

# ARTS IMPACT INSTITUTE LESSON PLAN - Core Program Year 2 Art-Infused

## DANCE ARTS LESSON – **Lines of Symmetry**

Arts-Infused Disciplines: Dance/Math

Arts-Infused Concept: Symmetry

**Artist-Mentor: Jo Petroff**

Grade Levels: Third – Fifth Grade

Examples:



### **Enduring Understandings**

Dividing space or the body shape into equal, matched sections on each side of an axis line creates symmetry in dance.

**Target:** Creates shapes which define a line of symmetry with the body.

**Criteria:** Creates still, physical forms that are identical, mirror images, on both sides of a vertical line through the center of the body.

**Target:** Performs movements which demonstrate a central line of symmetry with a partner

**Criteria:** With a partner, creates identical, mirror image movements on each side of a line of symmetry between the two individuals.

**Target:** Creates and travels on a symmetrical pathway through general space.

**Criteria:** Draws a mirror image pathway map, incorporating curved, straight and/or zigzag lines, and translates mirror image into movements through the general space. Optional: Design symmetrical movement pattern with partner to be used on a symmetrical pathway.

### **Teaching and Learning Strategies**

1. **Leads BrainDance** (Originally developed by Anne Green Gilbert. Video reference: BrainDance, Variations for Infants through Seniors). Music: "Potpourri II" #21, or "Bee Beat" #2, *Music for Creative Dance*, Vol. II, Eric Chappelle. **Leads warm-up with symmetrical and asymmetrical movements and shapes and straight, curved, and zigzag pathways.**

*Prompts: Our line of symmetry is a vertical line from head to toes dividing our bodies into right and left halves. Pay attention to when both halves are exact mirror images (bilateral symmetry) or when they are different (asymmetrical).* Leads students in dance using the following sequence of movement patterns:

Tactile: *Prompts: Rub hands. Tap body lightly from head to toe. Use both hands tapping together equally on each side of your body creating symmetrical movement. Stomp feet (asymmetrical movement).*

Breath and Core-Distal: *Prompts: Breathe in through the nose and out the mouth. Repeat. Gradually increase the size of the breath, growing from the center of the body when you inhale, and shrinking when you exhale. Use symmetrical and then asymmetrical movements that expand and shrink.*

Head-Tail: *Prompts: Curl the body forward from head to tailbone. Curl it backwards. Repeat forward and back (symmetrical). Curve from side-to-side several times (asymmetrical).*

Upper Half: Stabilize the lower half of the body and only the top half dances. Try using symmetrical or asymmetrical movements.

Lower Half: Prompts: Stabilize the upper half of the body. Only the bottom half dances, staying in one spot. Use symmetrical and asymmetrical movements.

Body-Half Right: Prompts: Stabilize the left side of the body and only the right side dances moving with straight, curved, and zigzag pathways (asymmetrical).

Body-Half Left: Prompts: Stabilize the right side of the body and only the left side dances using different pathways (asymmetrical).

Swing: Prompts: Swing upper body up and down several times (symmetrical).

Cross-Lateral: Prompts: Reach across the body with one hand and then the other. Repeat several times. Explore other cross-lateral movements, e.g. elbow to opposite knee or hand to opposite foot (asymmetrical).

Spin and Jump: Prompts: Spin clockwise. Stop and jump in place. Spin counterclockwise. Stop and jump in place for 4 counts. (Use a symmetrical shape with the upper body. The legs will most likely be moving with asymmetrical movements).

Did anyone notice some changes we made in the BrainDance today? Right! We used symmetrical and asymmetrical movements and also created curved, straight, and zigzag pathways. Were some portions tricky or challenging to do with symmetrical movements? Asymmetrical movements? Display Word of the Day Sign – symmetrical/asymmetrical and pathways-straight/curved/zigzag.

Student: Moves with teacher cueing movements including exploration of symmetrical/asymmetrical and various types of pathways.

