

Study Guide—Complete Step 7 before teaching Section 4 of the Grade 3 Curriculum

Use the Step 7 “Independent Web Study” and “In Your Classroom” to prepare for a productive study group discussion.

INDEPENDENT WEB STUDY



Study the Talk Strategy: Think with Others

Research suggests that learning is deeper when students connect their ideas to other’s ideas by: agreeing, disagreeing, adding on, or saying how their ideas have changed based on other’s ideas. Become familiar with strategies that help students to co-construct ideas. Then think about what you can do to encourage students to build on and reason with the ideas of their peers?



Study the Child and the Scientist: The Challenges in Learning about Volume and Why is Volume Important?

Never underestimate the challenges of learning about volume! Why does size matter for scientists? For children? Why are “the challenges of learning about volume even more daunting than learning about weight?”



Study the Classroom Case: Listening for Unexpected or Surprising Ideas

In this video case, Jen’s 3rd grade class begins to think about the concept of volume. Jen asks which of 5 candles takes up the most space. You may find some students’ ideas surprising! How does Jen help students progress from their initial ideas to a scientific understanding of volume?

How do teachers prepare to deal with unexpected or puzzling ideas that arise during discussion? What do you notice about the strategies Jen uses to work with her students’ initial ideas about what it means to take up space? Is there something from this case that you might incorporate into your discussions?

IN YOUR CLASSROOM



Audio or Videotape an All-class Discussion

Tape a science discussion. (Place the recorder or camera so that it will pick up both your voice and the students’ voices.) After class, listen to sections of the tape. Can you catch yourself using strategies that encourage students to co-construct ideas? Does encouraging students to talk to each other and connect ideas change the nature of the discussion?

Identify a question or dilemma that arose from your independent study and your experience in the classroom. Plan to talk about your experience in the study group. You may want to identify a short interchange from the tape (~30 seconds) to share during the study group meeting.

STUDY GROUP MEETING



Learn with Colleagues: Share classroom evidence, successes, and challenges

What did you do differently to help students to consolidate their ideas? What might you do if you find that ideas are still fragile for some students? Prepare for a 5-minute discussion of your experience. (There may or may not be time for everyone to share experiences in every study group, but preparing to discuss your own experience will contribute to discussion of others’ experiences.)

Possible Discussion Protocol

1. Plan a core question for discussion.
2. Share experience (2 or 3 minutes). If feasible, share a short audio or video clip to anchor the discussion (~30 – 40 seconds).
3. Respond to colleagues questions
4. Listen while colleagues discuss the issue.
5. Summarize how you are thinking now. What are the implications?