artsNOW
Integrated learning solutions

DANCING UP A STORM
Grade Band: 6
Content Focus: Dance, Science, & STEAM

LEARNING DESCRIPTION

Students will plan a choreography that demonstrates how high and low-pressure systems, as well as warm and cool air, interact in the atmosphere.

LEARNING TARGETS

Essential Questions	"I Can" Statements
How does dance movement demonstrate the cause and effect of weather events?	I can demonstrate how high pressure and low pressure systems interact in the atmosphere. I can imagine and test ways in which movement communicates ideas about the interaction of high and low pressure, as well as warm and cool air. I can use the elements of dance to vary movements that will communicate multiple ideas in one choreography.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Grade 6: S6E4.d Construct an explanation of the relationship between air pressure, weather fronts, and air masses and meteorological events such as tornados and thunderstorms.	**Grade 6:** MSD.CR.1 Demonstrate an understanding of the choreographic process. MSD.CR.2 Demonstrate an understanding of dance as a form of communication. MSD.RE.1 Demonstrate critical and creative thinking in dance. MSD.CN.3 Demonstrate an understanding of a dance as it relates to other areas of knowledge. **Grades 9-12:** DHSDC.CR.2 Demonstrate an understanding of dance as a form of communication. DHSDC.PR.1 Identify and demonstrate movement elements, skills, and terminology in dance. DHSDC.RE.1 Demonstrate critical and creative thinking in all aspects of dance. DHSDC.CN.3 Demonstrate an understanding of dance as it relates to other areas of knowledge.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Grade 6: 6-ESS2-5. Analyze and interpret data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.	**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 4:** I can perform movement skills and techniques **Anchor Standard 5:** I can describe, analyze, and evaluate a dance. **Anchor Standard 7:** I can relate dance to other arts disciplines, content areas, and careers.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
• Anticyclone - A mass of air with high pressure and light winds that blow in a clockwise direction in the Northern Hemisphere • Depression - A mass of air with low pressure, condensing water vapor, and possibly precipitation, with winds that blow in a counterclockwise direction in the Northern Hemisphere • High pressure - A mass of air with relatively higher atmospheric pressure, descending air molecules, relatively lower cloud formation, and lighter winds that blow away from the center of the system • Low pressure - A mass of air with relatively lower atmospheric pressure, rising air molecules, relatively greater cloud formation and precipitation and strong winds	• Choreography - The art of designing and arranging sequences of movements, steps, and gestures to create a dance piece • Clockwise - A movement pathway that proceeds in the same direction that hands of a clock move • Counterclockwise - A movement pathway that proceeds opposite of the direction that the hands of a clock move • High Level - In regards to dance, movements that are made in the space that is at a greater distance from the ground, such as a jump or stretching the arms above the shoulders • Low Level - In regards to dance, movements that take up space that is closer to the ground, such as a squat, crouch, or stretching the arms downward so that the hands touch the knees or toes while standing up • Steady - In regards to dance, movements that take place at a consistent and unchanged interval • Sudden - In regards to dance, movements that occur quickly and without warning, and may elicit a reaction of surprise by the observer

MATERIALS

- A variety of music selections
- Music source and speakers
- Projection or printed cards showing dance terms in PART 1
- Cards printed with weather conditions; one card per small group

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

- Show students one card at a time from a projection or a stack of cards printed with dance vocabulary words: high level, low level, sudden, steady, clockwise, counterclockwise (note that the terms fast/slow in PART 1 are not included in this list for an activating strategy).
- Ask students to execute the movement while you play music for 5-10 seconds. When the music stops, students will freeze.
- Change cards when the music stops and repeat this activity several times so that students become introduced to the different movements.
- All students should move at the same time to create a low-stakes activity. Variation in movement is encouraged so that students produce individualized movements rather than copying peers. This is a time for students to experiment with movement and individuality.

