

Dance the Equation

8th grade Math and Dance

CORE SUBJECT AREA

Math

ART FORM + ELEMENTS

Dance
Space
Energy

MSCCR STANDARDS

8.EE.7 a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solution.

MSCCR CREATIVE ARTS STANDARDS

DA: Cr1.1.6 b. Explore various movement vocabularies to transfer ideas into choreography.

DURATION

45 minutes

OBJECTIVES

The student will review the process of solving linear equations. The student will correctly identify if there is one solution, no solution, or infinite solutions. The student will clearly demonstrate an understanding of space (dance element) in movement: High, Medium, & Low levels. Also, energy (dance element) in movement: Sharp & Smooth movements. The student will apply this understanding to the process of solving linear equations. The student will work cooperatively, respectfully, and creatively with their peers throughout instruction.

MATERIALS NEEDED

Music, note cards, Dance Elements poster

VOCABULARY

Space

LESSON SEQUENCE

Does anybody ever travel? How important is it to have signs along the way, to know where you are? You know that you arrived at your destination because you recognize it, and it's clearly identified. Solving a linear equations is like taking a trip. We will have signs along the way, and you will recognize when you have arrived.

It is important to understand how to recognize and clearly show something. By using the concept of identifying, and doing this through movement, we will review the right way to solve linear equations.

Warm-up: BrainDance:

Follow my lead, but feel free to explore. We will be moving in all different kinds of ways in the warm-up. Do your best to do everything clearly. We will do the warm-up in place.

Breath -- oat Tactile; brush, tap, squeeze, pitter-patter Core/Distal; reach and melt Head/Tail; vibrate Upper/Lower; bend, bounce, jump Right/Left; swing and shake Cross Lateral; twist Vestibular; spin and punch

Activity One (Introduction of Movement Concept):

Mirroring: The students will be asked to get into groups of two. The teacher will then explain to students that they will mirror their partner. One student will be the leader while the other follows, and then they will switch, when told. Each leader will move slowly enough for their partner to follow.

Students face each other palms up facing their partner. Leader moves hands slowly in all directions. Leader can add legs or whole body after becoming proficient.

Activity Two (Exploration of Movement Concept):

Review dance elements. The teacher will explain to students what “levels” means in dance (High and Low). The teacher will ask students to show high, medium and low movements, and ask them to do these in a different way and different body part. Then the teacher will ask the students to show sharp and smooth movements using different body parts and different ways.

Hands up and on tiptoes hands out, in front Hands down reaching towards the ground Sharp - (ninja like) high, medium and low Smooth - relaxing wave motions.

Activity Three (Development of Movement Concepts): Review of Linear Equations The teacher will hold up a poster with the following equations written on it:

$$7x - 3 = 5x + 5 \quad 7x - 3 = 7x + 5 \quad 7x - 3 = -3 + 7x$$

The teacher will then show students how each equation is worked out. The teacher will remind students that when writing the final answer of the equation that the answer will have One Solution, No Solution, or Infinite Solutions.

Activity Four (Culmination of Combined Academic and Movement Concepts):

Dancing a solution to a linear equation. The students will be divided into groups of 4 – 5. Each group will be given a pencil and a note card with a linear equation on it, like the discussed (example) above. They will be directed to work together to use movement to dance the solution of the equation. They will be directed to: Identify the solution to their equation; Create and show the dance move their group created for their solution; Practice doing their movement; Show the linear equation solution.

Each group will then show their equation as the teacher reads it aloud and guides the pace of the “performance.” Observing students will be asked to comment on the clarity and correctness of the movement and the math involved. The teacher will share performance/audience expectations before showings, and arm quality participation in this activity afterwards.

SOURCES

www.engageny.org, www.wigglegenius.com