

Mathematics:

Exploring the Mathematics Foundations in Our Daily Lives

Strands:	<i>Number Sense</i>	<i>Algebra and Functions</i>	<i>Measurement</i>	<i>Geometry</i>	<i>Mathematical Reasoning</i>
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GETTING READY

Instructional Component(s): Motivator and/or Connection to Experience; In-Class Activity

Strands: This activity can be used to develop familiarity with and deepen understanding of all math strands or of individual strands.

Focus: Students explore how they themselves and the children with whom they work demonstrate skills and concepts in the math foundations in their daily routines.

AFTER PARTICIPATING IN THIS ACTIVITY

Students will demonstrate *knowledge* and *skills* that are consistent with an increased understanding and application of the concepts addressed in this activity.

Students will demonstrate an understanding of:

- How math is used in daily life (*Standards 4 & 5*)*
- How children experience math throughout everyday interactions and routines, as well as formal instruction (*Standards 1 & 5*)*
- The foundations in mathematics, including strands, substrands, foundations, and examples of foundations (introductory understanding) (*Standards 1, 5, & 6*)*

Students will be able to:

- Consider the prevalence and importance of mathematics in daily life (*Standards 4 & 5*)*
- Identify activities during a typical day that involve math (*Standard 5*)*
- Identify ways children experience math in their daily lives (*Standards 1 & 5*)*
- Identify and describe examples of how adults and children use number sense (classification and patterning, measurement, geometry, and mathematical reasoning) in daily life (*Standards 1 & 5*)*
- Connect their own and children's daily experiences with the foundations in mathematics (*Standards 1, 4, & 5*)*
- Reflect on their own experiences with math concepts and skills (*Standards 4, 5, & 6*)

*See Appendix A

Mathematics: **Exploring the Mathematics Foundations in Our Daily Lives**

Before you start

Sometimes it is helpful to reinforce the importance of mathematics to us and to young children by pointing out that we use math informally and almost intuitively throughout our daily lives. In addition to our intentional teaching, children accumulate a great deal of understanding of mathematical concepts in their everyday interactions and routines.

Following is a two-part activity that will focus students on the importance of math in our lives, ways that math is used in daily life, and ways that children experience the math concepts in the foundations during their everyday lives.

Getting it started

In pairs or small groups, ask students to consider what math they use in their everyday lives. Ask students to take a piece of paper, divide it into two columns, and label one column “What I Did” and the other “Foundation Referenced.” You could also provide them with the worksheet at the end of this activity.

Ask students to document the activities from their day that used or required math knowledge and then decide which strand of the math foundations is relevant to each activity by writing it in the corresponding column to the right.

To help initiate this thinking process, ask the whole group to consider what they did during the first half hour after waking up or the half hour immediately before they came to class. Ask for some student volunteers to share one thing that occurred in this half hour period so other students will have an example to follow.

Here are some possible routines that might help students connect their lives to mathematics:

- Did they check on the time?
- Did they run a shower?
- Did they fix something to eat or drink?

If students need an alternative way to think about this, you might want to prompt them with specific routines, such as cooking, shopping, driving, doing laundry, staying on schedule, listening to music, dancing, or playing games. You also might ask them to consider the activities of their paid work if they have a job during the day other than caring for children.

Keeping it going

Then ask students to work in pairs and continue documenting the math in their day. If you want to focus their attention on specific strands, refer them to strands, substrands, and/or foundations and ask them to think of ways in which they were demonstrated, either actively or as background knowledge. Refer to the following strands specifically:

- Counting or Number Operations
- Classification or Patterning
- Measurement
- Geometry
- Mathematical Reasoning

Putting it together

Slides 2-3

After about 15 minutes, ask students to look at their lists and think about the following questions:

- What was the strand most frequently listed? Least frequently listed? Why do you think that is the case?
- What does this tell us about math concepts and skills in our own daily lives?
- What does this tell us about the importance of mathematics learning in ECE?
- What does this tell us about some of the ways that children gain experience with the math concepts in the math foundations?

Another way

Slide 4

Ask students to consider what math young children have participated in or experienced before they come to school in the morning and/or between the time they go home and their bedtime.

Again, ask students to take a piece of paper and divide it into two columns. Label one “What Young Children Do” and the other “Foundation Referenced.” Or you can have students use the worksheet provided. Ask students to document a child’s activities that require mathematical knowledge and then decide which strand of the math foundations is relevant to each activity by writing it in the corresponding column to the right.

Targeting individual strands

Targeting any one of the strands and its substrands and/or foundations can be done in either of the following ways:

- Assign each pair of students to one strand and ask them to think of how, during the day, they used skills and/or knowledge related to that strand

Have the whole class work on one strand only. This might be appropriate in a curriculum or observation class that is addressing that strand. For example, if students are being asked in a curriculum class to develop materials or activities related to supporting children's engagement with counting, they might use this activity as a link to their own experience with that strand.

What I Did	Foundation Referenced

HANDOUT:
Exploring the Mathematics Foundations

What Young Children Do	Foundation Referenced

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