



Mathbits

**2004 Minnesota Spring Mathematics Conference
April 30-May 1**

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Mathematics: The More the Merrier

Jointly sponsored by Minnesota Council of Teachers of Mathematics and Minnesota Mathematical Association of Two Year Colleges

- ✓ Friday banquet keynote address by Cathy Seeley, NCTM President
- ✓ Saturday lunch presentation by “The Human Calculator”
- ✓ Over 150 sessions for elementary, middle, secondary, and post-secondary levels
- ✓ Learn about mathematical topics, teaching strategies, literature and literacy, aligning curriculum and assessment to *PSSM* and *MN Academic Standards*, implications of *No Child Left Behind* legislation, and much more
- ✓ Opportunities for networking and interaction among K-12 and post-secondary teachers of mathematics
- ✓ For more information and registration visit the website at www.mctm.org

Delegate Assembly 2004 New this Spring!!!

We will hold the annual Delegate Assembly Friday afternoon (April 30) from 4:45 to 6:00 pm. There will be hors d'ouvres and drinks in the Harbor Side rooms as we discuss and vote on new resolutions for MCTM. All delegates in attendance will receive a \$30 Gift Certificate to use at the NCTM booth at the Spring Conference.

District Meetings at the Spring Conference

District Meetings will be held again at the Spring Conference. Each district will be holding a drawing for a \$25 Gift Certificate for NCTM materials. Please come and join us. We will be asking for resolutions for the afternoon delegate assembly.

Building Representatives in your District

Sign up to be a building representative in your district and your name will be put into a drawing for a MCTM t-shirt. The sign-up and drawing will take place at the Spring Conference in Duluth.

Upcoming Events:

- MCTM Spring Conference in Duluth
- NCTM Regional Conference Nov 2004

**Pondering by
the President**

Sue Westegaard

CELEBRATE! CELEBRATE! Dance to the music!

All these tests are done ...

Grade 10 Written Composition
Grade 8 BST Mathematics & Reading
Grade 3 & 5 MCA Reading & Mathematics
Grade 5 Writing
Grade 10 MCA Reading
Grade 11 MCA Mathematics

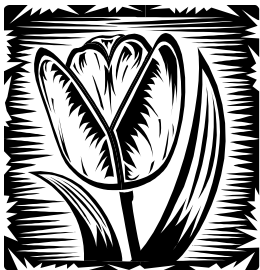
The only tests left are the ones that Seniors have to take to fulfill their graduation requirement. Does it appear that we take too many tests?

I know that the students I work with are anxiously awaiting their results. Too bad they can't get immediate feedback.

CELEBRATE! CELEBRATE! Dance to the music!

Congratulations to Tara Evenson Daas and Becky Groseth! Their committee planned and orchestrated the first annual Future Teachers Conference, jointly sponsored by MCTM and MinnMATYC's Mentoring Program. Held at Minneapolis Community and Technical College on March 6th, it had 27 sessions, 19 exhibitors, 1 keynote speaker, more than 40 door prizes, about 500 textbooks free for the taking, and over 90 participants. The sessions ranged from general information (setting up a successful classroom) to very specific topics (special education and IEP meetings) as well as several panels (combining a teaching careers and marriage and family). What a great day! Keep your eyes open for the Second Annual Future Teachers Conference.

CELEBRATE! CELEBRATE! Dance to the music!



Spring is coming! Some of us will have a Spring Break. On some of your days off, do the following:

- Count the number of petals on some flowers ... tulips, daffodils, etc.
- Find an example of symmetry in a tile pattern.
- Go fly a kite ... then figure out the angle formed by a kite string and the ground.
- Make a chart and record the number of bird species that visit your bird feeder.
- Measure the daily height of a tulip (or any other plant). Make a graph of time versus height.

CELEBRATE! CELEBRATE! Dance to the music!

The Symposium and Spring Conference is happening in Duluth at the end of April ... Hope to see you there ...

Sue Westegaard
MCTM President

Improving Student Achievement Learning from the TIMSS Video Studies

Student achievement in mathematics is certainly one of the top items on the educational agenda of both the state and the country. This is true for a variety of reasons including the achievement gap as well as the need for a more highly trained workforce. More and more research is focusing on identifying teaching practices that produce gains in student achievement. *Educational Leadership*, a publication of the Association for Supervision and Curriculum Development (ASCD), devoted its entire February 2004 issue to articles related to improving achievement in science and mathematics. One of those articles, "Improving Mathematics Teaching" by James Stigler and James Hiebert, presented a key feature of effective instruction.

