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

**DANCE LESSON – Patterns in Dance and Math**

**Arts-Infused Disciplines:** Dance/Math  
**Arts-Infused Concept:** Pattern

**Artist-Mentor:** Debbie Gilbert  
**Grade Levels:** Reference State Frameworks at Grade Level

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**Enduring Understanding**

Repeating body movements and shapes can represent and extend patterns.

**Target:** Demonstrates dance concepts.

**Criteria:** Dances self and general space, high and low levels, forward and backward directions, and/or side-to-side directions.

**Target:** Understands and represents AB pattern through math and dance.

**Criteria:** Creates and extends alternating units that repeat dance concepts.

**Target:** Creates choreography, performs and documents a dance with an AB pattern.

**Criteria:** Selects contrasting dance concepts (e.g. high and low); chooses movements using dance concept; repeats movements in alternating units; adds a beginning and ending shape; rehearses, performs, and notates the dance.

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**Teaching and Learning Strategies**

1. **Prepares students for dancing patterns** by discussing pattern in dance, math, and everyday living. Displays dance word of the day sign: “pattern.”  
**Prompts:** This is an arts-infused lesson about patterns that links dance and math. Where do you see patterns in this room?  
**Student:** Considers and discusses the shared concepts of pattern in math and dance and life.  
**Discussion based on prior knowledge.**  
**Embedded Assessment:** Criteria-based teacher checklist

2. **Leads students in BrainDance warm-up.** (Originally developed by Anne Green Gilbert, video reference: *Brain Dance, Variations for Infants through Seniors*). Music: Eric Chappelle, #20 “Potpourri” from *Music for Creative Dance, Volume III.*  
**Prompts:** This version of the BrainDance includes many AB patterns. See if you can recognize them.  
**Demonstrates the dance using the following sequence of movements:**

**Tactile:** Rub hands. Tap body lightly from head to toe. Stomp feet.  
**Breath and Core-Distal:** 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.  
**Head-Tail:** Curl the body forward from head to tailbone. Curl it backwards.  
**Upper Half:** Stabilize the lower half of the body and only the top half dances.  
**Lower Half:** Stabilize the upper half of the body. Only the bottom half dances (stay in one spot).  
**Body-Half Right:** Stabilize the left half of the body.  
**Alternate up and down movements.**
Body-Half Left: Stabilize the right side of the body. *Prompts:* Only the left side dances. Alternate up and down movements.

Swing: *Prompt:* Swing upper body up and down several times.

Cross-Lateral: *Prompts:* Reach across the body with one hand and then the other. Repeat several times. Do the same with a foot. Repeat several times. Repeat hand cross-lateral movements and then foot cross-lateral movements.


Reflection: What AB patterns did you observe in the BrainDance?

Student: Participates in warm-up according to teacher prompts.

3. **Reviews dance concepts of self/general space, high/low levels, forward/back directions, side-to-side directions, and shapes.** Displays dance word signs for each concept. Uses two different percussion instruments to cue a **Move and Freeze** exploration of the concepts. *Prompts:* When you hear the drum, dance in self-space, staying in one spot. When the drum stops, freeze in a shape. When you hear the bell, dance in the general space, traveling through all the empty space in the room. When the bell stops freeze in a shape. Alternate self and general space in an AB pattern. Do the same with high/low levels, forward/back directions, and side-to-side directions.

Student: Explores concepts, moving and freezing to musical cues in AB patterns.

4. **Demonstrates and directs the AB Pattern Circle.** Guides students to stand in a large circle. Makes a high shape. Asks student to the right to make a low shape. Continuing counterclockwise, directs students to make shapes alternating high and low to extend the pattern, until there is a full circle of shapes. Repeats the Pattern Circle using self-space and general space. (Use only a little general space, for example a student could start in her spot in the circle, dance to the center and return to her spot.) Using self-space, repeats the Pattern Circle with forward and backward directions and again with side to side directions. **Music:** This exploration could be done in silence or using music with a steady beat and a moderate tempo like "Up and At 'Em" #11 or "Back At Ya" #8 which has an alternating eight-count phrase, both from *Music for Creative Dance, Contrast and Continuum, Volume IV.* *Prompts:* What other patterns could we dance as a Pattern Circle?

Student: Extends patterns in a circle of shapes.

