

Math in Action 2002 Program

Session A: 8:45 - 9:45 am

A1 Solving Problems, Seeing Patterns, Making Sense of Mathematics -- Mathematical Concept Boards in Action

*Paula Riordan, Jenison Public Schools
Pam Wells, GVSU Mathematics*

In this session, we will discuss what concept boards are and how they are used to enhance students' understanding of mathematical concepts and procedures. A variety of examples will be provided, but specific attention will be given to helping students understand stories using all four operations. Handouts provided. *Grades 1-4*

A2 Oh, no! Spaghetti...Oh!*

Suzanne Beute, Lowell Area Schools

The delightful book Spaghetti and Meatballs for All serves as a springboard for an investigation into the relationship between area and perimeter of rectangles. Using exactly 24 color tiles, students then find and record the area and perimeter of all possible rectangles. *Grades 3-5*

A3 Understanding and Working With Process Learning*

*Mary Jones, Grand Rapids Public Schools
Anita Watson-Phillips, Grand Rapids Public Schools*

This workshop will describe a host of strategies and activities to help students learn to construct meaning and improve their level of mathematical understanding through reading, writing, listening and discussing. *Grades 4-6*

A4 Understanding the Middle School Math MEAP Test

Karen Meyers, GVSU Regional Math/Science Center
Are your students in a daze over the recent MEAP? Learn how you can start preparing middle-grades students now for next year's test by engaging them in problem-solving mathematics based on real world applications. *Grades 6-9*

NOTE: Sessions offered more than once are marked with an *.

A5 Figuring Fitness: Healthy Math for Middle Schoolers

Char Beckmann, GVSU Mathematics

We'll present information and activities to help 10-18 year olds make good dietary decisions based on activity levels and national dietary recommendations. The mathematics involved integrates decimals, unit analysis, linear functions, percent, and representations. *Grades 6-9*

A6 What is the Probability of a Kiss? (HERSHEY's®)

*Phyllis Curtiss, GVSU Statistics
Mary Richardson, GVSU Statistics*

The speakers will guide participants through an interactive activity developed for teaching the concepts of descriptive statistics, theoretical probabilities, subjective probabilities, and empirical (experimental) probabilities. *Grades 7-12*

A7 Recursion, Fractals, and the Towers of Hanoi

David Kapolka, Forest Hills Northern High School

Examine recursion (sequence mode) on your TI-83 graphing calculator using fractals, number patterns in medicine, and the Towers of Hanoi. *Grades 9-12*

A8 Real Life with Core Plus

*Jennifer Koning, Battle Creek Public Schools
Pat Pike, Battle Creek Public Schools*

Come to this session and experience projects used in the Core Plus Curriculum that involve students in real life applications. Particular topics to be discussed include data analysis, taxicab geometry, and more. *Grades 8-12*

Session B: 10:00 - 11:00 am

B1 Application Problems on the Elementary MEAP Test

Jan Roy, Montcalm Community College

Learn about and discuss mathematical application problems that are similar to those found on the new MEAP test. *Grades K-5*

B2 The Three R's and a P.S.*

Susan Walborn, Aberdeen Tech/Math Academy

Connecting reading, writing and mathematics through problem-solving provides a framework by which students can be reflective about their own thinking. In this session, we will explore using literature to assist students in generating mathematical problems posed from stories. *Grades 2-5*

B3 Math Facts in the Standards?*

*Jeff Boeve, Grand Haven Public Schools
Mark Salik, Grand Haven Public Schools*

This session will use math drills to collect dynamic data, and use data to explore measures of center, data representations, and math science connections. Participants will use graphing calculators as well as ready to use classroom materials. *Grades 4-7*

B4 Life's Linear Lessons*

Tara Plummer, Creekside Middle School, Zeeland

Come gather ideas and methods to help students define and understand linear functions. Also, take real examples back to your class and show their applications. *Grades 6-9*

B5 Tessel Festival

Gina Garza-Kling, Western Michigan University

Learn how one teacher incorporated several aspects of tessellations into a hands-on "Tessel Festival." In one hour, students are exposed to tessellations with polygons, computer-generated tessellations, the work of M.C. Escher and more! *Grades 5-10*

