



Math Forum Professional Development Customized and Online Programs

<http://mathforum.org/pd/>

The Math Forum is a community of mathematicians, teachers, and researchers working together to improve math education. We draw on our strengths in mathematics, technology, and professional collaboration to create high quality mathematical experiences that directly connect to the individual learner's thinking and interests. This starts with ourselves as teachers and educational leaders and then extends through our online programs and resources to our students and their families. Join us! Participate in one or more of our courses or workshops.

Targeted Levels

3-5	6-8	9-12	<i>Courses are fully moderated by Math Forum staff</i>	<i>cost</i>	<i>upcoming dates</i>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The Math Forum's Problem Solving Process	\$149	May 7 – June 17 June 20 – July 3 June 11 – July 22
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Moving Students from Arithmetic to Algebra	\$149	May 6 – June 16 July 22 – August 6 June 10 – July 21
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PoW Class Membership: Resources and Strategies for Effective Implementation *	\$149	May 7 – June 17 June 20 – July 3 June 11 – July 22
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Problem Solving in Geometry and Measurement, Course I	\$149	June 11 – July 22
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Problem Solving Strategies	\$149	May 7 – June 17 July 9 – July 22
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Teaching Math with the Problems of the Week *	\$149	June 11 – July 22

* Participation requires a PoW Membership at the Class level or higher. Summer dates assume teachers will have access to students (summer school or year-round) during the time of the course.

The following workshops use a low-cost, community-facilitated model

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tools for Building Math Concepts * fee includes \$25 for a CEU and a \$25 credit toward one of our courses	\$50 +	May 15 – July 3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Technology Tools for Thinking and Reasoning about Probability	free ^	June 15 – July 27
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Using Technology and Problem Solving to Build Algebraic Reasoning	free ^	June 15 – July 27

^ these two workshops are supported by a grant from the National Science Foundation

Customized Programs

The Math Forum consultants will work with your school or district to design a professional development program that meets your needs and priorities. We can offer a specific program of online courses for your teachers or a targeted group of teachers from one site, designed to be delivered face-to-face or online or using a combination of the two methods.

PEOPLE LEARNING MATH TOGETHER

The Math Forum is a research and educational enterprise of the Drexel University School of Education.

The Math Forum's Problem Solving Process

led by Suzanne Alejandre

This course aligns well with the Math Forum's Problems of the Week but could also be used to develop techniques to use with problem solving prompts in general. Participants are not required to have a Problem of the Week (PoW) Membership, although at the end of the course, they may find value in considering that as a logical next step as a resource for their students.

Moving Students from Arithmetic to Algebra—One Step at a Time

led by Ellen Clay

In this course, we examine a continuum of student work from the Math Forum's Problems of the Week archive. Selected work includes a range of examples from "not knowing how to start" to "It's perfect. What could I possibly say to her?" We consider specific ways to move students' thinking along this continuum. Coursework includes assisting students in analyzing a problem quantitatively, using mathematical representations, and recognizing generalization in those representations.

PoW Class Membership: Resources and Strategies for Effective Implementation

led by Suzanne Alejandre

This course is designed for current subscribers of the Problem of the Week. After completing the six-week course, you will be familiar with all of the features and resources associated with your PoW membership access. You will be able to make an informed decision of how to start implementing PoWs with your students, and you'll have an idea of next steps to try when you are ready.

Problem Solving in Geometry and Measurement I

led by Annie Fetter

This course will provide teachers an opportunity to deepen their understanding of topics and student learning in geometry and measurement and the problem solving process. Teachers will discuss their own solutions to problems about perimeter, area, volume, and properties of triangles. Exploration will include the use of interactive applets and dynamic geometry software. Teachers will analyze student work to discover strengths and weaknesses in order to make more effective instructional decisions.

Problem Solving Strategies

led by Stephen Weimar

Participants solve challenging middle school and high school algebra, geometry, and probability problems and develop a supplemental curriculum outline supporting the development of mathematical approaches to problems. We discuss how to support students developing high levels of competence and sophistication with a wide range of mathematical approaches from "guess and check" to "consider a simpler problem" to "analyze in terms of parity."

Teaching Mathematics with the Problems of the Week

led by Claire Mead

This course is designed for current subscribers of the Problem of the Week who want to make the most of their membership. Course activities include submitting your own answers to and analyzing math in the Math Fundamentals Problem of the Week (FunPoW), guiding your students through the solution and submission process, and sharing ideas and reflections with classmates.

Using Technology and Problem Solving to Build Algebraic Reasoning

In this workshop, we will investigate some mathematics topics common to middle school curricula within the theme of algebraic reasoning. In this context we will explore the Math Tools digital library and several software tools that contribute in some way to mathematical understanding, problem solving, reflection and discussion.

Technology Tools for Thinking and Reasoning about Probability

In this workshop we will investigate some mathematics topics common to middle school curricula within the theme of probability. In this context we will explore the Math Tools digital library and several software tools that contribute in some way to mathematical understanding, problem solving, reflection and discussion.

Tools for Building Math Concepts

This workshop explores how technology can help students develop fundamental concepts of multiplication, fractions, division and area through the process of generating data and examining patterns. Drawing on the benefits of software tools and the strength of human pattern recognition, we will explore ways to address misconceptions and related difficulties that students often run into (e.g. multiplication makes bigger, division makes smaller, comparing unlike terms, confusing area and perimeter).

Enrollment is limited for each of these courses. We accept check, purchase order, or credit card (VISA or MasterCard).

To register, please call Tracey Perzan, Monday to Friday, 8 am - 6 pm ET at 215-895-1080 or 800-756-7823 (option 2).

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