The 1999 TIMSS (Third International Mathematics and Science Study) video study expanded on the first TIMSS video study of 1995 which examined 8th grade mathematics lessons from Japan, Germany, and the United States. The 1999 study analyzed a random sample of 100 8th grade mathematics classrooms in the United States as well as in each of the following countries: Australia, the Czech Republic, Hong Kong, Japan, the Netherlands, and Switzerland. On the 1995 TIMSS 8th grade mathematics achievement test, these six countries performed statistically higher than did the United States.

Since Japan was the only high achieving country in the 1995 video study, many researchers assumed the United States would need to employ Japanese teaching methods in order to raise student achievement to the level of the Japanese students. The 1999 study made it clear that high achievement can be attained by styles of teaching that vary widely. As an example, Stigler and Hiebert cited the kinds of problems students worked on during the lessons. They categorized the problems as *using procedures problems* (problems focused on basic computational skills and procedures) or *making connections problems* (problems that focus on concepts and connections among ideas). On one extreme, in Hong Kong 84% of the problems presented were *using procedures* while 13% were *making connections*. Japan was the only country of the six high achieving countries in which a greater share of the problems were *making connections*, 54% versus 41% of the problems that were *using procedures*. In the United States' lessons 69% were *using procedures* and 17% were *making connections*.

Although there was wide variation in the organization of the classrooms, the technologies used, and the types of problems presented to the students, the thing that was consistent in the high performing countries was the way in which the teachers and the students worked on the problems as the lesson developed. In these countries, for the most part, *making connections problems* were implemented as *making connections problems*. A small percentage of *making connections problems* were transformed into lower-level *using procedures* problems. A startling discovery was that in the United States teachers implemented none of the *making connections problems* as such. Instead, U.S. teachers turned these problems into procedural exercises or just supplied the students with the answers to the problems.

Stigler and Hiebert suggest that focusing on improving the art of *teaching*, the methods that teachers use in the classroom, has the greatest potential for improving student achievement. The video studies show that teaching is cultural – most teachers within a given culture use similar methods and those methods transcend generations. We must find ways to alter certain aspects of the culture in U.S. classrooms so as to bring about improvements in the quality of the instruction that students experience. The present culture has teachers and students

(Continued on page 4)

MDE Mathematics Specialist Report

Tom Muchlinski

...the thing that was consistent in the higher performing countries was the way the teachers and students worked on the problems...

interacting with the mathematics in ways that do not always promote student achievement. As was mentioned earlier, even when potentially rich problems are encountered, the tendency is for U.S. teachers to use their cultural teaching routines to transform the problems to lower level exercises, thereby reducing their instructional potential.

We as teachers know there are no easy answers to raising student achievement. The 1999 TIMSS video study further reinforces this very point. Good activities or materials alone will not do it; it is the interaction of the instruction with the materials that is the key. How do we best bring about this interaction for each individual student in our classrooms? We must continually be open to this question as well as to the variety of answers (many of which we do not have at this point), even when the answers do not fit with the culture.

More information about the TIMSS 1999 video study is available at www.lessonlab.com

Well this time Isaiah Benjamin truly has been “left behind.” Mom and Dad took a one week trip to Hawaii to visit a friend who is teaching there. Isaiah was left behind with his grandparents. Throughout the week he continually insisted on feeding himself. I am not sure if it is a lack of procedural knowledge or conceptual understanding, but either way the floor was a mess.

Tom Muchlinski
State Mathematics Specialist

Judy Stucki Receives Presidential Award

On March 15 the White House announced the 2003 Presidential Awardees for Excellence in Mathematics Teaching. Judy Stucki from Wayzata High School is the Minnesota Presidential Awardee. She was honored in Washington, DC the week of March 15. The week included visits with congressional leaders, a dinner at the State Department and concluded with an awards ceremony and reception at the National Academy of Sciences on Friday evening.

The Presidential Award is sponsored by the White House and the National Science Foundation and is the highest honor the nation bestows on its K-12 mathematics teachers. For more information about the Presidential Awards program visit www.paemst.org.

TIMSS and NAEP results indicate that questions requiring unit conversions and estimation of measurement are particularly difficult for U.S. students. So, how does your own knowledge of unit conversion measure up?

