Morning Session Descriptions

Session 1 8:00 — 9:30 AM

1E **Developing Number Sense with Fractions** **GRADES K– 4**

Laura Geryk, Converse Middle School, Palmer, Massachusetts

Fractions are just numbers! Students have difficulty with fractions when they don't have a firm understanding of them. In this workshop, teachers will learn ways to infuse fractional awareness into the K-4 classroom through pre-existing activities: daily classroom routines, behavior management, morning meetings, grading, etc.

2E **Mathematicians Write On! Encourage Students to Think Deeply** **GRADES K—8**

Jill Adelson, University of Connecticut, Storrs, Connecticut

How often have you heard students say, "I know the answer but I can't explain it"? Learn how teachers in eleven different schools model, discuss, and use representations to help students communicate their mathematical thinking in writing. Students' work samples and practical strategies for success will be shared.

1M **Reading, Writing, and Arithmetic** **GRADES 5—8**

Pat Gardner, M. Marcus Kiley Middle School, Springfield, Massachusetts

Co-Presenter: Tricia Lynn, Secondary Math CPDT

This workshop is designed to help math teachers incorporate more reading and writing into their everyday activities. It will provide an easily adaptable strategy by using specific examples, which will provide a basis for several types of lesson plans. Handouts will be provided that teachers can start using tomorrow!

2M **Authentic Math… In Your Newspaper** **GRADES K—8**

Deborah Doulette, Newspapers in Education

Daily Hampshire Gazette, Northampton, Massachusetts

Challenge your students to interact with real world mathematical concepts you find in a daily newspaper. This workshop includes hands-on practice and reproducible activity sheets.

1S **How Can We Conduct Mathematically Fair Elections?** **GRADES 6—College**

Roger Turton

Stoneleigh-Burnham School, Greenfield, Massachusetts

Explore the mathematics of social choice by applying the concept of fairness to politics. Learn the history of how the United States Congress has been apportioned. Experiment with counting voters in an election with more than two candidates.

2S **Using the TI-84** **GRADES 9—12**

Melanie Drozdowski

Hanover High School, Hanover, Massachusetts

This session is a hands-on introduction to the TI-84's keys and function. Learn, review, and get loads of lesson plans!

The 2007 MATHWEST Spring Conference Committee

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Morning Session Descriptions

Session 2 9:45 — 11:15 AM

3E **Music, Puppets, Poems & More! Using Music Across the Curriculum!** **GRADES K—4**
Peter Stewart, Teacher, Glen Urquhart School, Beverly, Massachusetts
Lately, there has been an increasing amount of research demonstrating that music is one of the best ways for children to learn. This presentation gives teachers a healthy dose of musical confidence so that they may bring more music into their classrooms.

4E **Operation Box Cars — Elementary Math Games** **GRADES K—4**
Joyce Evans, Box Cars and One-Eyed Jacks, Edmonton, Alberta, Canada
This strategy-based workshop focuses on the best card and dice games that help students understand and master the basic operations. Home connection ideas, student samples, game boards, and more will be shared. Come prepared to play.

3M **Teaching Elementary through High School Geometry with MagneBlocks™** **GRADES K—12**
Warren Scott Fentress, Geometix International, Brookfield, Connecticut
Learn how to use MagneBlocks™ to teach elementary level through high school geometry (area, volume, symmetry), or more advanced concepts like "Sacred Geometry" and Synergetics. This session is a hands-on 'workshop' about the system and how to solve specific shapes and their related "shape permutations."

4M **Where are we? The Mathematics of Celestial Navigation on the Battleship New Jersey** **GRADES K—12**

Dr. Thomas Walsh, Assistant Professor, Math Education, Kean University, New Jersey
Co-Presenter: Terri Dariano, Education Manager, Battleship New Jersey
This is a demonstration/hands-on presentation, showing how to find where we are on the ocean using Celestial Navigation. Celestial Navigation uses the stars, sun, moon, and navigational planets, trigonometry, and time to find where we are out in the middle of the ocean. Dr. Walsh is a merchant marine officer and math teacher, and he will be bringing his marine sextant and put it in the hands of attendees to show how we find our way using the measurements of the sextant, time (GMT), where we think we are on the ocean, and a nautical chart to put it all together.

3S **Genie, oops, Gini Index** **GRADES 11—12**
Dave Daniels, The MacDuffie School, Springfield, Massachusetts
No bottles here, but maybe a wish for equitable income distribution. Some logs, scatter plots, simple integration, and Lorenz curves lead to a measure of equity. Bring your TI-83/84, although some will be available. Handouts will be provided. Come prepared for this is an interactive session.

4S **Using TI-Navigator in Math and Science Assessment** **GRADES 8—12**
Nancy Schick, Educational Technology Consultant, Texas Instruments, Gloucester, Massachusetts
Learn how TI-Navigator can be used to do formative assessment as well as preparing students for state assessments. Participants will experience TI-Navigator in a hands-on environment and will receive a CD with math and science activities as well as state practice exams for all six New England States.

