

# MASSMATE 2013 Conference Overview

May 23, 2013

7:30 – 8:15 am	Registration & Breakfast	Tillinghast Hall
8:20 – 9:30 am	Welcome & Keynote Address <i>The Common Core: A Challenge &amp; an Opportunity</i> Eric Milou	Horace Mann Auditorium in Boyden Hall
9:45 – 11:30 am	Concurrent Sessions # 1, Networking, & Exhibitors	Conant Building

In-service and Pre-service Elementary Education	9:45 – 11:00 am	Workshops	
	Session A	Building Mathematical Character in ALL Educators <i>Speaker(s): Heidi Bromley</i>	Conant 120
	Session B	Learning Trajectories to Interpret the Common Core: Equipartitioning in Preparation for Division, Multiplication, Ratio, and Fractions <i>Speaker(s): Alan Maloney</i>	Conant 259
	Session C	Introduction to PARCC and the Standards for Mathematical Practice <i>Speaker(s): Heather Ronan</i>	Conant 365
	11:00 - 11:30 am	Networking, Exhibitors, & Snacks	Conant 1 <sup>st</sup> and 2 <sup>nd</sup> Floor

Secondary Education	9:30 - 10:00 am	Networking & Exhibitors	Conant 1 <sup>st</sup> and 2 <sup>nd</sup> Floor
	10:00 – 11:15 am	Workshops	
	Session D	Supporting Math and Special Education Teachers in Developing Effective Co-Teaching Strategies and Materials in Middle And High School <i>Speaker(s): Carol Findell</i>	Conant 122
	Session E	Teaching the New Math Standards Well: There are No Easy Answers <i>Speaker(s): Life LeGeros</i>	Conant 260
	Session F	Connecting Secondary and Tertiary Mathematics <i>Speaker(s): Eileen Murray</i>	Conant 463
Session G	Principles for Using Whole Class and Small Group Discussions in Linguistically Diverse Classrooms <i>Speaker(s): William Zahner</i>	Conant 465	

General Interest	9:30 - 10:00 am	Networking, Exhibitors, & Snacks	Conant 1 <sup>st</sup> and 2 <sup>nd</sup> Floor
	10:00 – 11:15 am	Workshops	
	Session H	Developing a Growth Mindset in Struggling Math Students <i>Speaker(s): David Dockterman</i>	Conant 459

Descriptions of all workshops can be found in the pages that follow.

# MASSMATE 2013 Conference Overview

May 23, 2013

11:30 am – 12:45 pm

## Concurrent Sessions #2

Conant Building

In-service and Pre-service Elementary Education	Session A	Moving Beyond "I Just Used My Head": Supporting Teachers in Helping Students to Make Connections across Multiple Representations to Explain Their Reasoning in Addition and Subtraction. <i>Speaker(s): Michael Flynn &amp; Susan Smith</i>	Conant 122
	Session B	Making the Most of Mathematical Modeling: Unlocking the Power of the Standards for Mathematical Practice <i>Speaker(s): Alison Mello</i>	Conant 260
	Session C	The Look and Sound of the Mathematical Practices: Mining the Gold <i>Speaker(s): Christine Moynihan &amp; Debra Shein-Gerson</i>	Conant 465

Secondary Education	Session D	Bringing Content and Practice Standards to Life with an Illustrated Mapping: An Example from Statistics <i>Speaker(s): Juliana Belding, Peter Mili, Brendon Ferullo, &amp; Eileen Lee</i>	Conant 120
	Session E	Mathematics for Teaching: Suggestions for the Mathematical Preparation and Professional Development of High School Teachers <i>Speaker(s): Al Cuoco</i>	Conant 459
	Session F	Activities for Developing Teacher (and Student) Fluency and Understanding of Rational Numbers with the Common Core Standards for Mathematical Practice <i>Speaker(s): Jim Matthews</i>	Conant 463
	Session G	Literacy and Math: A Common Core Partnership <i>Speaker(s): Rebecca Steinitz &amp; Lawrence Hutcheson</i>	Conant 365

General Interest	Session H	PARCC Inquiry Assessments Require Inquiry-Pedagogy and Teaching in Your PLC <i>Speaker(s): Steve Reinhart</i>	Conant 259
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12:45 – 1:30 pm

Lunch

Tillinghast Hall

1:30 – 2:15 pm

Dessert, Networking, & Exhibitors

Conant Building 1st and 2nd Floor

Descriptions of all workshops can be found in the pages that follow.