Test Yourself

1. Ratio of an igloo's circumference to its diameter
2. 2000 pounds of Chinese soup
3. One millionth of a mouthwash
4. Time between slipping on a peel and smacking the pavement
5. 365.25 days of drinking low calorie beer because it's less filling
6. 1000 aches
7. One kilogram of falling figs
8. Basic unit of laryngitis
9. 8 nickels
10. 100 Senators

Answers 1. Eskimo Pi 2. Won ton 3. 1 microscope 4. 1 bananosecond 5. 1 lite year
6. 1 megahertz 7. 1 Fig Newton 8. 1 hoarsepower 9. 2 paradigms 10. Not 1 decision

What's Happening in Assessment and Testing?

Testing in 2004

The testing schedule is full this year. The BST and the MCAs for Grades 3, 5, and 11 follow their regular schedule. The Grade 7 MCA was given in January for this year only. This was necessary in order to comply with federal deadlines. In the future, Grade 7 MCAs will be given during the same time as the other MCAs.

MCAs for Grades 3, 5, 7 and 11 were built according to the existing specifications (Profile of Learning).

Grades 4, 6 and 8 will participate in field-testing this year. Field tested items for Grades 4, 6, and 8 align with the Academic Standards.

Testing in 2005

The testing window for all MCAs in 2005 is April 25 to May 5.

MCAs for Grades 3, 5, 7 and 11 will be built according to the existing specifications (Profile of Learning).

MCAs for Grades 4, 6 and 8 will enter the second round of field-testing. Field tested items for Grades 4, 6 and 8 align with the Academic Standards.

Testing in 2006

The testing window for MCA-IIs in 2006 is expected to be similar to the 2005 window.

MCA-IIs for Grades 3, 4, 5, 6, 7, 8 and 11 will be built according to the specifications for the Academic Standards.

COMMITTEES

Teacher input is a vital part of the test development process. We need teachers of mathematics from all grade levels and all areas of the state to serve on the following committees.

Item Review

Test vendors submit items at each grade level for field-testing. The items are reviewed by committee and accepted for field-testing. Item review committees meet for 3 or 4 consecutive days per grade level in the summer.

Rangefinding

Student work on Constructed Response items is scored using criteria. The committee uses the criteria to score actual student work. From this committee work, sets of anchor papers and training materials are put together by the test vendor and used by them for scoring the constructed response items on all student papers. Rangefinding committees meet in the spring, shortly after all test materials have been returned to the vendors.

Standard Setting

This committee is comprised of educators, parents, business representatives and community members. They establish the five achievement levels for each of the tests. Standard Setting committees meet in the spring after scoring is completed.

Data Review

The data review committee reviews the data for each of the field-tested items for difficulty level, ethnic performance, stability and validity of items. Items accepted by this committee will become part of the item bank and are used on future tests. Data review committees meet in the summer.

Assessment & Testing

Rosemary Heinitz

Assessment & Testing is a new column initiated in response to 2003 Delegate Assembly Resolution # 8. Member input in the form of questions and concerns is requested.

**Resolutions
Report from
Fall 2003
Delegate
Assembly**

Resolution #1: Be it resolved that MCTM continue to promote use of the website and that they include a FAQ page.

Action Taken: Resolution accepted. Referred to webmaster and district directors. Discussion centered on the FAQ page. It was determined that this was not workable. Instead, links to other websites and a notice stating that members having particular questions should contact their district directors would suffice. (12/6)

Resolution #2: Be it resolved that MCTM would research alternative funding sources to enable mathematics teachers to attend NCTM/MCTM conferences and that MCTM inform members of these opportunities (e.g. corporate sponsorship).

Action Taken: Resolution rejected. (12/6)

Resolution #3: Be it resolved that the president of MCTM appoint a task force to explore ways that MCTM could facilitate mentoring opportunities.

Action Taken: Resolution accepted. A three-person task force composed of Tom Muchlinski, Larry Luck, and Sue Westegaard will work on this. (12/6)

Resolution #4: Be it resolved that MCTM help enlighten the Governor about the inappropriateness of fast tracking students.

Action Taken: Resolution accepted. Assigned to the Professional Concerns Committee. (12/6)

Resolution #5: Be it resolved that MCTM continue to develop and support +1/-1 opportunities.

