



STEM Content Lesson Plan

Teaching Artist's Name: Amanda Whiteman

Math Concept for Math Skills Development:

Counting, attributes, problem solving

Arts Concept for Performing Art Skills Development:

Body shape and negative (empty) space

Arts Strategy (How are you using the art Skill to teach the math skill):

Exploring body shape and negative (empty) space while using comparison language to describe two groups of children.

Arts/Math Vocabulary:

Curvy, straight, body shape, and negative/empty space. How many? All together? Fewer? More?

Children's Objectives:

- The children will be able to freeze in a body shape.
- The children will be able to connect their body shapes to a friend's.
- The children will be able to fill empty space in someone's body shape.
- The children will be able to use comparison language when looking at two group shapes to determine which group has more/fewer.

Teacher's Professional Development Outcome:

- Teacher will be able to make a frozen body shape that demonstrates negative (empty) space.
- Teacher will be able to lead the comparison discussion.
- The teacher will begin to use observational language to describe the body shape choices of the children.

Teacher and Teaching Artist's Intentional Questions:

Are the children able to maintain frozen shapes? Are they thinking about their choices and picking shapes they can maintain? Are they able to connect with another shape? Are they able to fill in the negative (empty) space with their bodies? Are the children using descriptive language? Can they explain "fewer" and "more" and how many...how do they know?

Procedure

Introduction:

What are the guidelines for making good group shapes? Make shapes with lots of negative (empty) space, Fill in other's empty space with safe body parts (arms, legs, feet, hands, not heads or torsos), make shapes you can hold for a long time, don't squish other's shapes.

Practice making shapes with lots of empty space that you can hold for a long time:

Warm up: Move to the music, when the music stops, freeze in a shape with lots of empty space. Can the children choose shapes they can hold while teacher and teaching artist observe their negative (empty) space? Practice a few times.

Main Experience:

Move into the observation spot and divide the carpet into two using tape. Ask the children to think about their observations. *What kind of things can you observe?* Make a list of key words the children can look for. Beside, next to, over, under, straight, curved, high, middle, low....

Create two group shapes on either side of our divider, bringing up one child at a time to add into the shape, reminding the children about the things we decided make for good group shapes. Compare and contrast groups based on math and dance observations: *What do you observe? What do you see? Do you notice any straight shapes or curved shapes? Which group shape has more bodies? How do you know? How many more people does it have? How can you tell? Which group has fewer? How do you know?*

Closing:

Sing the syllable chant along with the drum:

If you have 2 syllables in your name stand up and jump 2x...etc.

Allow each child to have a turn.

Teacher's Role:

Demonstrate how to fill in negative (empty) space with your body. Lead the comparison discussion: how many more? How many fewer? How do you know...etc.

Assessment Strategies Used Within the Lesson (Please check the strategies you will employ and how you plan to use the strategy to assess the children):

- ☒ **Open-Ended Questions:** See above
- ☒ **Demonstrations:** Children will show their own body shape while describing their choices (i.e. high-level shape, beside a friend) and decide how to fill in empty space
- ☒ **Application to Other Areas:** Space exploration and geometry
- ☒ **Child-Directed Learning:** Making choices about their own shapes and how they can connect them
- ☒ **Evidence of Problem Solving/Critical Thinking:** Can they find empty space and problem solve how to fill it? Can they observe and use language to describe what they are seeing? Can they explain which group has more and fewer?

Materials:

Tape for the carpet to divide the floor

Possible Extension Experiences:

Find curved and straight lines in letters and numbers. Compare other objects and groups to determine more/fewer/altogether.