2. **Uses a MOVE & FREEZE activity to highlight when students are stopped in a symmetrical or asymmetrical body shape** and to explore curved, straight and zigzag pathways.

a. **Practices various shapes with a drum beat.** Calls out which type of shape they should use. Prompts: Each drum beat indicates a shape. I will ask you to make a shape that is symmetrical, equal, or the same on both the right and left sides (bilateral symmetry), or I may ask for an asymmetrical shape. Remember, by moving just a pinky you can change a symmetrical shape into an asymmetrical one.

b. Uses a steady drum beat and **asks students to walk on the 3 types of pathways.** Prompt: Now, I'll give you a steady beat and ask you to walk on curved, straight or zigzag pathways. Adds various types of locomotor movements to the pathways they are traveling on. Prompt: Get ready to march through the general space on a straight pathway. Skip on a curved pathway. Jump on a zigzag pathway. Uses the Music: #9 "Ski Reel" from *Music for Creative Dance, Volume II*. Listens to the music with the students so they hear the "Shhh". When students hear the "Shhh" in the music they freeze in a symmetrical or asymmetrical shape and hold it. During the instrumental section, asks the students to skip or gallop through the general space on one of the specific types of pathways. Varies the type of pathway and the locomotor movements. Makes a list of locomotor movements to have at fingertips: hop, jump, slither, tiptoe, glide, strut, etc.

Student: Explores symmetrical and asymmetrical shapes and locomotor movements in different pathways as cued by teacher

Embedded Assessment: Student criteria-based self-assessment; teacher checklist

3. Teacher: **Leads MIRRORING ACTIVITY that demonstrates symmetrical movement with a partner.** Uses the Music: #1 "Whales" from *Music for Creative Dance, Volume II*.

a. **Starts with the classic mirroring activity** in a seated position. Directs leaders to try symmetrical movements first and then explore other movements. Reminds partners to keep

eye contact. *Prompts: In all the mirroring activities the idea is to move slowly so you are moving in unison. This is not about tricking your partner. Trade leaders. Sit facing each other. Each individual has the bottoms of feet together and knees out. One person is the leader then trades. Let's try creating movement that is symmetrical. Remember, leaders need to use slow, smooth, flowing movements. If you'd like another challenge, see if you can also incorporate curved, straight, or zigzag pathways as you are doing your mirrored movements.* Discuss with your partner what choices were successful in creating the symmetry and why. Were you able to incorporate the pathways?

- b. *Prompts: Try the butterfly-type mirror. As partners you are now standing side by side, almost shoulder to shoulder. The line of symmetry is between the partners' adjacent sides. It might help to think of this as though you are a butterfly with each person being a set of wings on either the right or left side of the body. Keep eye contact!* Teacher demonstrates with a piece of folded paper that is not open completely flat so that students understand they can see each other as they are moving. Again, one person is the leader then trades. Extend the exploration by changing the line of symmetry. *Prompts: Are there other ways we could set up a line of symmetry between two people? (Toe to toe with one person lying down and the other person standing.)* Asks students to demonstrate their variations. *Prompts: Were you able to incorporate curved, straight or zigzag pathways?*

Student: Works with a partner in a sitting mirror and then butterfly type mirror activity and then explores possibility of other lines of symmetry that will still make the mirror exploration possible.

