

# 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.

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# 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**

 Four Rs

 Turn and Talk