



Mathbits

Minnesota Council of Teachers of Mathematics

www.mctm.org

Fall 2003 MCTM Conference
Friday, October 17

In keeping with the conference theme, *Mathematics Teachers: Positive Leadership in a State of Change*, we have invited a Minnesota Teacher of the Year, Barb Stoflet, to be the keynote speaker on Friday, October 17.

Keynote Speaker

Barb has taught every grade K- 6 for the 19 years she has been a teacher. For the past 14 years she has taught at Gatewood Elementary in Hopkins. She has taken on leadership responsibilities in the district by serving on the Elementary Math committee for 6 years. She has also served on staff development committees. Barb was awarded the Minnesota Teacher of the Year award twice: in 2001 and 2002.

Barb's own current personal professional development pursuits include completing an Administrative Leadership program from St. Mary's. She also is learning about current theories in brain research by studying with Eric Jensen, a Brain Researcher. Barb is involved in a new program called Fish! Philosophy and Love and Logic training. This program teaches a philosophy of developing fun and team building in the workplace. She has applied what she has learned in this program with her students and will be sharing this philosophy with her staff next year.

Program Sessions

The conference schedule will include over 50 sessions and 30 different presenters. There will be something of interest to everyone from the teacher education student to the seasoned veteran teacher. Session titles will include: "The Power of *Geometer's Sketchpad*," "Linking Literature with Mathematics," "Meeting the Needs of the Mathematically Gifted Student," "Mathematical Modeling Activities for all Levels," and "The Top 10 Things all Future Mathematicians Must Know."

For further information see the conference schedule and directions to Andover on the enclosed insert. The conference registration form is also included on the insert or can be downloaded from the MCTM web site. Register now and plan for a great day of professional enrichment and socializing.

News Flash

Minnesota Teacher a Candidate for NCTM Board of Directors! See page 4.

Mathbits

Pondering by the President

As summer draws to a close, did you ...

- Take time to read a book for enjoyment
- Spend time with your family
- Clean out some of the clutter ... both professionally and personally
- Do something totally selfish just for yourself
- Play
- Tell someone who is important to you that you love them
- Read a book that expanded you professionally

Did anyone else read the article in the Star Tribune entitled “Minnesota’s schools face an alarming racial gap” or the St. Paul Pioneer Press’ article entitled “Minnesota worst in U.S. for black-white test gap”? On August 12th and 13th, I had the opportunity to attend the Hopkins’ District Leadership Workshop *Eliminating the Achievement Gap: “Courageous Conversations” about Race, Learning and Transformation* with Glenn E. Singleton and Gary R. Howard. I would encourage you to read everything you can find by these gentlemen. I am not sure how I can give you a sense of this experience so I will share some random thoughts with you:

- Race is in my life ... how much of your life is impacted by race? People who are aware of “white privilege” might answer 100%.
- Addressing another aspect of diversity is not a proxy for engaging in courageous conversations about race.
- We have to quit using the excuses of poverty, family support, language, or mobility.
- In order to have a courageous conversation, you have to stay engaged, experience discomfort, speak your truth, and expect/accept non-closure.
- How can we have courageous conversation about what is “white privilege” and what are a few ways which it is maintained in current school policies and practices, curriculum, and instruction?
- Students are not at-risk. The environment makes education a risk for them.

“...there are many problems concerning race to address, and we cannot avoid them indefinitely. We cannot continue to be silent. We must begin to speak, knowing that words alone are insufficient. But I have seen that meaningful dialogue can lead to effective action. Change is possible. I remain hopeful...” Beverly Daniel Tatum, *Why Are All the Black Kids Sitting Together in the Cafeteria?* (New York: Basic Books c. 2003).

As I look at the new math standards or at the effect No Child Left Behind will have on my district, I have to think about what I can do. This year, I will be starting a new academy at Hopkins High School. A reading teacher, a writing teacher, and I will be working with incoming 10th graders who have not passed either the Basic Skills Math or Reading Tests. I will keep you informed about my student’s progress.

As my principal says, the high school is the flagship; the whole district will be judged by our results. Indeed, with the various categories for AYP, No Child Can be Left Behind.

Sue Westgaard
MCTM President

**MDE
Mathematics
Specialist Report**

I hope everyone enjoyed a relaxing summer and that your school year is off to a good start. The 2003-04 year will be a year for transitioning to the new mathematics standards. While questions about implementation will undoubtedly arise during this transition time, there are two questions that have already been asked a number of times.

