

Angle Dance

7th Grade Math and Dance

CORE SUBJECT AREA

Math

ART FORM + ELEMENTS

Dance
Body

MSCCR STANDARDS

7.G.5 Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

OBJECTIVES

Students will solve for missing angles.

Students will identify supplementary, complementary, vertical, and adjacent angles.

Students will use a protractor to aid in angle identification.

Students will use movement to illustrate a concrete concept.

MATERIALS NEEDED

Students will need an 'Angles Foldable' handout, pencils, grid paper, protractors, scissors, calculators, and index cards (1 per group).

RECOMMENDED RESOURCES

<https://danceequations.com> <https://danceequations.com/miranda-abbott/> (picture illustrations of angles in dance)

Answers and visual for the 'Angle Foldable':

<http://www.mrseteachesmath.com/2016/01/angle-pair-relationships-interactive.html>

LESSON SEQUENCE

TTW show the video on angles to refresh students' mind on basic forms of angles. She could even dance with the video, to get the students interested. <https://www.youtube.com/watch?v=NVuMULQjb3o>.

TTW have students complete a 'What's in a Name?' activity by writing out their first names on grid paper, in all caps. She will have students label any angles in their name by acute, obtuse or straight angles.

DURATION

This lesson should take 2-3 class periods.

MSCCR CREATIVE ARTS STANDARDS

DA: Pr5.1.7 Develop and refine artistic technique and work for presentation.

a. Apply body-use strategies to accommodate physical maturational development to technical dance skills (for example, functional alignment, coordination, balance, core support, kinesthetic awareness, clarity of movement, weight shifts, flexibility/range of motion).

b. Utilize healthful practices and sound nutrition in dance activities and everyday life. Discuss benefits of practices and how choices enhance performance.

c. Collaborate with peers to practice and refine dances. Develop group performance expectations through observation and analyses (for example, view live or recorded professional dancers and collaboratively develop group performance expectations based on information gained from observations).

VOCABULARY

Supplementary, complementary, adjacent, vertical, obtuse, acute, straight angle, protractor

TTW discuss with students how angles and lines are easily identified in dance. She will show TS some illustrations of this from the ‘dance equations’ site in resources. Have TS identify types of angles they see from the images.

Day Two:

TTW distribute the ‘Angle Handout’ to each student. She will instruct the students to fold the paper ‘hamburger’ style, and then hamburger style again. When students open the paper they should have fourths on their paper. Once the paper is opened fully, have students fold the paper ‘hotdog’ style. Have students open the paper fully again, and students should have eighths. TSW cut in the middle (on the crease) on the short side of the paper to the first fold (when you folded into fourths). This will create four aps on the outside of the paper. TSW fold the aps inward so that the outside of the aps are blank. This is where TSW write the vocabulary word (complimentary, supplementary, adjacent, and vertical) that matches the description and definition on the inside. TT should write the vocabulary words on the board or anchor chart for visual learners. TT may also have TS draw the corresponding angle on the outside of the ap using a protractor.

**If students are unfamiliar with how to use protractors, there is a ‘How to’ handout attached to the resources. TS could then go back to the “What’s in a Name?” activity and measure the angles. TTW walk students through the fill-in-the-blank definitions, and give students 4-6 minutes to solve the word problems. TT should be facilitating learning by walking by students to check their work. She should choose a student to solve each problem aloud or on the board. TT will go back to the images from the beginning of the lesson ‘dance equations’ and identify angles and lines, this time using their new vocabulary.

Day Three:

TTW then describe for students the angle movement project that they will complete in small groups. TS should be split up into groups of 2-3; each group will create their own simple angle problem involving types of angles from their foldable. This problem will be written on an index card, after being approved by TT. TSW then physically represent their problem with their body, using arms/legs. Each group will physically display their problem while other groups participate in a “Gallery Walk.” Groups should have their index card displayed on a desk, for other groups to read. Students should solve other groups problems on the back of their foldable for assessment of standard.

EXTENDED LEARNING ACTIVITIES

The following website has additional resources to teach angles:

<http://www.rundesroom.com/2016/06/5-activities-for-teaching-angles.html>.

SOURCES

Teachers should identify ways to move their arms and legs to form angles, in order to help and demonstrate for groups.

Teachers should research pictures of dance moves from provided websites and extended activities from open wifi.