



FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

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**Mathematize the
CLASS Way**

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Mathematizing the CLASS Way



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Background

My original idea came to me in thinking mathematically about the process of understanding math within the contexts of children's daily lives. The intention of my workshop is to direct attention to the word "processes", "understanding" and "contexts" which are the key elements of CLASS Instructional Support.

Goals and Objectives

The goal of Mathematizing the CLASS Way is the process of understanding math within the contexts of children's daily lives. The objective is to direct attention to the words "process", "understanding" and "context" through hands-on activities for CLASS Instructional Support.

Present vivid examples, processes, illustrations of great math processing in early childhood settings.

Present creative strategies and techniques for teachers to develop their pedagogical skills.

Promote and develop teachers' and children's mathematical and multidimensional thinking and processing skills.

Florida Standards

Mathematical Thinking and Reasoning Standards MTR: Because Math Matters

MA.K12.MTR.1.1 Actively participate in effortful learning both individually and collectively.

MA.K12.MTR.2.1 Demonstrate understanding by representing problems in multiple ways.

MA.K12.MTR.3.1 Complete tasks with mathematical fluency.

MA.K12.MTR.4.1 Engage in discussions that reflect on the mathematical thinking of self and others.

MA.K12.MTR.5.1 Use patterns and structure to help understand and connect mathematical concepts.

MA.K12.MTR.7.1 Apply mathematics to real-world contexts.

MA.K.NSO.1 Develop an understanding for counting objects in a set

MA.K.M.1 Identify and compare measurable attributes of objects.

Materials

- o Books, mobile devices, apps, internet sites, audio/visuals (DVDs, software)
- o Supplies and supplemental materials (Suppliers and approximate prices for most important items)
- o Include organizations, museums, fieldtrips, speakers used if applicable.
- o Student Work Samples

Lesson Plans

What Comes in Twos, Threes and Fours?

In this lesson, children will be able to recognize, sort and differentiate objects in groups of two, three and four.

LESSON FOR:

Preschoolers, Grade 1 and grade 2

LEARNING GOALS:

This lesson will help toddlers and preschoolers meet the following educational standards:

- Understand numbers, ways of representing numbers, relationships among numbers and number systems.
- Understand meanings of operations and how they relate to one another.
- Understand patterns, relations and functions.

LEARNING TARGETS:

After this lesson, toddlers and preschoolers should be more proficient at:

- Counting with understanding and recognizing “how many” in sets of objects
- Understanding situations that entail multiplication and division, such as equal groupings of objects and sharing equally.
- Sorting, classifying, and ordering objects by size, number and other properties.

What Comes in Twos, Threes and Fours?

Step 1: Gather materials.

- The book, *What Comes in 2's, 3's and 4's* by Suzanne Aker
- Chart paper divided into three categories (Sets of two, sets of three and sets of four)
- Bear Family Counters
- Blank pieces of paper, plus markers, crayons and pencils, so that the children can make their own books

Note: Small parts pose a choking hazard and are not appropriate for children age five or under. Be sure to choose lesson materials that meet safety requirements.

Step 2: Introduce activity.

1. Read the book, *What Comes in 2's, 3's and 4's*. As the book is being read, pause to brainstorm things that come in twos, three and fours. Write down the things that the book mentions and ideas that the children come up with on the chart.

Step 3: Engage children in lesson activities.

1. After reading the story, have the children sort the bears into groups of two, three and four.
2. Children will make their own books, drawing objects that come in twos, threes and fours. They can use the objects that have been previously noted on the chart or come up with new ideas.

Additional Extensions

- Send the children on a scavenger hunt to collect items that come in “groups of.” The number can exceed four, as they might find an egg carton and decide to start a category of “objects that come in twelves.” Once the children have collected their items, construct a bar graph that shows the numbers that were being scavenged. One space should be colored in for each item found that represents that number. Use the graph to teach one or more of the following concepts: more than, less than, equal, same as, addition and subtraction. This can be accomplished by having the children look at the graph to answer specific questions such as: “Which number has the most? The least? How many would we have to add to the twos column to make it equal to the threes column?”

Step 4: Vocabulary.

- Groups: Equal sets (e.g., “How many groups of bears do you have?”)
- Sort: Separating the items according to a given attribute (e.g., “Let’s sort the bears into equal groups of three.”)
- Equal: To be the same in number or amount (e.g., “Sort the bears into equal groups of three.”)

One of the many great things about this project is the adaptation level. This professional development will support the teacher to create opportunities and spaces for children’s meaningful exploration of materials that encourages development across all domains.

Resources

NAEYC (National Association for the Education of Young Children). 2020. Professional Standards and Competencies for Early Childhood Educators. Washington, DC: NAEYC.

<https://naeyc.org/resources/positionstatements/professional-standards-competencies>. 3 NAEYC. 2019.

Advancing Equity in Early Childhood Education. Washington, DC: NAEYC. <https://naeyc.org/resources/position-statements/equity>.

Shonkoff, J.P., Garner, A.S., Committee on Psychosocial Aspects of Child and Family Health, & Committee on Early Childhood, Adoption, and Dependent Care

The Pedagogy of Play Research Team. 2016. "Towards a Pedagogy of Play." Working Paper. <http://pz.harvard.edu/sites/default/files/Towards%20a%20Pedagogy%20of%20Play.pdf>.