

ARTS IMPACT LESSON PLAN

Dance and Math Infused Lesson

Geometric Shapes in Motion and Position

Authors: Lora Bleha, Yolonda Payne, with Joanne Petroff Grade Level: Pre-kindergarten

Enduring Understanding

Forming or dancing the numbers of sides and corners can model geometric shapes.
Positional words can describe relationships between dancers and objects.

Lesson Description (Use for family communication and displaying student art)

Students will make circles, rectangles, and triangles with a stretchy band. They do locomotor movements across the floor and end in a geometric shape. Then, they will create a circle dance alternating locomotor (traveling movement) with making geometric shapes with the stretchy bands that show positional relationships.

Learning Targets and Assessment Criteria

Target: Identifies and makes geometric shapes.

Criteria: Uses a stretchy band and body to create a triangle, a circle, and a rectangle.

Target: Thinks critically.

Criteria: Makes shapes with stretchy bands that represent geometric shapes.

Target: Identifies positional words and makes shapes to demonstrate.

Criteria: Uses stretchy band and body to create circles, rectangles, or triangles to show spatial relationship above, below, next to, in front, or behind.

Target: Dances a circle dance with an AB pattern.

Criteria: Alternates traveling around the circle with making a circle, triangle, or rectangle shape to show a spatial relationship above, below, next to, in front, or behind.

Vocabulary

Arts Infused:

Geometric Shapes:
circle, rectangle,
triangle
Spatial Relationships

Math:

Above
Behind
Below
In Front
Next To
Over
Under

Arts:

Count
General Space
Locomotor Movements
Pattern
Self-Space
Shape

Materials

**Museum Artworks or Performance
Seattle, WA**

Pacific Northwest Ballet

Tacoma, WA

Broadway Center for the Performing Arts

Materials

Stretchies; Examples of geometric shapes; Drum, CD/music player; Class Assessment Worksheet

Music:

Eric Chappelle, *Music for Creative Dance, Volume IV*

Learning Standards

WA Arts State Grade Level Expectations

For the full description of each WA State Arts Grade Level Expectation, see:

<http://www.k12.wa.us/Arts/Standards>

- 1.1.1 Elements: Shape, Place, and Relationship
- 1.1.4 Principles of Choreography: AB Form
- 1.2.1 Skills and Techniques: Locomotor movements
- 2.1.1 Creative Process
- 2.3.1 Responding Process
- 4.2.1 Connection between Dance and Math

Early Learning Guidelines (Pre-K – Grade 3)

For a full description of Washington State Early Learning and Child Development Guidelines see:

<http://www.del.wa.gov/development/guidelines/>

(Age 3-4) 3. Touching, seeing, hearing, and moving around: Using the large muscles (gross motor skills): use both hands to grasp an object.

continued

(Age 4-5) 3. Touching, seeing, hearing, and moving around: Using the large muscles (gross motor skills): move with purpose from one place to another; show coordination & balance; enjoy challenge of new activities.

(Age 4-5) 6. Learning about my world: Math: Follow simple directions for positions (beside, next to, between, etc.).

Common Core State Standards (CCSS) in Math

<http://www.k12.wa.us/CoreStandards/Mathematics/default.aspx>

K.G.1 Describe objects using the names of shapes and describes the relative positions of objects using terms such as above, below, in front of, and next to.


K.G.2 Correctly name shapes regardless of their orientations or overall size.

K.MD.4 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

CCSS Mathematical Practices

- 2. Reason abstractly and quantitatively.
- 4. Model with mathematics.
- 7. Look for and make use of structure.

ICON KEY:

 = Indicates note or reminder for teacher

 = Embedded assessment points in the lesson

Pre-Teach

Introduce or review the positional words: in front, behind, over, under, and next to.


Note: This lesson should follow the Arts Impact theater lesson "Spatial Relationships in Tableau."

Lesson Steps Outline


1. Lead students in BrainDance Warm-up.

Music: #18 "Potpourri" from *Music for Creative Dance, Volume IV*, by Eric Chappelle

2. Introduce the props for dancing: stretchies. Discuss how to move safely with them. Review self and general space.


 Criteria-based process assessment: Dances safely with stretchies.

3. Challenge the students to use the 21st Century Skill of Critical Thinking to use their stretchies to show geometric shapes. Demonstrate and guide students in a locomotor and shape activity using stretchy band.

 Criteria-based teacher checklist: Makes shapes with stretchy bands that represent geometric shapes. Uses a stretchy band and body to create a triangle, a circle, and a rectangle.