Question 1:

Must the required 9-11 standards for Data Analysis, Statistics, and Probability be taught in a separate Data and Probability class?

No. The standards require three credits of mathematics. The content addressed by those three credits must be sufficient enough to cover the content specified by the grade 9 – 11 standards. The content identified in the Data Analysis, Statistics, and Probability standards may be taught in a separate course or it may be incorporated into courses that also address content for the other standards.

Question 2:

If Algebra and/or Integrated Mathematics I is offered as an eighth grade course, can students earn the respective high school level mathematics credit?

Yes, provided the course includes the content identified in the state standards.

Commissioner Yecke sent superintendents a document entitled “Recommendations for School District Transition to the State’s New High School Graduation Requirements” on July 28, 2003. This document is available on the department’s website at <http://education.state.mn.us> and is very helpful in clarifying many of the issues involved in transitioning to the new standards.

The 2003-04 school year will also be a year in which the large achievement gap that exists in Minnesota will be discussed. The data from the 2003 administration of the National Assessment of Educational Progress will be released this fall and a major part of the analysis of this data will center around the achievement gap. While standards by themselves cannot eliminate the achievement gap, there is some evidence that one reason for the gap is differential course taking and the variability in the mathematics content that students study. Standards then, by defining common expectations for all students, seem to be a necessary step in closing the gap. Once this is done however, the focus needs to shift to instruction, and as a profession we need to have discussions about what instructional strategies are effective in meeting the needs of all learners.

Finally, it appears that the parents of Isaiah Benjamin (11th month old grandson) may be placed on a “needs improvement” list. Assessments administered at the 9-month check-up revealed Isaiah scored at the 3rd percentile nationally in weight. The goal is to have all 9-month olds at the 50th percentile or higher in weight by 2014. Working the mathematics on that one could be challenging. Best wishes as you work to deliver a high quality mathematics education to all students.

Tom Muchlinski
State Mathematics Specialist

Mathbits

Bonnie Hagelberger, first grade teacher at Monroe Elementary in the Anoka School district is a candidate for the National Council of Teachers of Mathematics Board of Directors. She is one of four candidates running for the position of Director, At-Large. Two of the candidates will be elected.

Minnesota Candidate for NCTM Board



Bonnie has thirty years experience teaching first grade and has held a variety of leadership positions at the national, state, and local levels. She is presently the Conference Co-chair for the NCTM Regional which will be held in Minneapolis, November, 2004. She also was a member of the Program Committee for the Indianapolis NCTM Regional Conference in 2003, and has been a member of the Minnesota Spring Conference Program Committee for several years. She has served on the MCTM Board of Directors as the Elementary Vice-President (94-97), Recording Secretary (92-94), and has served several terms on the Finance Committee. Bonnie is also a past Presidential Awardee for Excellence in Mathematics Teaching.

Bonnie Hagelberger's candidacy presents a wonderful opportunity for Minnesota to have representation at the national level of our professional organization. Watch for your ballot this fall and remember to vote and mail it back promptly.

Congratulations! Presidential Award State Finalists

The National Science Foundation has announced the 2003 state finalists for the Presidential Award for Excellence in Mathematics Teaching for Minnesota. They are:

Michelle Bacon from Willow Creek Middle School in Rochester

Emily Larsen from White Bear Lake High School in White Bear Lake

Judy Stucki from Wayzata High School in Plymouth.

The Presidential Awardee for Minnesota will be announced next spring. It is the highest honor the nation bestows on its K-12 mathematics teachers. Teachers in grades 7 – 12 were eligible to apply for the 2003 award.

Nominations and applications for the 2004 Presidential Award for Excellence in Mathematics Teaching are now being accepted. Teachers in grades K-6 are eligible and must be nominated. The nomination form is available on the web at https://www.ehr.nsf.gov/pres_awards/ Please consider nominating an outstanding teacher for this prestigious honor. Contact Tom Muchlinski, the state program coordinator at tom.muchlinski@state.mn.us or 651-582-8859 if you have any questions. Applications must be completed by May 1, 2004, so early nominations will provide applicants with sufficient time to complete the process.

**2003 MCTM
Delegate Assembly****October 17, 2003**

The 2003 MCTM Delegate Assembly will be held Friday, October 17, at Andover High School in conjunction with the Fall Conference. The Delegate Assembly is one means by which the general membership of MCTM can provide input to the Board of Directors. It is an opportunity to bring issues and concerns before the Board in the form of resolutions. Once the Delegate Assembly passes a resolution, the Board then decides on an appropriate course of action. Resolutions and board action are reported to the membership through *Mathbits* and the MCTM web site.

