

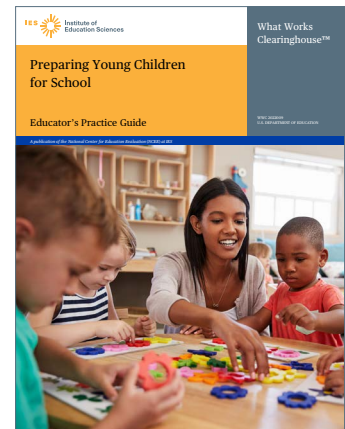
## Recommendation 4: Engage children in conversations about mathematical ideas and support them in using mathematical language



A Publication of the National Center for Education Evaluation at IES

Mathematical language plays an important role in young children's learning of mathematics. When children understand and practice using mathematical language, they are better prepared to learn from mathematics instruction and engage in conversations that include mathematics. To effectively learn mathematical ideas and skills, children need many opportunities to hear and use mathematical language. Teachers can help children notice and talk about the mathematics around them. Children can learn to talk about mathematical ideas and skills like adding and subtracting, how shapes have features like sides and angles, or whether the class has too many or just enough granola bars for everyone at snack time.

This recommendation from the What Works Clearinghouse Practice Guide *Preparing Young Children for School* presents steps for providing opportunities for children to hear, learn, and use mathematical language. The steps in this recommendation will guide teachers on how to explain the meaning of mathematical language, conduct a math-focused shared book reading, and engage children in conversations about mathematics.



### How to carry out the recommendation

1. **Introduce and explain the meaning of mathematical language during intentional mathematics instruction.** The panel recommends introducing and explaining mathematical language during intentional, small-group mathematics instruction. Teachers can identify mathematical words and phrases related to the focus of the intentional mathematics instruction that are common and appropriate for 3-5-year olds. Explain the meaning of the words and phrases using words children already know and provide concrete examples to explain their meanings. Start with simpler words and gradually introduce more complex words.

2. **Conduct a math-focused shared book reading activity several times each week.** Shared book readings focused on mathematical ideas provide opportunities for children to hear new mathematical language and engage in conversations about the mathematical ideas or skills. Choose age-appropriate books that are likely to be interesting and that accurately depict the mathematical idea or skill children are learning or reviewing.

Before reading a book to children, use sticky notes or note cards to mark when to pause to discuss relevant mathematical language or engage the children in conversations about the mathematical content. Note any questions that might prompt children to think about the mathematics and respond using the words and phrases they are learning. After reading, talk with children about the mathematical ideas or skills and language they learned. Ask questions that encourage children to make connections to their lives.

3. **Engage children in conversations about the mathematical ideas and language they are learning throughout the day.** Take advantage of natural opportunities to encourage children to talk about the mathematics they are learning. Teachers can do this by engaging children in conversations about mathematics throughout the day. Find ways to use new mathematical language many times during conversations to provide children with multiple opportunities to hear and review the words and phrases. Ask questions and prompt conversations that encourage children to verbalize their thinking and provide more details about mathematical ideas. As children answer these complex mathematical questions and engage in mathematical conversations, the panel recommends prompting children to use mathematical words and phrases in their responses.