B6 Relevant Projects with Grading Rubrics*

Gail Sutton, Forest Hills Central High School

From the simple to the complex, math projects should have a purpose obvious to the student. Grading rubrics let students know exactly what is expected. In this session, we'll take a close look at several examples of projects and corresponding rubrics. *Grades 7-12*

B7 Mapping a Leaf

David Coffey, GVSU Mathematics

Can a graphing calculator model nature? In this session, participants will do just that. And along the way, we will address coordinate graphs, transformations (geometric and algebraic), and symmetry. *Grades 7-12*

General Session and Lunch: 11:15 am - 12:45 pm

In Their Own Words: How Students Know When They Understand Mathematics

*Karrie Tufts, Eastern Elementary, Traverse City Area Public Schools
Diane Moore, West Senior High, Traverse City Area Public Schools*

A look at understanding revealed through student work and interviews. How do students know when they know? What questions do students ask themselves in order to understand? What questions can we get students to ask themselves to further their understanding? How do students view mathematical understanding and how much are they interested in it? Are students aware of their own growth as learners? How do they view that growth? How can we use the information gained from these questions to encourage our students to seek understanding and become life long learners?

Session C: 1:00 - 2:00 pm

C1 Oh, no! Spaghetti...Oh!*

Suzanne Beute, Lowell Area Schools

This session repeats A1. Please refer to A1 abstract. *Grades 3-5*

C5 Relevant Projects with Grading Rubrics*

Gail Sutton, Forest Hills Central High School

This session repeats B6. Please refer to B6 abstract. *Grades 7-12*

Session C (continued): 1:00 - 2:00 pm

C2 Activities that Help Students Explore the Concept of Prime Numbers

Esther Billings, GVSU Mathematics
Pam Wells, GVSU Mathematics

We will provide an overview of different activities that are designed to help students understand the concept of prime numbers. Then participants will explore two different activities in depth. The first exploration introduces the concept of primes; the second expands students' conceptual understanding of primes. Classroom-ready handouts provided. *Grades 3-6*

C3 What Can We Learn from One Grain of Rice?

Victoria Swenson, Cornerstone University

Math and character education lessons will be drawn from children's literature books that contain strong math content. Manipulatives, art ideas and a skit will be integrated with the math and stories, all tied to NCTM Standards and Michigan Benchmarks. Handouts, a script for the skit, and bibliography provided. *Grades 2-5*

C4 Life's Linear Lessons*

Tara Plummer, Creekside Middle School, Zeeland

This session repeats B4. Please refer to B4 abstract. *Grades 6-9*

C6 Archeological Sampling Strategies: Where to Dig?

Phyllis Curtiss, GVSU Statistics
Mary Richardson, GVSU Statistics

The speakers will guide participants through an interactive activity developed for teaching statistical sampling techniques (specifically, simple random sampling, stratified random sampling, systematic sampling, and cluster sampling). *Grades 9-12*

C7 The Newest Version of High School MEAP Test

David Kapolka, Forest Hills Northern High School

A discussion of the latest changes in the 11th grade MEAP. Lots of examples and a set of real sample problems will be shared. *Grades 9-12*

C8 Surviving the First Year

Pat Pike, Battle Creek Public Schools
Tammy Schiller, Battle Creek Public Schools

A first year teacher and her mentor will share their experiences from the year to date, and together will provide helpful information for both the new teacher and the coach/mentor. *Grades 8-12*

Session D: 2:15 - 3:15 pm

D1 The Three R's and a P.S.*

Susan Walborn, Aberdeen Tech/Math Academy
 This session repeats B2. Please refer to B2 abstract. *Grades 2-5*

D2 Helping Children Discover Mathematics in Their World

Nancy Mack, GVSU Mathematics
 Participants will engage in literature-based classroom-tested activities designed to help elementary and middle grade children discover how mathematics is a part of their every day world. *Grades K-8*

D3 Understanding and Working With Process Learning*

Mary Jones, Grand Rapids Public Schools
Anita Watson-Phillips, Grand Rapids Public Schools
 This session repeats A2. Please refer to A2 abstract. *Grades 4-6*

D4 Math Facts in the Standards?*

Jeff Boeve, Grand Haven Public Schools
Mark Salik, Grand Haven Public Schools
 This session repeats B3. Please refer to B3 abstract. *Grades 4-7*