Action Taken: Resolution accepted. Assigned to the +1/-1 task force. Terry Wyberg will be asked to co-chair the committee. Work is already being done on this resolution, e.g. the March 6 Future Teacher Conference, MCTM conferences, and the Fall Regional NCTM Conference. (12/6)

Resolution #6: Be it resolved that MCTM continue to increase communication with MCTM members.

Action Taken: Resolution accepted. Tom Muchlinski and Arnie Cutler are working on getting contact information. (12/6)

Resolution #7: Be it resolved that MCTM look at the feasibility of creating a task force to work with the Minnesota Department of Education to look at the new state standards and to help get teachers involved in and educated about the statewide revision process.

Action Taken: Resolution accepted. Assigned to the Standards Task Force. (12/6)

Resolution #8: Be it resolved that MCTM continue an assessment strand in *Mathbits* and at the fall and spring conferences.

Action Taken: Resolution accepted. Assigned to the Conference Program Committees. Rosemary Heinitz will be asked to write articles for *Mathbits*. (12/6)

Resolution #9 Be it resolves that MCTM look at the issues around the concept of “highly qualified” teacher and “highly qualified” para-educator in NCLB and report on findings to the membership.

Action Taken Resolution accepted. Referred to the State Mathematics Specialist, who will be asked to write articles for *Mathbits*. (12/6)

Note:
The 2004 Delegate
Assembly will be held at
the Spring Conference.

OPT IN - Thursday April 29, 2004 7 P.M. at the DECC

The MCTM Plus 1, Minus 1 Task Force strives to support preservice teachers and beginning inservice teachers. As part of this effort the task force hosts OPT IN on the evening prior to the MCTM spring conference in Duluth to help orient preservice and beginning teachers to MCTM and to provide an opportunity to get acquainted and have a good time. We invite all preservice teachers, inservice teachers in their first two years of teaching, and college and university instructors of preservice and inservice teachers to join the task force for an informative evening and a good time at Opt In. Look for directional signs when you enter the DECC. There will be displays and lots of educational materials and for participants. The event is free. Food is free too. Please register to assure that we will have enough food available. We shall look forward to seeing you there! For more information and registration please visit www.css.edu/users/aguckin/Opt.In.html or contact Alice Mae Guckin at aguckin@css.edu

Spring Conference Opportunities

Student Exhibits Table

Visit the Student Exhibits table at MCTM in Duluth. Pick up your application form and rules and guidelines, and view our display showing examples of student work. Teachers from all public, private and parochial schools are urged to begin collecting samples of student work for exhibit at the NCTM Regional Conference, November 11-13, 2004 in Minneapolis. Prizes will be awarded for exemplary displays in each of the following four categories: primary, intermediate, middle, and high school. A copy of the rules and guidelines and the application form can be downloaded from the MCTM website at www.mctm.org. For further information, contact Sandy Jernberg at jernberg@mpls.k12.mn.us or Jane Kostik at jkostik@mpls.k12.mn.us



Remember how much we learned and how much fun we had last year?



Professional Development Opportunities

Weaving the Strands 2004 – 2005 A Mathematics Institute for Elementary and Middle School Teachers Number Sense, Computation and Operations and Connections to other Mathematics Standards

- Students need to be good problem solvers.
- Students need to be proficient in computational skills.
- Students need to be proficient in the other mathematical standards.

Mathematics educators accept these statement as true, but it can be difficult for a teacher to assist students to develop the understanding and skills necessary to meet all three requirements. Of particular concern to many teachers is encouraging mathematical reasoning without neglecting goals addressing effective performance of computational tasks.

Weaving the Strands 2004 - 2005 focuses on the Number Sense, Computation, and Operations standards and on strategies to integrate these standards with mathematical reasoning and other mathematical standards. Participants will attend sessions at the College of St. Scholastica during the week of August 9-13, have an opportunity to apply what they learn to classes in the fall of 2004, return to campus on November 2 to share their experiences, and return again for three days June 14-16, 2005. In addition, arrangements will be made for teachers to visit other participants during the academic year and share information.



This project is funded by the No Child Left Behind program and there is no charge to participants for instruction. Lunches will be provided. For participants traveling more than 50 miles one way, lodging and all meals will be provided. Participants can earn continuing education credit at no cost and may elect to register for 3 graduate credits at an approximate cost of \$120/credit. Upon completion of the program participants will receive a stipend of \$200.