# MASSMATE 2013 Conference Overview

May 23, 2013

2:15 – 3:30 pm

## Concurrent Sessions #3

Conant Building

In-service and Pre-service Elementary Education	Session A	Using the Standards for Mathematical Practice to Develop Elementary Students' Fraction Sense <i>Speaker(s): Nancy Anderson</i>	Conant 259
	Session B	A School's Journey to Shift the Mathematical Practices into Enduring Habits <i>Speaker(s): Kevin Andriolo &amp; April Watts</i>	Conant 465
	Session C	Incorporating the 8 Mathematical Practices into Your Existing Curriculum <i>Speaker(s): Tracey Deegan</i>	Conant 260

Secondary Education	Session D	Building Mathematical Character in ALL Educators <i>Speaker(s): Heidi Bromley</i>	Conant 122
	Session E	Revitalizing Mathematical Instruction with the Standards for Mathematical Practice <i>Speaker(s): Meghan Duncan</i>	Conant 459
	Session F	Learning Trajectories to Interpret the Common Core: Robust Development of Middle Grades Statistical Reasoning <i>Speaker(s): Alan Maloney</i>	Conant 463
	Session G	Introduction to PARCC and the Standards for Mathematical Practice <i>Speaker(s): Heather Ronan</i>	Conant 365

General Interest	Session H	Teaching Math to Special Needs Students with Research Based Pedagogy <i>Speaker(s): Bill Kendall, Kristen Walsh, &amp; Edward Boynton</i>	Conant 120
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3:30 – 3:45 pm

## Raffle Choice & Pick-up

Conant 242

# MASSMATE 2013 Conference

## Workshop Descriptions

### Keynote Address

8:20 - 9:30 am

Horance Mann Auditorium in Boyden Hall

*Eric Milou, Rowan University*

#### The Common Core: A Challenge & an Opportunity

There is little doubt that the implementation of the Common Core poses a great challenge to all. This challenge can be viewed as an opportunity to improve mathematics instruction. Thus this session will demonstrate strategies, activities, and technology that support the Common Core and can enhance the teaching and learning of mathematics in K-12.

Sponsored by Pearson

General Interest

### Concurrent Sessions # 1

9:45 - 11:00 am

Session A

Conant 120

*Heidi Bromley, Questar III BOCES*

#### Building Mathematical Character in ALL Educators

The common denominator of the CCSSM is the implementation of the Mathematical Practices. Utilizing these to shape and focus our work with prospective and current mathematics educators will inspire them, no matter what level they teach or degree of comfort they feel with mathematics. Materials and presentation templates utilized throughout New York State will be shared.

In-service and Pre-service Elementary Education

9:45 - 11:00 am

Session B

Conant 259

*Alan Maloney, Friday Institute for Educational Innovation, North Carolina State University*

#### Learning Trajectories to Interpret the Common Core:

##### Equipartitioning in Preparation for Division, Multiplication, Ratio, and Fractions

Fair-sharing embodies the conceptual basis of multiplicative thinking. The equipartitioning learning trajectory promotes early conceptual foundations for ratio, division and multiplication, and fraction. The session will illustrate, with engaging tasks and student work, how research on student learning demonstrates the importance of instruction in fair-sharing as a route into conceptually broad-based multiplicative reasoning without resorting to repeated addition. TurnOnCCMath.net, and implications for learning trajectory-based interpretation of the CCSS-M for classroom instruction will be discussed.

In-service and Pre-service Elementary Education

9:45 - 11:00 am

Session C

Conant 365

*Heather Ronan, Brockton Public Schools*

#### Introduction to PARCC and the Standards for Mathematical Practice

Participants will learn about the upcoming PARCC assessment system focusing on the mathematics assessment. Participants will also learn about the Standards for Mathematical Practice and how these practices will be assessed on PARCC.