The Delegate Assembly portion of the Fall Conference will consist of two sessions. Delegates will meet with their District Director over lunch to formulate resolutions. Following the conclusion of the conference, a reception will be held at a site to be determined, at which time the resolutions will be presented and voted upon using a form of approval voting.

If you are attending the fall conference, please consider volunteering to be a delegate and representing the membership of MCTM in this important function. Contact your District Director to volunteer. Contact information is available on the MCTM web site at www.mctm.org. District Directors are also recruiting delegates. If you are asked to be a delegate, please accept the invitation. It is a great opportunity. Not only will you get to attend a first-rate conference, you will have the opportunity to meet with colleagues from across the state in helping to shape the work of your organization. Delegates traveling 100 miles or more one way will be reimbursed for one night's lodging. All delegates will receive at least partial reimbursement for mileage and will be guests at the reception.

**Showcase Your
Mathematics
Students**

MCTM cordially invites you and your students to participate in Minnesota's Largest Exhibit of Student Work in Mathematics! This event will be held November 11-13, 2004 during the NCTM Regional Conference at the Minneapolis Convention Center.

The Student Exhibits Committee is excited about this opportunity. However, we need your help if this event is to be successful. Please start thinking about how you might get involved. We are looking for student work completed either during the 2003-04 school year or the fall of 2004.

Watch for more information at the MCTM Fall Conference and in future issues of *Mathbits*. If you have any questions, comments or suggestions, please contact one of us.

Sandy Jernberg, Co-chair
Student Exhibits Committee
jernberg@mpls.k12.mn.us

Jane Kostik, Co-chair
Student Exhibits Committee
jkostik@mpls.k12.mn.us

Mathbits

The MCTM Foundation continues to grow and the Governing Board is looking forward to a very productive year. The members of the Foundation Governing Board for this coming year are Mary Jo Aiken, Arnie Cutler (MCTM Board Liason), Don Langlee, Emily Larsen and Fawnda Norman. In addition, the newly selected Honorary Members have been invited to participate. They are Anne Bartel, Jim Foley and Alice Guckin. One new member is named to the Governing Board each the spring and serves a term of three years.

MCTM Foundation News

If you had the opportunity to attend the Spring Conference in Duluth in April, you may have seen the building of the wall. Attendees at the conference were able to buy a brick with any donation to the MCTM Foundation. There were over \$2000 in donations made at the Spring Conference. We will continue building the wall at the Fall and Spring Conferences this year. MCTM Members may make tax-deductible donations at the conferences or may send them directly to MCTM.

The Governing Board is excited to announce that we will be putting plans in place to present our first monetary awards from the fund during this year. The MCTM Foundation has been managed through the Saint Paul Foundation. All monetary awards come from the interest earned, not from the principal itself. The details of this first award have not yet been determined, but the plans will be announced at the Fall Conference.

The Governing Board will also begin to plan for other ways of soliciting donations from corporations and other foundations.

Please visit the MCTM Website (www.mctm.org) for more information about the Foundation or contact Emily Larsen (current Governing Board Chair) at ealarsen1@msn.com.

Opportunities for Involvement

MCTM continuously seeks participation in many different ways from its members. Deepen your involvement by volunteering for a task force, speaking or presiding at an MCTM conference, or being a contact person for your school building.

Learn more about various opportunities by visiting the MCTM website, speaking with board members and committee members at the Fall Conference, or by contacting MCTM president Sue Westgaard at skwesteg@ties.k12.mn.us

In mid-September the new ED.gov website will be launched integrating ED.gov and nclb.gov

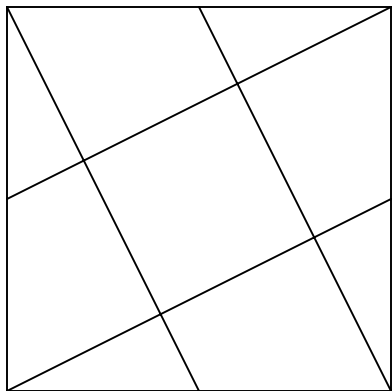
Check the resources offered through the Eisenhower National Clearinghouse at www.enc.org ENC Online is a K-12 math and science teacher center. Each month's "Digital Dozen" provides a review of some of the best web links related to math and science. Subscribe to monthly updates.

