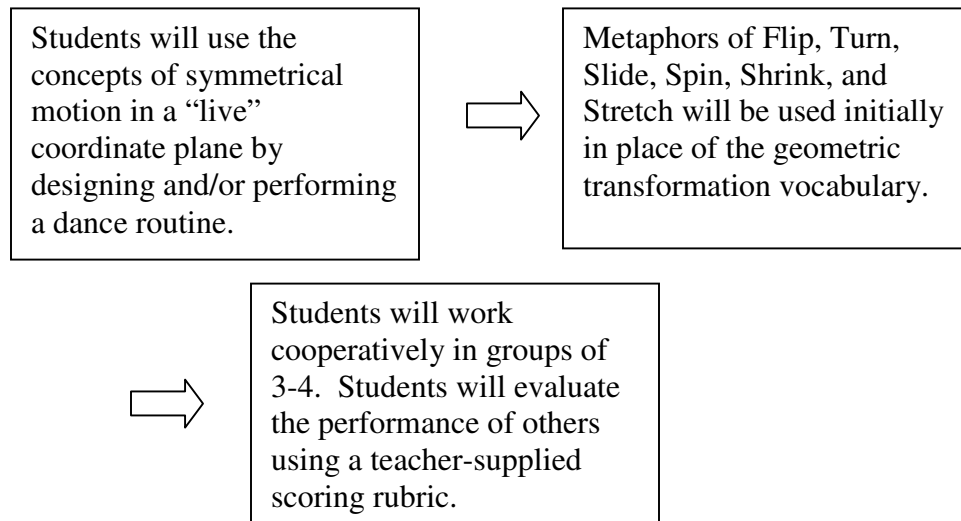


**Performance Task/
Lesson Plan:** Transform-motion Dance Contest

Unit: Symmetry/Geometric Transformations
Approximate Time Frame: 1.5-2 days

Understandings/Skills:



Authentic Performance Task:

This activity can serve as the **anticipatory set** for the Symmetry/ Transformation Unit, or it can be used early in the development of the unit after some basic concepts are introduced.

Note: This activity should be announced (e.g. "Dance Contest, Monday, November 3rd!!") in advance using posters in the classroom. On the day of the event, the classroom will need to be cleared to create a dance floor, or another suitable location (e.g. gym, cafeteria, parking lot) should be utilized. Dance floor should be marked with tape (see below) simulating a coordinate plan. Music: instructor or student supplied/selected.

Part I: Ideally, students will be grouped in fours, although three or five is acceptable. The teacher will explain the various "dance moves" with the help of student volunteers to model individual movements. The "Transform-motion" dance routine (attached) should then be modeled by a volunteer group. The teacher should act as the "caller" so that corrections can be made during this initial modeling. Subsequent "performances" can be called by a student volunteer. Student teams will then be given time to review the routine (hand-out) for 5-10 minutes before the competition begins.

Part II: Students will perform the dance routine with their group. While each group is performing, observing students will use the "dance rubric" to score the performance. A "dance-off" for the two high-scoring teams is recommended. A combination of teacher-supplied and student-supplied music may be played for the routines.

Part III (Optional): "Motivated" teams can design a custom routine for performance during the next class period. Extra credit will be given for this effort. For students less interested in dance, a marching band routine can be designed using the same concepts.

Evidence of Desired Understandings:

Students perform geometric movements correctly using informal terminology of flip, slide, turn, etc.

Students are able to critique other performances for adherence to proper movements.

Ticket Out: SWBAT relate informal transformation language to the movement of a figure in the coordinate plane.

NJ CCCS Addressed:

- 4.2.8B1 Understand and apply transformations.
-Finding the image given the pre-image and vice-versa
-Sequence of transformations needed to map one figure onto another
-Reflections, rotations, and translations resulting in images
-Dilations (stretching/shrinking) result in images similar to the pre-image
- 4.2.8C1 Use a coordinate grid to model and quantify transformations (e.g., translate right 4 units)
- 4.5.8B3 Analyze and evaluate the mathematical thinking and strategies of others.
- 4.5.8C3 Recognize that mathematics is used in a variety of contexts outside of mathematics.
- 4.5.8C4 Apply mathematics in practical situations and in other disciplines.

Dance Floor Layout

LINES: One line should be BLUE; the other line SILVER. Use Blue painter's tape. For the silver line, use duct tape OVER the blue painter's tape (painter's tape will not damage floor, duct tape might).

CIRCLE should be "dashed" with 3 or 4 short pieces (6-8 inches long) of the blue painter's tape per quarter arc. Suggested diameter: 7-8 feet

Big X's mark the starting locations for the "tranfor-motion" dance routine.

