artsNOW
Integrated learning solutions

UNIT: CREATIVE EXPRESSIONS IN MULTIPLICATION
MULTIPLY YOUR MOVES
Grade Band: 3
Content Focus: Dance & Math



LEARNING DESCRIPTION

In this lesson, students engage in movement-based exercises to solve multiplication equations by incorporating non-locomotor movements using specific body parts. Students will use movements such as stretching, bending, twisting, and balancing to represent multiplication problems. For example, they might stretch both arms to represent the number two and twist their torso three times to illustrate 2 × 3. By combining these non-locomotor movements with body parts (e.g., arms, legs, or hands), students will create and solve multiplication problems in a dynamic and interactive way, reinforcing both mathematical concepts and physical coordination.

LEARNING TARGETS

Essential Questions	"I Can" Statements
What connections can we make between mathematical operations like multiplication and the movements we create with our bodies?	I can solve and express a multiplication equation using different body parts and non-locomotor movements.

What strategies can we use to break down a multiplication problem?	

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
3.PAR.3.6 Solve practical, relevant problems involving multiplication and division within 100 using part-whole strategies, visual representations, and/or concrete models.	ESD3.CR.1.d Respond to a variety of stimuli through movement (e.g. literature, visual art, props). ESD3.PR.1.c Execute a range of axial movements comprised of space, force, body shapes, and qualities (e.g. levels, sharp/smooth, curved/straight, heavy/light, swing/float planes). ESD3.CN.3 Identify connections between dance and other areas of knowledge.

SOUTH CAROLINA TANDARDS

Curriculum Standards	Arts Standards
3.NSBT.3 Multiply one-digit whole numbers by multiples of 10 in the range 10 – 90, using knowledge of place value and properties of operations.	**Anchor Standard 1:** I can use movement exploration to discover and create artistic ideas and works. **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
• Multiplication - A mathematical operation used to calculate the total of one number added repeatedly a specific number of times • Equation - A mathematical sentence that has two equal sides separated by	• Non-locomotor movement - A movement that does not travel through space (e.g. shaking, bending, stretching, twisting, turning & more) • Levels - One of the aspects of movement (there are three basic levels in dance:

an equal sign • Factor - The numbers that are multiplied • Product - The answer to a multiplication problem • Multiplier - The number of groups • Multiplicand - The number of items in each group • Array - A way of organizing objects, numbers, or symbols in rows and columns to visually represent mathematical concepts, especially multiplication and division	high, middle, and low) • Body shape - Refers to an interesting and interrelated arrangement of body parts of one dancer; the visual makeup or molding of the body parts of a singular dancer; the overall visible appearance of a group of dancers (they may be curved/angular, symmetrical/asymmetrical, positive/negative) • Repetition - When you do the same movement or pattern more than once • Movement exploration - Trying out different ways of moving your body to discover new things

MATERIALS

- Upbeat instrumental music
- Speaker or other device with the ability to play music
- Index cards with multiplication equations written on them

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

Move It! Shape It!

- Choose one word from each list below for students to interpret through movement (e.g., Shake your elbows at a high level).
- When music plays, students move, in their personal space, to express vocabulary given.
    - Suggestion: Upbeat instrumental music is best.
- When the music stops, students should freeze in a body shape.
- Repeat as needed.

Vocabulary to utilize:

- *Body Parts: Head, shoulders, arm, elbow, hand, finger, hips, leg, knee, foot*
- *Non-Locomotor Movement: Bend, wiggle, shake, flick, turn, twist, dab, reach, grow, melt*
- *Levels: Low, middle, high*

Work Session

- Review multiplication, parts of a multiplication equation, and solving a multiplication equation.
- As a class, explore how to express a multiplication equation in movement.
    - Factor 1:
        - Factor 1 is the number of body parts to be “moved”.
        - Identify the body parts to be used (can use the body parts list above in the activating strategy or have students identify other suitable body parts).
    - Factor 2:
        - Factor 2 identifies the number of times a non-locomotor movement is performed at each identified body part.
        - Identify a non-locomotor movement to bring each body part to action.
    - Product:
        - Students count the non-locomotor movements as they perform.
    - Example: 2 x 3 = ?
        - Two body parts: Head and elbow
        - Three times of a specific non-locomotor movement
            - Three shakes of head
            - Three shakes of elbow
        - Product: How many total shakes?
- Group students as pairs or trios.
    - Give each group one or two multiplication equations.
    - Each group goes through the above process of solving their equation(s).
    - Students should write their equation(s) with the product included.

Closing/Reflection

- Invite groups to share their movement phrases with the class.
- After sharing, the rest of the class will write the multiplication equation with the product.

ASSESSMENTS

Formative

- Teacher observation of students during “Move It! Shape It!” to check for understanding of vocabulary
- Individual group check-ins during group work time and class sharing of phrases looking for body parts and non-locomotor movement

Summative

- Written equations with product
- Evidence that students understand the difference between locomotor and non-locomotor movements

DIFFERENTIATION

Acceleration: Group students according to the multiplication fact set they are ready to master.

Remediation: Adjust multiplication equations to the fact set that they are currently mastering.

ADDITIONAL RESOURCES

CREDITS

U.S. Department of Education- STEM + the Art of Integrated Learning
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**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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