and action.
    - Turn on music in the background.
    - Allow time for students to choreograph and practice their dances. Circulate to assist groups during this process.

Closing/Reflection

- Students will perform their dances for their classmates. Discuss appropriate audience participation and etiquette prior to performances.
- Turn up the volume of the music and help students find the steady beat by tapping their toes on the floor.
- After each performance, the audience will identify which type of heat transfer was demonstrated, whether the change can be reversed, and which elements of dance were used.

ASSESSMENTS

Formative

Teachers will assess students’ understanding of the content throughout the lesson by observing students’ participation in the activator, ability to identify and perform the elements of dance, responses to discussion of each type of heat transfer, small group discussion of examples of heat transfer, and collaboration with groups to choreograph a dance demonstrating their example.

Summative

CHECKLIST

- Students can identify and explain the different types of heat transfer, which can be reversed and which cannot, and why.
- Students can create choreography using the Elements of Dance to accurately demonstrate their example of heat transfer.
- Students can identify and perform using the Elements of Dance.

DIFFERENTIATION

Acceleration: Challenge students to create their own examples of heat transfer and choreograph a dance to demonstrate their examples.

Remediation:

- Reduce the number of movements students are required to include in their choreography.
- Scaffold the lesson by choreographing an example of heat transfer as a class. Then, allow groups to create their own choreography using their own example.

ADDITIONAL RESOURCES

NA

**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.*

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