Project instructors: Patricia Bambenek, MaryJo Furtman, JoAnn Luhtala

Project director: Dr. Alice Mae Guckin

For additional information, go to <http://www.css.edu/users/aguckin/SummerMath04.html> or contact Alice Mae Guckin at: Weaving the Strands; Mathematics Department; The College of St. Scholastica; 1200 Kenwood Ave.; Duluth, MN 55811 or email aguckin@css.edu

Minot State University Summer Graduate Courses

Minot (ND) State University offers professional development courses which are mathematics content rich but also practical for teachers. These courses are highly acclaimed by previous participants who indicate another valuable component of the experience is networking with other teachers. This summer, MSU offers Foundations of Advanced Mathematics, Geometry for Teachers, and Calculus for Teachers, plus one week workshops in using graphing calculators, spreadsheets, and the Geometer's Sketchpad in teaching mathematics. These courses can be applied to a Master of Arts in Teaching Mathematics degree which is aligned with the NCTM Standards. For program information including current course offerings, see www.minotstateu.edu/matmath

Hamline University Online Course

Want to move toward inquiry-based teaching but don't want to use your students as guinea pigs? Develop your skills this summer, from the privacy of your home, with virtual students, and nobody will get hurt. Hamline University's online graduate course called *Inquiry-Based Algebra I for Teachers* uses electronic simulations of teaching situations. Course dates : June 21 - August 13. Cost: \$588 Instructor: Larry Copes, Director of the Institute for Studies in Educational Mathematics

For more information check <http://www.hamline.edu/~lcopies/courses/algebra.html>

Technology Integration Camp for Teachers

BestPrep's TECH CORPS® program is excited to announce the new **Technology Integration Camp for Teachers** to be held this summer in partnership with the Carlson School of Management at the University of Minnesota. The Technology Integration Camp is an ongoing form of professional development for teachers interested in integrating technology and workplace skills into their curriculum. It will begin with a four-day seminar in the summer and continue throughout the school year through collaboration with a business volunteer and a follow-up seminar to provide additional interaction and training. Teachers are asked to bring a previously taught curriculum unit that they would like to improve by developing a new approach for teaching the content. With the help of a Technology Integration Specialist, teachers develop at least one lesson or unit to use in their classroom during the next school year. As part of the program, teachers are connected with a business partner (volunteer). They spend a half-day job shadowing their partner to better understand the skills students need after graduation. Teachers use this experience to develop more relevant curriculum that connects with real-world applications. In addition, teachers and business partners meet throughout the school year to share, evaluate, modify and reflect upon their curriculum units.

The Technology Integration Camp will be held August 2-5, 2004, from 8:30 am - 4:30 pm and is limited to 30 secondary education teachers. If you are interested in participating, please contact Carrie Albin, TECH CORPS Program Manager, at 612-337-5252 x225 or calbin@bestprep.org for further details and an application. See also <http://www.bestprep.org/TC/tccamp.htm>

Carleton College Summer Teaching Institute

The Summer Teaching Institute is designed for teachers of existing or proposed Advanced Placement (AP) courses, enriched classes, accelerated classes, or small group tutorials for students in grades 10 through 12 who are capable of college-level work. Dates: June 20-25. Cost: \$510 tuition, \$280 housing and meals. Minnesota teachers who are teaching or plan to teach an AP course may be eligible for financial grants from the state. For further information see <http://webapps.acs.carleton.edu/campus/SAP/teaching/>

2004 NCTM Academy Workshops

NCTM Academy Workshops are held throughout the United States. Workshops feature content in one of three areas: Geometry, Data Analysis and Probability, and Assessment. Each Workshop is available in three levels—elementary, middle, and high school. See <http://www.nctm.org/academy/dates.htm> for locations and dates.

Guide to Scoring LEP Student Responses to Open-Ended Mathematics Items

SCASS LEP Consortium Project
Rebecca Kopriva & Sharon Saez.

Published 1997 by the Council of Chief State School Officers.

Available in pdf format at <http://www.ccsso.org/content/pdfs/lepmath.pdf>

Although this publication was initially developed as a training guide for scorers of large-scale district or state assessments it is also useful for teachers as an aid in interpreting and evaluating the written classwork of ELL students. The document presents examples of real student responses to problem tasks requiring written explanations and communication of reasoning. One of the issues discussed includes native language influences such as code switching, transposition of letters and words, native language phonetic forms, inventive spelling and merging of words, and interpretation of sounds. Another important set of issues revolves around cultural influences on both the interpretation of mathematical tasks and

(Continued on page 10)

If you have information about additional summer professional development opportunities, please submit an announcement for the June issue of Mathbits.