4. Introduce the concept of creating geometric shapes in a spatial relationship with Move and Freeze.

Music: #8 "Back At Ya" *Music for Creative Dance, Vol. IV* by Eric Chappelle

 Criteria-based teacher checklist: Using stretchy band and body to create circles, rectangles, or triangles to demonstrate spatial relationship over, under, next to, in front, or behind.

5. Create a Circle Dance using an AB pattern alternating locomotor movements with making geometric shapes with stretchies.

Music: #8 "Back At Ya" *Music for Creative Dance, Vol. IV* by Eric Chappelle

Criteria-based teacher checklist: Alternates traveling around the circle with making a circle, triangle, or rectangle shape to show a spatial relationship above, below, next to, in front, or behind.

6. Lead reflection.

Criteria-based reflection: Reflects on traveling movements, shapes, and positions.

LESSON STEPS

1. Lead students in BrainDance Warm-up (originally developed by Anne Green Gilbert, www.creativedance.org, video reference: BrainDance, Variations for Infants through Seniors).
Music: #18 "Potpourri" from *Music for Creative Dance, Volume IV*, by Eric Chappelle

▣ This BrainDance will focus on the lesson concepts of shape and relationship. You can also adapt the BrainDance for other lessons to support other concepts.

- *We'll use the BrainDance to warm up our bodies to get us ready to dance. It will make our brains work better at the same time.*

Breath:

- *Breathe in through the nose and out the mouth. Gradually increase the size of the breath, growing from the center of the body when you inhale, and shrinking when you exhale. Breathe all the way to your fingernails and toenails.*

Tactile:

- *Tap and pat your body lightly (feet, legs, torso, arms, shoulders, neck, head, face). Tap in front of your body. Tap beside your body. Pat behind your body.*

Core-Distal:

- *Reach out growing into a big shape and shrink into a small shape.*

Head-Tail Movement:

- *Curl or round you body forward from head to tailbone. Lengthen long or arch backwards. Add yoga "cat-cow" and curving side to side.*

Upper Half:

- *Only the top half of your body dances. You can reach above your head and dance your hands and arms.*

Lower Half:

- *Only the bottom half of body dances. On the floor, draw a rectangle below you with your toe.*

Body Half:

- *Stabilize the left side of the body and only the right side dances.*
- *Stabilize the right side of the body and only the left side dances.*

Cross-Lateral:

- *Use your hands to draw lines crossing in front of your body. You can cross above your body or below. Try movements with other body parts.*

Eye Tracking:

- *Let your eyes follow your hand as you reach the left hand and then the right hand up and down.*
- *Watch your hand as its crosses back and forth in front of you.*

Vestibular Stimulation:

- *Tip or swing from side-to-side and then forward and back. Spin. Freeze in a shape.*

2. Introduce the props for dancing: stretchies. Discuss how to move safely with them. Review self and general space.

▣ The stretchies are strips of 4-way stretch fabric about 3 inches wide and 4-5 feet long tied tightly together to make a loop.

▣ Hand out stretchy bands and review safety guidelines: control your stretchy; keep empty space between your stretchy and other dancers and their stretchies, etc.

- *How can we dance safely with the stretchies?*
- *Dance with your stretchy in self-space. That means staying in one spot. Move, then freeze.*
- *Dance with your stretchy in general space. That means traveling in the empty space. Move, then freeze.*

Criteria-based process assessment: Dances safely with stretchies.

3. Challenge the students to use the 21st Century Skill of Critical Thinking to use their stretchies to show geometric shapes. Demonstrate and guide students in a locomotor and shape activity using stretchy band.

▣ Play a drum to accompany the dance.

- *We are going to use our 21st Century Skill of Critical Thinking to use our stretchies to make geometric shapes.*
- *Repeat those words with me! CRI-TI-CAL THINK-ING. Let's tap the words into our shoulders while we say them again. CRI-TI-CAL THINK-ING. Now let's tap while crisscrossing. Tap your right ear with your left hand and tap your left ear with your right hand. CRI-TI-CAL THINK-ING.*

▣ Divide class into two groups with a teacher as a guide for each group. One group will travel east to west and then freezes in a geometric shape with the stretchy. Second group travels north to south and then freezes in a geometric shape with the stretchy.

- *When you hear the drum, skip or gallop to the other end of the room and use your critical thinking to make a triangle with your stretchy band and freeze when the drum stops.*

▣ Repeat with second group. When all students in each group have finished making their shapes, state the phrase together.

- *A triangle has three sides and three pointy points.*

▣ Continue with both groups creating circles and rectangles. Change the locomotor movement to a fast walk for the second pass, and jumping for the third pass.