Embedded Assessment: Criteria-based peer reflection and teacher checklist

#### 4. Leads planning for choreography.

- a. **Demonstrates how to create a symmetrical pathway map** by folding paper and drawing a simple pathway on one side of the fold. Makes a few sample pathway maps ahead of time to show some examples that use straight, curved, and/or zigzag pathways. Draws a pathway and directs student to draw simultaneously. Demonstrates walking the pathway. Guides students to decide which locomotor movements to perform as they travel on the pathway. Asks the follower for the drawing process to actually choose the movements. Leads large group to travel on pathway and then splits students into duos.
- b. **Guides creative, rehearsal, and performance process.** *Prompts: Identify the leader. The leader must draw slowly so the partner can follow easily. Use straight, curved, and/or zigzag pathways. Your partner draws the symmetrical, mirror image pathway on the other half of the paper. Keep the pathways simple so we see the symmetry. Imagine your line of symmetry (the fold of your paper) as a line on the floor that extends from the front of the room to the back of the room as you rehearse your study. I will tape a line of symmetry on the floor for you to use as a reference for your performances. If you were the follower for the drawing, you get to decide what movements to perform on your pathway.* The students use an imaginary line of symmetry on the floor as they are creating and rehearsing. **(For the performance, tapes a long line for students to use as a reference).** A line of symmetry running from the front of the room to the back gives the best perspective on the dance studies. Music: "Travel Notes": #13, #14, #15, #16, #17, #18, #19 (see individual titles). Uses short pieces so students can choose which one seems to complement their performance or chooses randomly and sees what interesting juxtapositions of music and movement may occur.

Student: Participates in the group demonstration of choreographic process and then works with a partner to create the symmetrical pathway map, decides on locomotor movements, rehearses and performs.

Embedded Assessment: Criteria-based peer review and written assessment; criteria-based teacher checklist

5. **Leads reflective discussion.**

- a. Selects the first questions for a **discussion of the students' pathways dances**. *Prompts: How did you translate the pathway picture into movement? Did you have certain strategies that helped you create the symmetrical pathway through the space? Audience, where did you see curved, straight or zigzag pathways? What did the performers do to ensure you saw the symmetrical pathway in their dance study?*
- b. Selects questions to use with the book by Bill T. Jones, Dance. **Shows professional dancer making shapes**. *Prompt: Try doing some of the symmetrical and asymmetrical shapes that you see Bill T. Jones making in this book.*
- c. Uses the third series of questions with **pictures of symmetry in dance, art, or architecture**. Uses architecture images to help students connect the concepts with the world around them. Choose ones that are most appropriate for your situation. *Prompts: Let's look at some other pictures I brought in. Are they symmetrical? Why or why not?*
- d. **References the firsthand natural and human made world**. *Prompts: Let's make a list of symmetrical objects we see in the room. How is symmetry used in the world around us? In architecture? In utilitarian objects? In nature?*

Student: Participates in the discussion.

Vocabulary	Materials and Community Resource	WA Essential Learnings & Frameworks
<p><u>Arts Infused:</u>  <u>Dance and Math</u>                      asymmetrical, axis, bilateral symmetry, line of symmetry, mirror image, symmetrical</p> <p>Dance: general space, locomotor movements, pathways: straight/curved, zigzag, shape</p>	<p><b>Performances:</b>  <a href="#">Broadway Center for the Performing Arts, Tacoma, WA: Do</a></p> <p><a href="#">World Series of Dance, Seattle, WA:</a></p> <p><a href="#">Pacific Northwest Ballet, Seattle, WA:</a></p> <p><b>Performance Materials:</b>                      illustrations of symmetry and asymmetry, sample pathway maps                      student assessment pages                      drum,                      paper and markers,                      tape                      list of locomotor movements                      Music: <i>Music for Creative Dance, Contrast &amp; Continuum, Volume II, Eric Chappelle; various tracks</i>                      Dance, book by Bill T. Jones and Susan Kuklin                      Word of the Day Signs: symmetrical/asymmetrical; pathways: straight/curved zigzag</p>	<p><b>Essential Learnings</b>  <i>AEL 1.1 concepts:</i> symmetrical/symmetrical, pathways: straight/curved/zigzag  <i>AEL 1.1.2 principles of organization:</i> symmetrical design  <i>AEL 2.2 artistic process:</i> creates, performs  <i>AEL 3.2 for a purpose:</i> symmetrical compositions</p> <p><i>MEL 1.3: geometric sense:</i> symmetry</p> <p><b>Arts State Frameworks</b>  <i>Grade 3:</i> creates symmetrical/asymmetrical shapes with the body (space)</p> <p><b>Math State Frameworks</b>  <i>Grade 4:</i> identify and draw a line of symmetry; identify symmetrical two/dimensional figures and shapes</p>