Reading Room

Reviews of articles and publications in mathematics education.

Reading Room

Continued

the representation of solutions. Computational symbols (such as for multiplication and division) and the uses of periods and commas vary across cultures. Likewise, numerical symbols along with their placing and spacing have varying meanings. The direction in which the native language is written can influence the direction in which ELL students write English words and write procedures such as long division. Differing monetary and measurement systems may further cause confusion. Not only does culture influence language, it also influences the style of reasoning that students may use (circular, long descriptive abbreviated) and students' interpretation of a problem based on dissimilar values and experiences of the native culture versus the U.S. culture. All of these things affect an ELL student's ability to communicate mathematics and a teacher's evaluation of the student's written responses. As emphasized by the NCTM standards, communicating mathematics is an important part of learning and knowing mathematics. Therefore, with the increase of ELL and LEP students in many Minnesota classrooms it is important to understand the challenges they may face interpreting and expressing mathematics in its written form and to give these students opportunities to demonstrate and communicate their understanding in a variety of ways

A Comparative Study of Children's Out-of-School Activities and Arithmetical Achievements

Steven R. Guberman, University of Colorado at Boulder

Journal for Research in Mathematics Education, Vol. 35, pp.117-150. (March 2004)

The purpose of this study was to examine the relationships among ethnic background, out-of-school engagement in mathematical activities, and in-school arithmetical achievement in Latin American and Korean American first, second, and third grade children attending the same public elementary school. These ethnic groups were chosen because they tend to score below and above the average of American children on assessments. All of the children had parents who were born in Latin America or Korea and whose primary language spoken in the home was Spanish or Korean. Parents of 49 children were interviewed in their native language about their educational attitudes and beliefs and about their child's everyday activities involving arithmetic and money. It was found that all parents considered school important for their child's learning, that schools had the primary responsibility for teaching English and arithmetic, and that parents were mostly responsible for teaching about money. Parents of both ethnic groups believed that the teaching at school was the most important factor in determining mathematics achievement and that effort and natural ability were secondary. They all supported and supervised children's homework. When examining the mathematical activities that the children engaged in out of school, it was found that Latin American children were more often engaged in everyday activities using money and arithmetic to achieve a practical end. They were involved in monetary activities twice as often as Korean American children while Korean American children were twice as often involved in mathematical activities reflecting their school academics. Children's arithmetical achievement was assessed by one set of problems requiring them to sum monetary denominations and another set of the same arithmetic problems but using denominational chips commonly used as manipulatives in school. The Latin American children correctly solved more money problems than chip problems and the Korean American children correctly solved more chip problems than money problems. Children who were more involved in academic math activities out of school (such as using store-bought workbooks) solved more chip problems and children who were more involved with using money as part of their household tasks solved more money problems. The results of the study provide further evidence that cultural practices outside school impact the knowledge that children bring to school and children may come with differences in using and understanding the mathematics of money. This is relevant when considering the NCTM recommendation that children learn mathematics through everyday activities and that teachers design lessons that build on children's informal knowledge and connect new mathematics to what they know.

Readers are invited to submit reviews of mathematics education books, articles, materials, etc. for publication in *Mathbits*.

See You in Minneapolis



NCTM Central Regional Conference
November 11 – 13, 2004

Quality Mathematics for all Students: Making the Vision a Reality

Share our vision:

- ✓ More than 300 presentations by exemplary educators
- ✓ Current information on new legislation
- ✓ A focus strand on Algebra
- ✓ Sessions for
 - experienced teachers
 - pre-service teachers
 - first-year and second-year teachers
 - administrators
 - para-professionals
- ✓ Teaching materials and resources in the Exhibit Hall
- ✓ Networking opportunities with 3000 colleagues
- ✓ Student exhibits

Keynote Speakers:

Cathy Seeley, NCTM President

James Rubillo, NCTM Executive Director

For information and registration:

www.nctm.org

(information will be available in late April)

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Check the mailing label for your membership renewal date.
Renew online at www.mctm.org

**Mark Your Calendar
for 2004**

| | |
|---------------|---|
| 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 the MCTM web site (www.mctm.org) and go to the membership page to make your change. 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!

Please submit items for the next issue of *Mathbits* to tlgonske@nwc.edu by May 15, 2004.
Thank You. You may also call 651-631-5228 if you have questions. - Teresa Gonske, Editor