D5 Candy Houses, Transformations, and Matrices

Susan Metzger, Grand Haven High School
 This workshop will provide a hands-on experience for those who would like to integrate size change transformations skills with the construction of a candy house with students. If possible, bring a graphing calculator and a sweet tooth, and join in. *Grades 9-12*

D6 Determining the Center of America

Edward Aboufadel, GVSU Mathematics
 Using data from the 2000 U.S. Census, the Census Bureau has determined that the center of population of the United States is now located near the center of Missouri. How is this calculated? Why is the Census Bureau's calculation wrong? We'll explore interesting ideas and relevant sums using the computer program Excel. *Grades 9-12*

D7 Dynamic Geometry with a Calculator

Kathy Burgis, Aquinas College
 A basic introduction to the TI-92+ or TI-89+ calculator version of Geometer's Sketchpad. TI-92+ calculators will be provided. No previous TI-92+ or Geometer's Sketchpad experience is required. *Grades 7-12*



Mathematics in Action Registration Form

(One registration per form...duplicate as needed - this form is also available at www.gvsu.edu/math/MathInAction)

Name		Social Security Number	
Address		City	Zip
Daytime Phone ()		Email address	
Name of School		School District	Grades Teaching Now
Gender	Ethnicity		
Male ___ Female ___	African-Am ___ Asian-Am ___ Caucasian ___ Hispanic ___ Native-Am ___ Other _____		
Participant Category (please select one choice from the two rows of boxes below)			
Teacher <input type="checkbox"/>	Student <input type="checkbox"/>	Administrator <input type="checkbox"/> (your title) _____	School Board <input type="checkbox"/> Parent <input type="checkbox"/>
Community Member <input type="checkbox"/>	Business/Industry <input type="checkbox"/>	Legislator <input type="checkbox"/>	Other (specify) _____

**Your registration is your confirmation.
 Seating is limited to 300. Register early.**

(Place appropriate session code in blank)

Session A:	Session C:
_____ 1 st Choice	_____ 1 st Choice
_____ 2 nd Choice	_____ 2 nd Choice
Session B:	Session D:
_____ 1 st Choice	_____ 1 st Choice
_____ 2 nd Choice	_____ 2 nd Choice

Enclose your registration fee of
 \$20.00 per teacher/educator
 \$10.00 per preservice teacher
 (make checks payable to GVSU)
 and mail this completed registration form
 postmarked by **February 15, 2002** to:

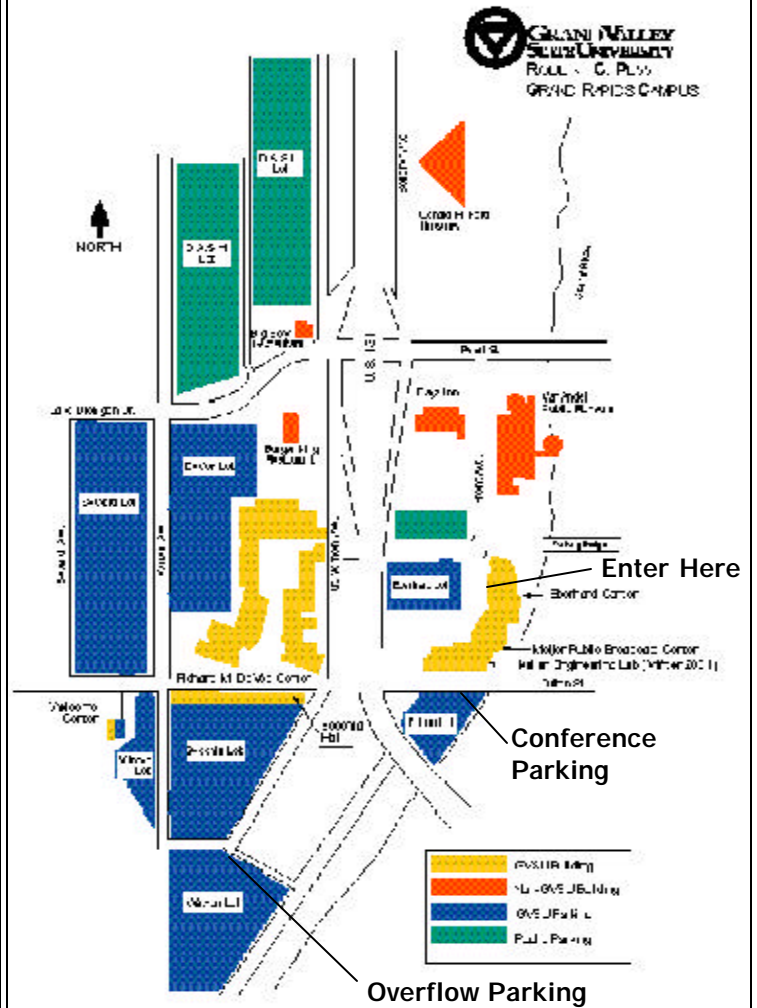
Regional Math/Science Center - MIA
 Grand Valley State University
 224 Padnos Hall
 1 Campus Drive
 Allendale, MI 49401