In-service and Pre-service Elementary Education

# MASSMATE 2013 Conference

## Workshop Descriptions

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10:00 - 11:15 am

Session D

Conant 122

*Carol Findell, Boston University*

### Supporting Math and Special Education Teachers in Developing Effective Co-Teaching Strategies and Materials in Middle and High School

This session will provide quick formative assessments that show what students already know and what they are confused about. Interventions and extensions will show teacher-leaders how to help math and special education teachers work together to differentiate and help children master a concept. Participants will receive materials for several topics with assessments and problem sets designed for differentiated levels of understanding, as well as methods to develop more materials and collaboration techniques.

Secondary Education

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10:00 - 11:15 am

Session E

Conant 260

*Life LeGeros, Milton Public Schools*

### Teaching the New Math Standards Well: There are No Easy Answers

This session will explore the challenges presented by the new "MA Curriculum Framework for Mathematics: Incorporating the Common Core State Standards for Mathematics" and reconsider the role of answer-getting in mathematics classrooms. Specifically, we will discuss the Standards for Mathematical Practice and what they demand of instruction, curriculum, and assessment.

Secondary Education

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10:00 - 11:15 am

Session F

Conant 463

*Eileen Murray, Harvard University*

### Connecting Secondary and Tertiary Mathematics

The ability to make connections between the mathematics you learn in college and that you will teach in secondary school may greatly enhance your ability to respond to student thinking. This presentation will discuss current courses designed to help prospective teachers explore such connections and engage participants in mathematical explorations of the connections.

Secondary Education

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10:00 - 11:15 am

Session G

Conant 465

*William Zahner, Boston University*

### Principles for Using Whole Class and Small Group Discussions in Linguistically Diverse Classrooms

Group discussions can be a powerful site of student learning in mathematics. However, structuring successful group discussions requires careful attention to tasks, group norms, group composition, and assessment. This is especially true for linguistically diverse groups of students. Drawing on my research and relating this research to the Common Core Mathematical Practice standards, I present ideas for structuring successful group discussions in linguistically diverse mathematics classrooms.

Secondary Education

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10:00 - 11:15 am

Session H

Conant 459

*David Dockterman, Harvard Graduate School of Education*

### Developing a Growth Mindset in Struggling Math Students

Perseverance is the one Common Core mathematical practice that weaves through all the others. It's also a key trait that many struggling students lack. For them, struggle leads to resignation. Get practical, research-based guidance on building a growth mindset—resilience, perseverance, and grit—in those students who need it most.

General Interest

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# MASSMATE 2013 Conference

## Workshop Descriptions

### Concurrent Sessions #2

11:30 am - 12:45 pm

Session A

Conant 122

*Michael Flynn, Mathematics Leadership Programs*

*Susan Smith, Independent Consultant*

**Moving Beyond "I Just Used My Head":**

**Supporting Teachers in Helping Students to Make Connections across Multiple Representations to Explain Their Reasoning in Addition and Subtraction.**

This interactive session, integrating the Standards for Mathematical Practice, focuses on examining student reasoning with addition and subtraction. Participants will learn what teachers need to understand in order to support students in this kind of thinking and how math coaches can help teachers to encourage and develop this kind of work in their classrooms.

In-service and Pre-service Elementary Education

11:30 am - 12:45 pm

Session B

Conant 260

*Alison Mello, Foxborough Public Schools*

**Making the Most of Mathematical Modeling:**

**Unlocking the Power of the Standards for Math Practice**

This hands-on workshop will engage participants in rich tasks and task analysis using the Standards for Mathematical Practice. While our primary focus will be on Math Practice Standard 4: Model with Mathematics, participants will discover which additional practice standards are addressed when students are immersed in modeling. Through experimenting with concrete and pictorial models, real-world contexts, and acting out problem situations, the power of these standards will be discovered.