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## DANCE LESSON – Lines of Symmetry

### ASSESSMENT WORKSHEET

Students	Symmetry DANCE		Symmetry MATH	Choreography DANCE	Total Points 4
	Creates still, physical forms that are identical, mirror images, on both sides of a vertical line through the center of the body.	With a partner, creates identical, mirror image movements on each side of a line of symmetry between the two individuals.	Draws a mirror image pathway map, incorporating curved, straight and/or zigzag lines	Translates mirror image into movements through the general space. Optional: Design symmetrical movement pattern with partner to be used on a symmetrical pathway	
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22.					
23.					
Total					
Percentage					

**Criteria-based Reflection Questions:** (Note examples of student reflections.)

**Self-Reflection:** *How did you translate the pathway picture into movement? Did you have certain strategies that helped you create the symmetrical pathway through the space?*

**Peer to Peer:** *Where did you see curved, straight or zigzag pathways? What did the performers do to ensure you saw the symmetrical pathway in their dance study?*

**Thoughts about Learning:**

*Which prompts best communicated concepts? Which lesson dynamics helped or hindered learning?*

**Lesson Logistics:**

*Which classroom management techniques supported learning?*

Teacher: \_\_\_\_\_ Date: \_\_\_\_\_

# Student Assessment Worksheet

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## SYMMETRICAL PATHWAY MAP - PEER ASSESSMENT

Performers' Names	<b>Symmetry</b>	
	<b>Draw</b> what you saw: the pathways the dancers created.	<b>Describe</b> what you saw in the dancers' movements that were either symmetrical or asymmetrical. Be specific. e.g. when they were jumping forward their bodies were symmetrical on either side of their center line.

### ASSESSMENTS CHECKLIST

<b>Symmetry</b>		<b>Choreography</b>		Total Points 4
<b>DANCE</b>	<b>DANCE</b>	<b>MATH</b>	<b>DANCE</b>	
Creates still, physical forms that are identical, mirror images, on both sides of a vertical line through the center of the body	With a partner, creates identical, mirror image movements on each side of a line of symmetry between the two individuals	Draws a mirror image pathway map incorporating curved, straight and/or zigzag lines	Translates mirror image pathway into movements through the general space	

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

## SYMMETRICAL PATHWAY MAP - PEER ASSESSMENT

Performers' Names	<b>Symmetry</b>	
	<b>Draw</b> what you saw: the pathways the dancers created.	Describe what you saw in the dancers' movements that were either symmetrical or asymmetrical. Be specific. e.g. when they were jumping forward their bodies were symmetrical on either side of their center line.

<b>Symmetry</b>		<b>Choreography</b>		Total Points 4
<b>DANCE</b>	<b>DANCE</b>	<b>MATH</b>	<b>DANCE</b>	
Creates still, physical forms that are identical, mirror images, on both sides of a vertical line through the center of the body	With a partner, creates identical, mirror image movements on each side of a line of symmetry between the two individuals	Draws a mirror image pathway map incorporating curved, straight and/or zigzag lines	Translates mirror image pathway into movements through the general space	

## **ARTS IMPACT FAMILY LETTER**

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### **DANCE LESSON – Lines of Symmetry**

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Dear Family:

Today your child participated in a dance lesson using symmetrical and asymmetrical body shapes, curved, straight and zigzag pathways, mirroring activities, and a movement study. We explored various ways that the concept of line of symmetry (axis) can be applied in dance.

- We made shapes that were symmetrical around a **vertical axis** through the body so that the right and left halves were the same.
- We worked with a partner to discover how we could create identical, mirror image movements.
- Collaborating with a partner, we made a movement study to show a symmetrical curved, straight and/or zigzag **pathway through the space**.

At home, you could look for examples of symmetrical objects or designs. Look for items that are the exactly the same or equal on each side of a line that divides them in half.

#### **Enduring Understanding**

Dividing space or the body shape into equal, matched sections on each side of an axis line creates symmetry in dance.