Developing Mathematics Learning Communities
Focusing on Student Work

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What is an MLC?

- Content-specific Professional Learning Community
- Authentic discussions about how children learn mathematics
- Collegial discussions that deepen teachers’ knowledge of content and pedagogy
Research Base and Resources

- “Research on Teacher Preparation and Professional Development,” Grover Whitehurst
- “Instructional Policy and Classroom Performance: Mathematics Reform in California,” David Cohen and Heather Hill
- “Form and Substance in Mathematics and Science Professional Development,” Mary Kennedy
- *Designing PD for Teachers of Science and Mathematics*, Loucks-Horsley, Love, Stiles, Mundry, Hewson
Reasons for Examining Student Work

- Give students a grade
- Design or revise a task
- Redirect instruction
- Deepen understanding of how students think about mathematics
- Deepen personal understanding of mathematics
Goals of an MLC

- Form a collaborative learning community that focuses on student learning
- Understand new content in a deeper, more conceptual way
- Closely examine student work and formative assessments in order to determine progress and instructional needs
- Reflect on classroom practice, share strategies, discuss best practices, and expand professional expertise
MLC Session Format

- Mathematical background
- Math metacognition
- Looking at student work
- Reflecting on learning
- Feedback and wrap up
Session 7: Math Metacognition

$39 \times 22$

$325 \times 12$
Session 7: LASW Problem

- Read the problem and discuss what it is assessing:

\[(20 + 4)(30 + 5)\]

Write a word problem that represents this expression.

Solve the problem and show your work.
MLC Protocol for LASW

- Read the problem and discuss what it is assessing
- Solve the problem individually
- Share your thinking with a partner
- Discuss the mathematics of the problem as a whole group
- Look at how students solved the same problem
- Identify evidence of understanding by using guiding questions
- Discuss evidence of student understanding as a whole group
# MLC Content

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“Believing in students and the intentions of their effort is an essential part of examining student work.” - Kelemanik

No matter how flawed, it will provide a lens into mathematical thinking and understanding that might otherwise remain invisible.
Contact Information

MLC Facilitator Training for your school or district:

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MLC Materials Online

To view and download session notes, mathematical tasks, student work samples, and guiding questions templates, visit:

www.doe.mass.edu/omste/instructional.html