In-service and Pre-service Elementary Education

11:30 am - 12:45 pm

Session C

Conant 465

*Christine Moynihan, Independent Education Consultant*

*Debra Shein-Gerson, Maimonides School*

**The Look and Sound of the Mathematical Practices: Mining the Gold**

How do mathematics leaders support teachers as they strive to gain meaning of the Common Core Standards for Mathematical Practice and then implement them successfully in their classrooms? This session will provide a framework for helping teachers do just that by digging into the Mathematical Practices in ways for them to "mine the gold" that lies within each practice.

In-service and Pre-service Elementary Education

11:30 am - 12:45 pm

Session D

Conant 120

*Juliana Belding, Harvard University*

*Peter Mili & Brendon Ferullo, Framingham High School*

*Eileen Lee, Math for America-Boston*

**Bringing Content and Practice Standards to Life with an Illustrated Mapping:  
An Example from Statistics**

In this session we present an 'illustrated mapping' of the statistics topic of "Linear Modeling of Bivariate Data" (S-ID 6-9), tracking it from grade 6 through high school. By 'illustrated mapping' we mean a collection of standards that build toward the topic, illustrated with short tasks (classroom activities) to illuminate these standards and the mathematical practices. This mapping is currently being designed by the Mathematical Practices Seminar, a group of middle and high school teacher leaders affiliated with Math for America-Boston and Boston University.

Secondary Education

# MASSMATE 2013 Conference

## Workshop Descriptions

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11:30 am - 12:45 pm

Session E

Conant 459

*Al Cuoco, Center for Mathematics Education, EDC*

### Mathematics for Teaching: Suggestions for the Mathematical Preparation and Professional Development of High School Teachers.

Based on work with secondary teachers, on my own high school teaching experience, and on the new CBMS report "The Mathematical Preparation of Teachers-II," I'll give some examples from undergraduate mathematics that have useful applications to high school teaching. Some of these applications help connect topics in the precollege curriculum with major themes in mathematics, while others are useful tools for teachers as they plan lessons, design problems, or develop ideas.

Secondary Education

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11:30 am - 12:45 pm

Session F

Conant 463

*Jim Matthews, Siena College*

### Activities for Developing Teacher (and Student) Fluency and Understanding of Rational Numbers (fractions, decimals, percents) with the Common Core Standards for Mathematical Practice

In this session participants will work on engaging, problem-based mathematics involving rational numbers. They will share their mathematical thoughts and then discuss possible ways this material can be used for professional development with middle school level teachers and middle school level students. There will be activities to help develop basic fluency with rationals and some deeper activities that may challenge experienced teachers and talented students.

Secondary Education

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11:30 am - 12:45 pm

Session G

Conant 365

*Rebecca Steinitz, WriteBoston*

*Lawrence Hutcheson, Boston Day and Evening Academy*

### Literacy and Math: A Common Core Partnership

Although math is not included in the Common Core Literacy Standards, literacy can be a key tool for effective implementation of the Standards for Mathematical Practice. This presentation will present a conceptual framework for literacy in the math classroom that moves beyond memorizing vocabulary words and deciphering word problems. It will include tested practical strategies that work to develop student "processes and proficiencies."

Secondary Education

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11:30 am - 12:45 pm

Session H

Conant 259

*Steve Reinhart, Kendall Hunt*

### PARCC inquiry assessments require inquiry-pedagogy and teaching in your PLC

The 8 Standards for Mathematical Practice represent the habits of mind that teachers should bring into their classroom to ensure the best outcomes on the PARCC Assessments. How well do you know and understand them? Test your knowledge with this engaging activity.

Match different math tasks to the mathematical practice(s) that best describes it, K-12. Group discussions and math activities will follow for deeper understanding. Participants will all receive the Matching The Standards to Practice template.

Sponsored by Kendall Hunt

General Interest

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# MASSMATE 2013 Conference

## Workshop Descriptions

### Concurrent Sessions #3

2:15-3:30 pm

Session A

Conant 259

*Nancy Anderson, Independent Consultant*

#### Using the Standards for Mathematical Practice to Develop Elementary Students' Fraction Sense

This session is designed to answer the following questions: What types of experiences help students build meaning for fractions? Why did the authors of the Common Core State Standards of Mathematics identify fraction sense as a precursor to the study of formal algebra? What does effective instruction on fractions look and sound like in the elementary grades?