Afternoon Session Descriptions

Session 3 12:45 — 2:15 PM

5E **Math and Reading Cloaked in the Arts** **GRADES K—4**

Dr. Angela Gioscia, Margaret C. Ells School, Springfield, Massachusetts
Co-Presenters: Chris Williams, Elementary Teacher and Diane Houle, Librarian
Motivated by shadow puppets and classical music, this workshop brings a folktale to life utilizing geometric patterns, shapes, fractions, and logical sequential thinking skills. Handouts include a lesson plan with math, literacy, and media standards, as well as additional ideas.

6E **An Integrated Curriculum Approach to Teaching Early Childhood Mathematics** **GRADES K—4**

Laura M. Garofoli, Fitchburg State College, Fitchburg, Massachusetts
The goal of this session is to investigate methods for effectively accessing the curriculum frameworks to create standards-based integrated units and assessments that accommodate diverse learners and support mathematical development in young children.

5M **Using Literacy in Math Workshop** **GRADES K—8**

Joanne Wilson, Frederick Harris School, Springfield, Massachusetts
Co-Presenter: Sheila Commisso, Middle School Math Resource Specialist
Participants will investigate numerous math/literature connections which will provide them with many different ideas to use in the classroom. Resources to be provided include user-friendly rubrics, a math bibliography, and more!

6M **Mastering Measurement Skills, Fractions, and Scale Drawings. Plus More! Easily!** **GRADES 5—8**

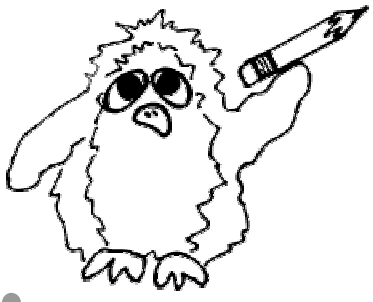
Donna L. Monck, Rock Christian Academy, Alpha, New Jersey
Learn of and experience researched-based innovative methods to teach measurement, fractions, scale drawing, and perimeter. Hands-on activities provide practical application leading to student/teacher success, ease, and enjoyment. Hand-outs and materials will be provided.

5S **Fractals for Everyone** **GRADES 5—College**

Janice A. Meegan, Cranston High School East, Cranston, Rhode Island
Fractals can be explored in all mathematics courses from general mathematics to calculus. Suggested activities at all levels will be demonstrated. Samples of student work will be exhibited.

6S **How to Get There From Here Using Markov Chains** **GRADES 9—College**

A.J. Stachelek, Massachusetts Academy for Math & Science, Worcester, Mass.
Participants will work together to determine probabilities for a transition matrix and then utilize technology to see what happens in the long-run for this particular system. Anyone up for a game of Monopoly?



Afternoon Session Descriptions

Session 4 2:30 — 4:00 PM

7E **Power Play — Math Games for Place Value** **GRADES K—4**

Joyce Evans, Box Cars and One-Eyed Jacks, Edmonton, Alberta, Canada

Get your students on the POWER PLAY TEAM. Games that incorporate the use of multi-sided place value dice and cards will be taught. Concepts covered include: comparing and reading large numbers, rounding, expanding, and decimals. Come prepared to play and get some great ideas for this part of the curriculum.

8E **Everything but the Four-Function Keys** **GRADES K—4**

Nancy Schick, Educational Technology Consultant, Texas Instruments, Gloucester, Massachusetts

Come and get hands-on experience with the TI-10 (grades K—2) and the TI-15 (grades 3—5). See how these calculators let students see multiple representations of math expressions, practice their math facts, learn skip counting and move from addition to multiplication, as well as work with fractions.

7M **Ratios and Other Rational Ideas** **GRADES 5—8**

Cathryn Draper, The Math Studio, Inc., Salem, Massachusetts

Come work with others in a cooperative learning model workshop to learn how to explore ratios for similarity, trig functions, and also use the Pythagorean Theorem. You will walk the talk about what we ask students to do; to look for relationships and connections. You will experience several differentiated instruction techniques that you can take back to your classroom.

8M **Unlocking the Fibonacci Puzzle** **GRADES 5—8**

Diane Devine, Peabody Public Schools, Peabody, Massachusetts

In a hands-on workshop, participants will explore the mathematics behind the Fibonacci Puzzle, a quilt design from Mathematics Quilt 1. Participants will construct a poster of the Puzzle and receive black-line masters of problem solving based on the Puzzle.

7S **Up, Up, and Away** **GRADES 9—12**

Lorraine Seymour, Mahar Regional High School, Orange, Massachusetts

Students build their own hot air balloons in this interdisciplinary unit that includes lesson plans and ideas for mathematics, science, social studies, English, and the arts.

8S **Beginning Data Collection & Beyond** **GRADES 9—12**

Jacklyn Bonneau, Massachusetts Academy of Math and Science, Worcester, Massachusetts

Come and see how easy it is to collect and analyze real data for all of your classes. This hands-on session will have you collecting data in two modes as well as analyzing it within the program Easy Data and on the calculator itself. Real data makes analysis more exciting. Come and do it yourself, and see how it can be added to your classroom. It's easy! It's fun! It's good for your students!