

## **Mathematics:**

### **Linking Children's Home Experiences with the Mathematics Foundations**

<b>Strands:</b>	<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):** In-Class Activity; Out-of-Class Activity; Assessment

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

**Focus:** Students explore the vocabulary of early mathematics in the preschool setting and at home.

#### **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*)\*
- How different contexts affect children's experiences with mathematics (*Standards 1 & 5*)\*

**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 demonstrate 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 & 5*)\*
- Reflect on their own experiences with math concepts and skills (*Standards 4, 5, & 6*)\*
- Communicate with family members about how they use math in their daily lives (*Standard 2*)\*
- Identify common opportunities for experiences in math between the classroom setting and those reported by families from their daily lives (Applies to "Taking it Further") (*Standards 1, 2, 4, & 5*)\*

\*See Appendix A

## ***Mathematics:*** **Linking Children's Home Experiences with the Mathematics Foundations**

### ***Before you start***

It is important for students and/or practitioners to forge connections with the ways in which math is experienced at home and to connect families to the ways in which math is experienced in the preschool. Several possible ways to do this are suggested here.

### **Getting it started**



Slides 2-3

Ask students to interview members of their own family or families of young children with whom they work about their use of math at home.

Prepare some interview questions together in class. For example, students might ask the following questions:

- What are some ways that measurement is used in your everyday life (cooking, buying food)?
- What are some ways that counting and numbers are used in your everyday life? (Where do you add or subtract things? Where do you use one-to-one correspondence?)
- Where are patterns and classifying (matching, sorting, grouping) used in your everyday life?
- Where is geometry (shapes, positions in space) used in your everyday life (driving, putting dishes away)?

### **Keeping it going**



Slides 4-5

Some prompts might be these questions:

- What size and weight words are related to being at the grocery store?
- How do we use comparison words at the grocery store?
- What size, shape, or sorting and/or pattern words relate to doing laundry?
- What measurement words relate to cooking?
- Where and what do we count during the day?

### **Taking it further**

Consider asking questions about work-related uses of mathematics. For example, you might ask, "How do family members use math in a particular profession or work environment?" Some occupations to consider are construction worker, retail clerk, computer engineer, medical technician, truck driver, farm worker, car mechanic, farmer, nurse, and teacher.

	<p>If you ask the same questions listed previously about work-related use of math, you might get longer and more complex lists. These would help highlight the importance of mathematics in our lives but might be harder to relate to early childhood uses of everyday mathematics.</p>
<p><b>Putting it together</b></p>	<p>Ask students to bring the examples back to class, where you can link their examples to specific foundations. One way to do this would be to have a chart paper for each strand posted or on tables and ask students to write their examples on these papers. These lists could also be composed online.</p> <p>Ask students to consider how the vocabulary words that preschool children are learning relate to the examples provided from the families.</p>
<p><b>Taking it out of class</b></p>	<p>If you have access to a preschool classroom, ask students to take these examples from home life and walk through the classroom to see where these same math skills are used in the everyday environment of the early childhood classroom. Students could be given a checklist of the examples that were generated in their interviews with parents, with space below the checklist or in a second column to list examples in the classroom.</p> <p>Again provide an opportunity for students to share their results and link to specific foundations.</p>
<p><b>Assessment</b></p>	<p>Students could be asked to take the information from these activities and apply it to working with families. Ask students to use the information to plan a family evening related to the math foundations.</p> <p>Have students focus on involving families in understanding the links between home and school mathematics in the early years. Intentional curriculum features could also be demonstrated here but might require a previous course in curriculum development or that this activity is done as part of a curriculum course.</p>