Check with your school district to see if Eisenhower Funds are available for funding this session.

Math in Action Schedule

8:00 - 8:40 am	Registration and Refreshments Eberhard Center, 2nd floor lobby
8:45 - 9:45 am	Concurrent Session A Conference Facilities, Eberhard Center
10:00 - 11:00 am	Concurrent Session B Conference Facilities, Eberhard Center
11:15 am - 12:45 pm	General Session and Lunch Teleconference Center, Eberhard Center
1:00 - 2:00 pm	Concurrent Session C Conference Facilities, Eberhard Center
2:15 - 3:15 pm	Concurrent Session D Conference Facilities, Eberhard Center

GVSU MAP



From US-131 Northbound: Take the Pearl St. Exit, #85B. Turn left (west) onto Pearl Street (which becomes Lake Michigan Drive). Go two blocks; turn left on Winter Ave. Take Winter south to light at Fulton St. Turn left on Fulton, follow roughly two blocks under US-131 and enter the Fulton Lot on your right.

From US-131 Southbound: Take the Pearl St. Exit, #85B. Turn right (west) onto Pearl Street (which becomes Lake Michigan Drive). Go one block; turn left at first intersection on Winter Ave. Take Winter south to light at Fulton St. Turn left on Fulton, follow roughly two blocks under US-131 and enter the Fulton Lot on your right.

From I-196 East/West: Take the Ottawa Ave/Downtown Exit, #77. Follow Ottawa Ave. through downtown til it dead-ends into Fulton St. Turn right onto Fulton. Proceed roughly three blocks across the river til just before the US 131 overpass. Turn left into the Fulton Lot marked Conference Parking.

Overflow parking is available in the Watson Lot noted on the map above.

January 3, 2002

Dear Educator,

You are enthusiastically encouraged to attend the annual Math In Action Conference hosted by Grand Valley State University on Wednesday, February 27, 2002. The conference will be held in the Eberhard Center on GVSU's Robert C. Pew Campus in downtown Grand Rapids and will run from 8:45 am to 3:15 pm. Free parking is available in the Conference Parking lot on Fulton Street.

We are excited to have two Presidential Award-winning teachers from Traverse City presenting a general session to highlight the day's events. Karrie Tufts of Eastern Elementary School and Diane Moore from West Senior High will together share their thoughts on student understanding in a presentation titled "In Their Own Words: How Students Know When They Understand Mathematics." This talk will include video clips and actual student work, with samples from grades at the upper elementary and high school levels.

This year's conference has been organized around the theme: Understanding Our World Through Mathematics. Speakers will be addressing this theme from a mathematical or pedagogical perspective in each of the available session times. A variety of concurrent sessions are offered on interactive projects and activities that other educators have found successful. Several sessions address the new K-12 grade MEAP tests.

Please examine the session descriptions in this program with titles and abstracts for further information. Note that several sessions, indicated with an *, will be repeated to assist you in attending those that interest you most.

The conference promises to be an exciting time of learning and idea-sharing on the teaching and learning of mathematics. We look forward to you joining us. Encourage your friends and colleagues to attend as well!

Sincerely,

Matthew Boelkins

Matthew Boelkins
Co-chair, Math in Action

Janet Shroyer

Janet Shroyer
Co-chair, Math in Action