- *A circle has no points and is round like a ball.*
- *A rectangle has two short sides and two long sides and four pointy points.*

Criteria-based teacher checklist: Makes shapes with stretchy bands that represent geometric shapes. Uses a stretchy band and body to create a triangle, a circle, and a rectangle.

4. Introduce the concept of creating geometric shapes in a spatial relationship with Move and Freeze.

Music: #8 "Back At Ya" *Music for Creative Dance, Volume IV* by Eric Chappelle

▣ Bring group together in a scatter formation.

- *Move in general space when you hear the music. When the music stops, freeze making a triangle shape using the stretchy band.*

▣ Pause the music whenever you want students to freeze in a shape.

- *Change the position of your shape, so it's in front, behind, above, next to, or below you.*
- *What position is your shape in? Tell me if it is in front, behind, above, below, or next to your body.*
- *How many triangles do you see?*

▣ Repeat creating circles and rectangles. Have students count with you the number of triangles, circles, and rectangles that are made each time.

Criteria-based teacher checklist: Using stretchy band and body to create circles, rectangles, or triangles to demonstrate spatial relationship over, under, next to, in front, or behind.

5. Create a Circle Dance using an AB pattern alternating locomotor movements with making geometric shapes with stretchies.

Music: #8 "Back At Ya" *Music for Creative Dance, Volume IV* by Eric Chappelle

▣ Bring students into a circle formation and have them throw stretchy bands in a pile in center of circle. Collect all stretchy bands except for six.

- *We are going to create a dance using skipping/galloping and jumping around the circumference of our circle. We will use 8 counts of skipping/galloping. And then change to another 8 counts of jumping. This will be section A of our dance. Let's practice this with the music.*
- *Our dance has another section, B. After we do 8 counts of skipping/galloping and 8 counts of jumping, we will all freeze. I will call out a group name from class (groups are preselected and have been used in class) to move to the center of the circle and pick up a stretchy band to create a triangle, circle, or rectangle to the count of 4. After you create your shape, I'll call out for you to move your shapes to a different position (in front, behind, above, below, or next to) their bodies.*
- *After you finish making your shape in the new position and hold it for 4 counts, drop your stretchy band and go back to your place on the circle. This is section B of our dance.*

▣ Assign a teacher to be a guide to each group that enters the center of the circle.

- *We'll alternate our A section with our B section. That's an AB pattern.*
- *Let's put our dance to the music.*

Criteria-based teacher checklist: Alternates traveling around the circle with making a circle, triangle, or rectangle shape to show a spatial relationship above, below, next to, in front, or behind.

6. Lead reflection.

- *Let's sit in a circle. When I call your name, tell us something that was interesting about section A, when we traveled around the circle, or section B, when you made shapes in the center with stretchies.*
- *What geometric shape did you make?*
- *What position was your stretchy in? Was it above, below, next to, in front of, or behind you?*

Criteria-based reflection: Reflects on traveling movements, shapes, and positions.

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Pre-kindergarten: *Geometric Shapes in Motion and Position*

CLASS ASSESSMENT WORKSHEET

Disciplines	DANCE/MATH			DANCE/MATH	DANCE/MATH	DANCE/MATH	Total 6
Concept	Geometric Shapes			Critical Thinking	Geometric Shapes and Position	Pattern Locomotor Movement, Shape and Position	
Criteria	Uses a stretchy band and body to create:			Makes shapes with stretchy bands that represent geometric shapes.	Uses stretchy band and body to create circles, rectangles, or triangles to show spatial relationship above, below, next to, in front, or behind.	Alternates traveling around the circle with making a circle, triangle, or rectangle shape to show a spatial relationship above, below, next to, in front, or behind.	
Student Name	tri-angle	circle	rectangle				
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
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25.							
26.							
27.							
28.							
29.							
30.							
Total							
Percentage							

What was effective in the lesson? Why?

What do I want to consider for the next time I teach this lesson?

What were the strongest connections between dance and math?

Teacher: _____

Date: _____

ARTS AND MATH INFUSED LESSON: *Geometric Shapes in Motion and Position*

Dear Family:

Today your child participated in an **Arts and Math** lesson. We talked about geometric shapes.

- We made geometric shapes (triangle, circle, and rectangle) using stretchy bands. We named the shapes and described them.
- We created geometric shapes with the stretchies and then changed their positions, making a new relationship to our bodies (in front, behind, above, below, or next to).
- We created a two-part circle dance using different locomotor movements and shapes.

At home, you could look for different geometric shapes you see around you. When you find different shapes, position yourselves in front to, behind, above, below, and next to the shape.

Enduring Understanding

Forming or dancing the numbers of sides and corners can model geometric shapes.
Positional words can describe relationships between dancers and objects.