

# Leading Math Talks with Preschoolers

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## Key Elements of Math Discourse

- Purposeful Exchange
- Mathematical Language
- Mathematical Reasoning
- Active Listening and Questioning
- Focus on Process
- Multiple Representations
- Teacher as Facilitator

## Benefits

- Improves Mathematical Thinking: Students practice appropriate mathematical vocabulary to clarify their thinking.
- Develops Active Listening: Especially when paired with peer feedback.
- Promotes Diverse Perspectives: Creates a classroom culture where students feel comfortable sharing their ideas and respectfully considering those of others.
- Reduces Math Anxiety: When students feel comfortable talking about math, they are less likely to experience math anxiety.
- Builds Confidence: Being able to explain their thinking and contribute to discussions can boost students' confidence in their math abilities.
- Increases Engagement: Interactive discussions make math more engaging and enjoyable, leading to greater participation and motivation.

## A Math-Talk Community

- is encouraging and positive.
- makes everyone feel they belong.
- is a place where students feel safe to take risks.
- is respectful of everyone.
- is where all contributions are valued.
- focuses on mathematical sense-making.

## Materials to Support Math Talk

- [Sentence Stem Posters](#)
- **Conversation Cards** [Spanish](#) [English](#)
- [Talking Sticks](#) [Talking Sticks](#)
- Talking sticks are a simple tool that can assist in building positive and appropriate talk norms during Turn and Talk. Print the template out on cardstock, cut out the signs in pairs, then fold and glue around a craft stick. Each pair of students can then pass the talking stick back and forth to promote taking turns while talking and listening with partners.

## Foster Math Talk During Play

- Create a math-rich environment with intentional materials
- Engage children with math talk and questioning
- Leverage teacher guidance and intervention
- Integrate math talk into various play activities
- Value collaborative play

## Talk Moves to Support Discourse

| Move/habit                                                                                                                                      | Explanation and use                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Revoicing</b><br>“So, you’re saying . . .”                                                                                                   | <ul style="list-style-type: none"> <li>Repeat some or all of what the student said; then ask the student to respond and verify whether the revoicing is correct.</li> <li>Revoicing can be used to clarify or highlight an idea.</li> </ul>                                                                                                                                                                |
| <b>Repeating</b><br>“Can you repeat what he said in your own words?”<br>“Can someone say that in a different way?”                              | <ul style="list-style-type: none"> <li>Ask a student to repeat or rephrase another student’s idea.</li> <li>Repeating encourages students to listen closely to others and allows more time to consider important ideas.</li> </ul>                                                                                                                                                                         |
| <b>Reasoning</b><br>“Do you agree or disagree—and why?”                                                                                         | <ul style="list-style-type: none"> <li>After students have time to process another student’s idea, ask students to analyze someone else’s claim.</li> <li>Refrain from supporting one position or another.</li> <li>Ask students to explain “why” to encourage them to apply their thinking to someone else’s contribution.</li> <li>Reasoning allows students to engage in each other’s ideas.</li> </ul> |
| <b>Building on</b><br>“Does someone want to say something more about that?”<br>“Does someone want to raise any questions about the point made?” | <ul style="list-style-type: none"> <li>Prompt students to expand on the idea already stated.</li> <li>“Building on” validates student contributions and allows more perspectives to be considered.</li> </ul>                                                                                                                                                                                              |
| <b>Wait time</b><br>“Take your time . . . we’ll wait.”                                                                                          | <ul style="list-style-type: none"> <li>Wait at least 10 seconds after asking a question before calling on someone for an answer.</li> <li>Wait at least the same amount of time after calling on a student to give the student time to process and organize his or her thoughts.</li> </ul>                                                                                                                |

Source: Adapted from Chapin, O’Connor, and Anderson, *Classroom Discussions: Using Math Talk to Help Students Learn*, 2009

### Routines that Support Math Talk

- [Counting Collections](#)
- [Tool Talk/Quick Images](#)
- [Alike and Different](#)
- [Splat!](#)
- [Which One Doesn’t Belong?](#)
- [Number Talk Images](#)
- [Same and Different](#)
- Looks and Talks
- Attendance/Check In

- Morning Meeting/Schedule Review
- Transitions
- Meal Time
- Clean Up Time

Resources: DREME at Stanford, Erickson Institute, Early Math Interest Forum of the National Association for the Education of Young Children.