**Embedded Assessment:** Criteria-based teacher checklist: room scan, reverse checklist

5. **Guides students through the Pattern Dance Choreography process.**
   a. Demonstrates creating an AB pattern for a brief dance study. Picks a card with the concepts, e.g. "high/low levels." (Prior to the class create a set of concept cards: "high and low levels," "self and general space," "forward and backward directions," "side-to-side or right and left directions." For early readers, you could add pictures.) With a small group of students, decides which movements will be high and which will be low. Puts the movements together, alternating high and low in an AB pattern. Repeats the pattern at least three times. Begins and ends in a shape. Demonstrates how to notate the pattern on the student worksheet. *Prompts:* How would you describe the pattern that we used?

   b. Divides the class into small groups of about four. *Prompts:* Pick a card. Decide which movements you will do. Create a beginning and ending shape. Practice your dance. Repeat your AB pattern at least three times. (Music: You could alternate using the two percussion instruments, or use the musical selections suggested above.)

   **Student:** Creates, notates, and rehearses an AB pattern dance.

   **Embedded Assessment:** Criteria-based self assessment (student worksheet)
6. **Leads students through a performing and responding process.** Reviews performer and audience behavior. *Prompts: Performers what do you want from your audience? Audience what do you want from your performers?* Guides each group to perform its dance and after each group, asks the performers to describe their dance. *Prompts: How did you use an AB pattern in your dance?*  
*Student: Performs and describes AB Pattern Dance.  
Embedded Assessment: Criteria-based rubric and self-assessment (student choreography worksheet)*

7. **Reflects with students.** *Prompts: What other patterns could you dance? How would you dance them?*  
*Student: Reflects and responds.  
Embedded Assessment: Criteria-based reflection*

**Extension (for third-fifth grade students):**

**Pattern in numbers and movements.** Leads a series of movements that create a numerical pattern. *Prompts: Clap high twice. 1,2. Stop. Clap low four times. 1,2,3,4. Stop. Clap high six times. 1,2,3,4,5,6. Stop. Clap low eight times. 1,2,3,4,5,6,7,8. Stop. What number pattern did we use? (+2) What would be next in this pattern? (Clap high ten times.)* Write the pattern on big paper or a blackboard. *Now let’s try another pattern. I’ll count to help you do one movement per beat. Demonstrates reaching up 6 times, stopping, reaching down five times and stopping. Prompts: Now do it with me. Reach up six times. 1,2,3,4,5,6. Stop. Reach down five times. 1,2,3,4,5. Stop. Reach up four times. 1,2,3,4. Stop. Reach down three times. 1,2,3. Stop. What number pattern did we use? (-1) What would be next in this pattern? (Reach up two times)* Writes the pattern. Repeats this process using other number patterns and movements suggested by students. Small groups could develop pattern dances and other students could guess the rule of the pattern and what would come next in the pattern.  
*Student: Performs claps in a pattern by adding two claps each time. Performs ‘reaches’ in a pattern by subtracting one reach with each repetition. Suggests and performs other number patterns and movements.*
<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Materials and Community Resource</th>
<th>WA Essential Learnings &amp; Frameworks</th>
</tr>
</thead>
</table>
| **Arts Infused:** Math and Dance pattern, AB patterns | **Performances:** Broadway Center for the Performing Arts, Tacoma, WA  
World Series of Dance, Seattle, WA  
Pacific Northwest Ballet, Seattle, WA  
**Performance Materials:** Word of the day sign: Pattern  
Large dance word signs for display:  
• self and general space  
• high and low levels  
• forward and backward directions  
• side-to-side directions  
Set of dance concept cards for small group choreography (high/low level, self/general space, etc.)  
Student pattern choreography worksheets  
Teacher assessment worksheet  
Two percussion instruments  
Music: Music for Creative Dance, Contrast and Continuum, Volumes III and IV | **Essential Learnings**  
AEL 1.1 concepts: pattern, space, levels, shape, directions  
AEL 1.1.2 principles of organization: repetition  
AEL 1.2 skills and techniques: small group choreography  
AEL 2 applies creative process: creates, performs, and responds to AB pattern dance  
MEL 1.5 algebraic sense: number patterns  
**Arts State Frameworks**  
Grade 1: repeats patterns of movement (repetition)  
Grade 3: creates basic movement sequences  
Grade 4: improvises movement using the elements of dance  
Grade 5: creates a simple dance  
**Math State Frameworks**  
Kindergarten: creates an AB pattern  
Grade 1: creates a variety of repeating patterns  
Grade 2: translates a pattern from one representation to another  
Grade 3: describes the pattern in a number sequence  
Grade 4: creates a number pattern and explains what makes it a pattern  
Grade 5: explains why a given rule fits a pattern |
## ARTS IMPACT INSTITUTE LESSON PLAN - Core Program Year 2 Art-Infused