In-service and Pre-service Elementary Education

2:15-3:30 pm

Session B

Conant 465

*Kevin Andriolo & April Watts, Murkland Elementary School in Lowell*

#### A School's Journey to Shift the Mathematical Practices into Enduring Habits

Teachers at the Murkland Elementary School in Lowell engage in professional development to build the habits and classroom culture that allow students to naturally make use of the mathematical practices. During this session, participants will observe teachers weaving practices into daily lessons through consistent expectations, student dialogue, and student accountability. Links between these habits and the Mathematical Practices will be explored through clips that capture students, including ELL and Special Education, thriving in the spirit of the practices.

In-service and Pre-service Elementary Education

2:15-3:30 pm

Session C

Conant 260

*Tracey Deegan, Eastham Elementary School in Nauset*

#### Incorporating the 8 Math Practices into Your Existing Curriculum

It's not what we are teaching, but how we are teaching it that is at the core of the Common Core. Incorporating the 8 Mathematical Practices into the current program you teach is possible. Learn how to think about your content and the materials at hand a bit differently to ensure that you are giving your students every opportunity to use and apply the 8 Math Practices as you meet the demands of the standards as well as the different needs of your students.

In-service and Pre-service Elementary Education

2:15-3:30 pm

Session D

Conant 122

*Heidi Bromley, Questar III BOCES*

#### Building Mathematical Character in ALL Educators

The common denominator of the CCSSM is the implementation of the Mathematical Practices. Utilizing these to shape and focus our work with prospective and current mathematics educators will inspire them, no matter what level they teach or degree of comfort they feel with mathematics. Materials and presentation templates utilized throughout New York State will be shared.

Secondary Education



# MASSMATE 2013 Conference

## Workshop Descriptions

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2:15-3:30 pm

Session E

Conant 459

*Meghan Duncan, Hingham Public Schools*

### Revitalizing Mathematical Instruction with the Standards for Mathematical Practice

This workshop will bring together the Guiding Principles of Mathematics with the Standards for Mathematical Practice. We will explore the guiding principles, and how the mathematical practices can be incorporated into designing a new curriculum based on these principles. Participants will engage in problem solving activities, and explore resources that can be incorporated into teachers' classrooms or shared with department members.

Secondary Education

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2:15-3:30 pm

Session F

Conant 463

*Alan Maloney, Friday Institute for Educational Innovation, North Carolina State University*

### Learning Trajectories to Interpret the Common Core: Robust Development of Middle Grades Statistical Reasoning

The middle grades Common Core Statistics standards land like a ton of bricks, challenging teachers to establish robust conceptual foundation, not procedural calculations. This session introduces a learning trajectory approach to develop students' statistical reasoning. From students' prior informal knowledge about data, the research-based learning trajectory charts an instructional path for students to construct flexible, systematized, and sophisticated understanding of distribution, statistical investigation, and statistics-as-measures for data distributions.

Secondary Education

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2:15-3:30 pm

Session G

Conant 365

*Heather Ronan, Brockton Public Schools*

### Introduction to PARCC and the Standards for Mathematical Practice

Participants will learn about the upcoming PARCC assessment system focusing on the mathematics assessment. Participants will also learn about the Standards for Mathematical Practice and how these practices will be assessed on PARCC.

Secondary Education

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2:15-3:30 pm

Session H

Conant 120

*Bill Kendall, Kristen Walsh, & Edward Boynton, Braintree Public Schools*

### Teaching Math to Special Needs Students with Research Based Pedagogy

A Braintree School System Professional Learning Community (PLC) studied the best ways to teach K through 12 math to special needs students. The PLC met for 5 months, attending conferences and reading journal articles. What they found in the research surprised them. A summary of their results is presented based on ten teaching recommendations. Specific examples will be demonstrated and attendees will work through some of the teaching situations themselves.

General Interest

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**Parking West Lot - H**  
**Overflow Parking Harrington Lot - C&D**  
**Registration, Breakfast, & Lunch - Tillinghast Hall - #5**  
**Keynote Speaker - Boyden Hall - #2**  
**Sessions - Conant Building - #17**