Help your students learn to evaluate web resources. See Kathy Schrock's Guide for Educators and find critical evaluation surveys to be used by students at elementary, middle, and secondary levels. <http://school.discovery.com/schrockguide/eval.html>

Problem Spot

The following is a wonderful problem that can be solved by students of all levels and through numerous strategies.

Construct a square and locate the midpoint of each side. If the midpoints are connected by line segments to the vertices of the square as shown, a square is formed in the middle. Find the area of this square.



Possible variations:

For elementary students or middle level students, let them construct the object on an 8x8 or 4x4 grid, cut it out, rearrange the pieces, and determine the area either by measurement or as a fractional part of the whole. Apply properties of congruent figures and conservation of area.

For geometry students, ask them to prove that a square truly is formed in the interior. There are various ways to determine the area of the square by applying properties of congruent triangles, facts about parallel lines or parallelograms, etc.

As an algebra to geometry connection, construct the object on a coordinate grid, determine slopes of the lines, write equations for the lines, establish that the center figure is a square by using perpendicular slopes, determine the coordinates of the vertices of the interior square, apply the distance formula to determine lengths of the sides, etc.

Challenging extension for advanced students:

Suppose ABCD is a square, and E, F, G, and H are the midpoints of respective sides. Join each midpoint to the two opposite vertices. Shade the interior polygon that is formed by the lines. Determine the area of the shaded region.

For enlightening examples and thought provoking discussion of students' various approaches to this problem and the ways they build meaning, see "Mathematical Reasoning: In the Eye of the Beholder" by Peggy House (*Developing Mathematical Reasoning in Grades K-12*, 1999 NCTM Yearbook, pp.175-187). Be sure to try the problem yourself first!

Mathbits has a new editor

Let me briefly introduce myself. My name is Teresa Gonske and I teach in both the education and science/mathematics departments at Northwestern College. A year ago I returned to Minnesota (where I went to Hamline University and initially earned my teaching certification) after 13 years in other states, mostly Colorado. I am glad to be back!

I am excited to have this opportunity to work with MCTM in this role. Look for changes in *Mathbits* as it evolves and develops over the coming year. There has been a great core of people contributing to this publication on a regular basis. We would like to expand this and have you too involved in contributing to the publication. Have you read a book or an article on some aspect of mathematics education that stimulated your thinking or gave new ideas to use in your classroom? Contribute a review or a summary. Have you tried a lesson or activity that resulted in unexpected discoveries, either mathematically or about how students learn? Share your observations. Do you have successful techniques on how to handle meaningful evaluation of assignments without being overloaded with paperwork? Share your strategies. Do you know of a problem that can be solved by students at multiple levels and can be extended or connected to other problems? Is there an issue you feel needs exposure and discussion in the math education community?

There are many ways to contribute. Contact me at tlgonske@nwc.edu or have lunch with me at the Fall Conference. I would like to meet with you and hear your ideas on how we can make *Mathbits* a useful communication tool for MCTM.

Mark Your Calendar

	<u>2003</u>	
10/17		MCTM Fall Conference, Andover High School
	<u>2004</u>	
4/22 – 4/24		NCTM Annual Meeting, Philadelphia, Pennsylvania
4/29		MCTM Symposium on Math Education, Duluth
4/30-5/1		MCTM Spring Conference, Duluth
11/11 – 11/13		NCTM Regional Conference, Minneapolis Convention Center

Do We Have Your Correct Address?

MCTM strives to provide membership with current information regarding mathematics education in the state of Minnesota. To accomplish this goal, we need an accurate, permanent address for each member. Is your correct address printed on the label of this issue of *Mathbits*? If not, please contact Executive Director Arnie Cutler at 612-626-8326 or cutler@tc.umn.edu or visit MCTM's web site (www.mctm.org). Student MCTM members and members in transition are especially encouraged to provide us with a permanent address. Thank you for helping us stay in touch!

Mathbits

Published by

Minnesota Council of Teachers of
Mathematics
P.O. Box 120418
New Brighton, MN 55112

www.mctm.org

Susanne Westegaard, President
skwesteg@ties.k12.mn.us

Arnie Cutler, Executive Director
612-626-8326 – W
651-631-2136 – H
cutler@tc.umn.edu

Teresa Gonske, Editor
651-631-5228 – W
tlgonske@nwc.edu

Forwarding and Return Postage
Guaranteed
Address Service Requested

Non-Profit
U.S. Postage
PAID
Permit No. 1967
Minneapolis, MN