

Mathematics: **Learning Mathematics in the Context of Our Cultural Communities**

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 mathematics strands or of individual strands.

Focus: Students explore ways in which cultural communities affect how young children learn mathematical skills and concepts by exploring their own childhood experiences that relate to the mathematics strands.

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:

- The ways context and culture, including experiences with our communities, language, and family, influence how children (and we as adults) learn math (*Standard 1*)*
- How children gain knowledge and understanding by building on prior experiences with their family and community (*Standard 1*)*
- Why familiar contexts and materials help children to apply mathematical concepts and use strategies (*Standards 1 & 5*)*

Students will be able to:

- Reflect upon how math was used in their family and community while growing up (*Standards 4, 5, & 6*)*
- Consider the impact of context and culture on development (*Standard 1*)*
- Think about and discuss typical mathematical experiences of preschool children (*Standards 1 & 5*)*

*See Appendix A

Mathematics:

Learning Mathematics in the Context of Our Cultural Communities

Before you start

An important point for practitioners to understand about math is that, as children and as adults, we learn math concepts and skills in the context of our cultural communities. We can begin to uncover some of this by asking students how they remember math being used in their own family as they were growing up. This provides opportunities to explore cultural manifestations of mathematics.

Getting it started

Ask students to consider family contexts to begin to understand how math was used in their families.

- Do they remember seeing their parents or other significant adults using math for household or occupational purposes?
- Do they remember using math with siblings? Did they play games that used math or use math as they did chores with siblings?
- How was math talked about and used in their home?
- Are there sayings, songs, or rhymes that they learned as children that involved counting, adding, or subtracting?
- Do they remember seeing or hearing a family member estimate when they couldn't be accurate or precise?
- Do they remember times when they made things equal or compared amounts of things?

This can be explored for the mathematics foundations overall or for each of the five strands. If you choose to implement this activity for each strand individually, the following examples suggest some questions that could be used.

Targeting individual strands



Slides 2-6

Number Sense

- How did you learn to count?
- Were there things in your family that were counted regularly?
- Where or when did you add and subtract amounts?

Algebra and Functions

- Did you sort or match things with your parents? Laundry? Dishes?
- Do you remember patterns in rugs, tiles, or linoleum floors?

Measurement

- Do you remember some things you saw measured or that you measured yourself?
- Do you remember watching or hearing family members compare size, weights, or shapes of things?
- What kinds of tools did you see your family use to measure?
- Did you organize things by size?

Geometry

- Did you fold laundry?
- Do you remember shapes in rugs, tiles or windows?
- Did you sort things into different drawers and cupboards of different shapes?

**Putting it
together**

Slide 7

If you choose to review these as a whole group, it would be interesting to find similarities and differences in the experiences of the students. If you have a diverse group of students, you might ask students to consider how differences in their math experiences are related to differences within and across languages, families, and geographic and economic communities.

Ask students to consider these questions:

- What do these differences in our own experiences tell us about the mathematical experiences of the children who come to us as learners?
- In what ways might language and culture affect our early mathematics experiences?