Work Session

PART 1

- Divide the class into small groups. Give each group a set of three cards that list conditions expected during a three-day period in the atmosphere over a given fictitious city. Each card should include conditions that do not completely describe the weather, such as:
    - CARD EXAMPLE 1 (discusses pressure systems)
        - Day 1: Winds 5 MPH, sunny skies; temperatures are 80-90 degrees.
        - Day 2: Low pressure passes over the city at 12 p.m. and 12:30 p.m.
        - Day 3: Winds return to 5 MPH with sunny skies; temperatures are 50-60 degrees.
    - CARD EXAMPLE 2 (discusses weather conditions)
        - Day 1: Light rain all day and night. Temperatures are 60-70 degrees.
        - Day 2: Light rain all day. Rain ends at sunset. Temperatures are 60-70 degrees.
        - Day 3: Sunny skies all day. Temperatures are 65-75 degrees.
- Students consider the problem: Create a dance that reflects the weather forecast for the next three days by showing how high and low-pressure systems, as well as warm and cool air, will interact in the atmosphere.
    - Use the following dance elements:
        - Speed: Fast/Slow
        - Level: High/Low
        - Energy: Sudden/Steady
        - Rotation: Clockwise/Counterclockwise
- Students list the questions that they need to answer before brainstorming dance movements.

PART 2

- Create three movements to show the changing conditions. Each movement should show the weather for one day, making sure to focus on the cause and effect relationship/interaction between the high- and low-pressure systems that will create the predicted weather conditions. Students need to prioritize their questions listed in PART 1 in order to focus on the cause and effect relationship of atmospheric systems. Students identify the dance elements that they will use in their movements.

PART 3

- Students will order their dance movements to communicate the forecast based on the conditions printed on their cards.

PART 4

- Students will write down their forecast. They will review the forecast to make sure that it represents the assigned conditions on their cards. Students will correct any inaccuracies, focusing on the high-and-low-pressure systems.

Closing/Reflection

- Ask students to describe the interaction of high and low pressure in various situations (i.e., a slow-moving high-pressure system versus a fast-moving system), using vocabulary of the Elements of Dance (dance vocabulary words on cards or their own words).
- Ask students to explain how moving their bodies or observing dances in this lesson helps them to understand and describe the differences between high-and-low-pressure systems and how those systems interact in the atmosphere to create weather that we experience on the surface of the planet.

ASSESSMENTS

Formative

Visually observe students formulating questions and exploring movement while discussing atmospheric concepts.

- Teacher observes students correlating temperature, precipitation, and winds with anticyclones and depressions.
- Teacher observes students using vocabulary of the Elements of Dance and vocabulary of atmospheric pressure, together, as they create and sequence movement.
- Teacher observes students arranging movements so they demonstrate atmospheric systems that create weather conditions.

Summative

MATTER IN MOTION CHECKLIST

- Students first list questions, and then prioritize the questions.
- Movement qualities focus on cause and effect/interaction between atmospheric conditions, rather than the weather observed at the surface of the planet.
- Movements are imagined first and then ordered.
- The choreography effectively uses dance to communicate properties of atmospheric systems that contribute to weather conditions.

DIFFERENTIATION

Acceleration:

- Ask students to consider the impact of land forms in their forecast and vary their movements to show how the atmospheric conditions would change due to the presence of an ocean, mountain, etc.
- List fewer details about weather or atmospheric conditions on the cards so that students have to draw more conclusions to create their predictions.

Remediation:

- Divide the class into three groups. Work with only one card printed with weather/atmospheric conditions. Each group creates one movement to show the interaction between low-and-high-pressure systems for one day. As a whole class, order the movements to show the forecast for the three days suggested on the printed card.

ADDITIONAL RESOURCES

Classroom Tips: Use the opening activities as opportunities for students to identify movements that they will use later in the lesson. If as a whole class students struggle with a movement during this creative time, then recognize effective movement and ask the whole class to model it.

Execute each part of the main activity one at a time, revealing each subsequent step after the current one is completed. In other words, do not permit students to work ahead to encourage the creative effect that results from the scaffolded directions.

**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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