### DANCE LESSON – Patterns in Dance and Math

### ASSESSMENT RUBRICS

<table>
<thead>
<tr>
<th>Patterns in Dance and Math</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creates choreography</td>
<td>Consistently repeats both parts of contrasting dance concepts as a pattern (e.g. high and low – high and low – high and low)</td>
<td>Dances two contrasting dance concepts (e.g. high and low levels)</td>
<td>Selects both parts of contrasting dance concepts and links to specific movements (e.g. identifies high level reaches and low level shakes)</td>
<td>Selects one part of contrasting dance concepts (e.g. moves in high space)</td>
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### ASSESSMENT WORKSHEET

<table>
<thead>
<tr>
<th>Students</th>
<th>DANCE Concepts: Pattern Circle as part of a group</th>
<th>DANCE and MATH Rubric: 1-4 points</th>
<th>DANCE Choreography</th>
<th>MATH Pattern</th>
<th>Total Points 10</th>
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<tbody>
<tr>
<td></td>
<td>High/low level</td>
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<td>Side-to-side directions</td>
<td>Creates and extends alternating units that repeat dance concepts</td>
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| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. | 24. | Total |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

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

**Self-Reflection:** What did you need to do to create an AB pattern in your dance?

**Peer to Peer:** Describe the patterns in the dances you observed. What other patterns could you dance? How would you dance them?

**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: ______________

Arts Impact Core 2 – Arts Infused Summer Institute – Dance: Patterns in Dance and Math
ASSESSMENT RUBRICS

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SELF-ASSESSMENT WORKSHEET

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<td>Chooses movements using dance concept adds a beginning and ending shape; rehearses and performs the dance</td>
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Criteria-based Reflection Questions:

Self-Reflection: What did you need to do to create an AB pattern in your dance?

Peer to Peer: Describe the patterns in the dances you observed.

What other patterns could you dance?

How would you dance them?
# Student Pattern Choreography Worksheet

Name: ___________________________  Date: ____________

## Words

<table>
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<tr>
<th>Describe your beginning shape.</th>
<th>What is your dance concept for the “A” section? (e.g. high, self-space, forward)</th>
<th>What is your dance concept for the “B” section? (e.g. low, general space, backwards)</th>
<th>Describe your ending shape.</th>
</tr>
</thead>
</table>

## Words and/or Pictures

<table>
<thead>
<tr>
<th>Draw your beginning shape.</th>
<th>What movements will you do for your “A” section?</th>
<th>What movements will you do for your “B” section?</th>
<th>Draw your ending shape.</th>
</tr>
</thead>
</table>

## Words or Pictures, and a Number

<table>
<thead>
<tr>
<th>Write or draw your pattern.</th>
<th>How many times did you repeat your pattern?</th>
</tr>
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Arts Impact Core 2 – Arts Infused Summer Institute – Dance: Patterns in Dance and Math
ARTS IMPACT FAMILY LETTER

DANCE LESSON – Patterns in Dance and Math

Dear Family:

Today your child participated in a dance and math lesson. We talked about patterns in dance, math, and everyday life.

- We danced using self and general space, high and low levels, forward and backward directions, and side-to-side directions.

- We created, performed, and wrote about an AB pattern dance. We selected contrasting dance concepts (e.g. high and low), chose movements using our own choice of a contrasting pair of dance concepts, alternated movements in an AB pattern, and added a beginning and ending shape.

- We learned how dancers can use mathematical patterns to make a dance.

You could look for patterns in your home and in your yard. You could write or dance the math patterns. How could you use them to make a dance, a song, a drawing?

**Enduring Understanding**

Repeating body movements and shapes can represent and extend patterns.