

Planning and Leading Mathematical Discourse

To engage students in productive mathematical conversations, teachers must plan, initiate, and orchestrate discourse in ways that encourage student learning.



Five Practices for Orchestrating Productive Mathematical Discourse*



Anticipating:

“Actively envision how students might approach the mathematics task they will work on.”



Monitoring:

“[Pay] close attention to students’ mathematical thinking and solution strategies as students work the task.”



Selecting:

“Select particular students to share their work with the rest of the class to get specific mathematics into the open for examination.”



Sequencing:

“Make decisions regarding how to sequence the student presentations.”



Connecting:

“Help students draw connections between their solution and other students’ solutions as well as the key mathematical ideas in the lesson.”

*Smith, M. S., & Stein, M. K. (2018). *5 practices for orchestrating productive mathematics discussions* (2nd ed.). Corwin Press.

Discourse-Based Lesson Guide

Teacher Moves



Individual Think Time

Give students 10 seconds to two minutes to think about a question before discussing.



Turn and Talk

Give students time to process ideas with a partner and build their confidence to discuss their strategies.



Four Rs

Ask students to repeat, rephrase, reword, or record what classmates share to help them process each others' thinking and build understanding.

Try-Discuss-Connect Routine

Try



Make Sense of the Problem

 Four Rs

Solve and Support Your Thinking

 Individual Think Time

Discuss



Share Your Thinking with a Partner

 Four Rs

 Turn and Talk

Compare Strategies

 Four Rs

 Turn and Talk

Connect



Make Connections and Reflect on What You Have Learned

 Four Rs

 Turn and Talk

Apply Your Thinking to a New Problem

 Individual Think Time