

Mathematics:

Deepening Understanding: Exploring Cultural Influences on Learning Mathematics

Strands:	<i>Number Sense</i>	<i>Algebra and Functions</i>	<i>Measurement</i>	<i>Geometry</i>	<i>Mathematical Reasoning</i>
<p>AFTER COMPLETING THIS ACTIVITY</p> <p>Students will demonstrate knowledge and skills that are consistent with an increased understanding and application of the concepts addressed in this activity.</p> <p>Students will demonstrate an understanding of:</p> <ul style="list-style-type: none"> • The ways that context and culture, including experiences with our communities, language, and family, influence how children (and we as adults) learn math (<i>Standard 1</i>)* • How children gain knowledge and understanding by building on prior experiences with their family and community (<i>Standard 1</i>)* • Why familiar contexts and materials help children to apply mathematical concepts and use strategies (<i>Standards 1 & 5</i>)* <p>Students will be able to:</p> <ul style="list-style-type: none"> • Consider and identify ways in which culture and context influence development in mathematics (<i>Standards 1 & 5</i>)* • Describe how cultural communities influence mathematics (<i>Standards 1, 2, & 5</i>)* <p style="text-align: center; margin-top: 20px;">* See Appendix A</p>					

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Before you start

Many of the activities relating to the mathematics domain emphasize the strong relationship between culture and home language and learning the language of mathematics. In this project, students are asked to reflect on that issue, and to choose a research question from their reflections.

Deepening understanding



Slides 2-3

In *The Cultural Nature Of Human Development* (2003, Oxford Press, p. 266), Barbara Rogoff writes:

“Skilled use of cultural tools such as mathematics is intimately connected with many aspects of the practices and values of the communities in which they are used.”

Ask students to think about some of the activities that have been completed in class and then to write a reflection on the quotation. Ask students to explore the following questions or other questions or issues that have come up in your class conversations in these reflections.

- What cultural practices and values have we explored in our conversations and activities relating to the math foundations?
- How does what children learn in early childhood settings about mathematics relate to what they experience at home?
- What are some important ways in which cultural communities influence mathematics?

When students have finished their reflection papers, you might decide to read and review them as a graded assignment or ask students to share their responses in class.

Depending on the previous exposure of your students to research design and development, you could then ask each student to develop a research question based on their reflections. The students could then conduct literature reviews for their research questions, again depending on their level of understanding of research design.