



Mathbits

Opening Paths to Mathematics and Science Learning through Literacy

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2006 Fall Conference—Friday October 20th

**The Minnesota Council of Teachers of Mathematics
The Minnesota Science Teachers Association**

- Registration—exhibits open—breakfast—beginning at 7:30
- Opening session with keynote speaker

Will Steger, Arctic Explorer and Educator

Will Steger is an educator, polar explorer, photographer, writer, and lecturer for whom the environment, education, and exploration all go hand in hand. A famous Minnesotan and graduate of the University of St. Thomas, Steger was once a secondary science teacher and has founded educational programs such as the Global Center of Environmental Education at Hamline University (1991) and the World School for Adventure Learning at the University of St. Thomas (1993). He has become a voice calling for the understanding and preservation of the Arctic, testifying before congress on polar and environmental issues. Steger has written several books including *Crossing Antarctica*, *North to the Pole*, and *Saving the Earth*. His articles and photos have appeared in National Geographic and other international publications. Steger has also received many honors and recognitions including the National Geographic Society's First Explorer-In-Residence (1996) and the National Geographic Society's John Oliver La Gorce Medal for accomplishments in geographic exploration, in the sciences, and in public service aimed to advance international understanding (1995).

- Attend four 45 minute topical sessions—sampling of sessions offered:
 - *Mathematics of Music—Harmonic Resonance*
 - *Questioning for Higher Levels of Thinking and Understanding*
 - *Tell It + Make It = Math Fun*
 - *Math Reading Aloud: Children's Literature Connections*
 - *Class Web Page for Beginners*
 - *Vocabulary Strategies for All*
 - *MCA-II Prep*

See you at Fall Conference!



Mathbits

Greetings from the President

Karen Coblentz
MCTM President



Now, Discover Your Strengths
by Marcus Buckingham and
Donald O. Clifton. (2001)
Published by The Free Press.

Happy Fall! I hope your school year is off to a great start! The first day of school is such an exciting time and when you work with kindergarten through fourth grade students, they come excited to learn. As I was welcoming in our new kindergarten students, one of the students told me, "I am finally here!!" This is a little girl I have known since she was a baby, have watched her grow, and now am welcoming her to our school. She has waited for this day for the past year, and each time she saw me she would let me know what she had learned and how it made her that much more ready for kindergarten.

As math educators, I hope we all take that approach to our students and help instill in them the love of learning. What are we learning each day to help make every one of us a better teacher? What are we modeling for our students to help them see that we also are the life long learners we want our students to be? I challenge each of us to continue in our educational journey to help our students see how important learning to learn is.

Many MCTM members are currently busy preparing for our fall conference. Thanks to our fall conference committee for their hard work preparing for this! We hope each of you can join us in Lakeville on October 20 for a great conference. Thinking ahead to the future, we also are in need of speakers for our spring conference. Take the opportunity to be involved by giving a presentation. If you are able to do this, please visit our website to apply.

Judy Stucki, MCTM president-elect, and I had the opportunity to attend the NCTM Leadership Academy in New Hampshire. It was a great time to gather with other affiliates of NCTM, share ideas and concerns, and network with staff members from all over the country. We used the book *Now, Discover Your Strengths* as our study guide and enjoyed talking about leadership qualities and how each of us is different. The book encourages us to continue to develop what we are good at and use that quality to help our affiliates. What are your strengths? How can that help MCTM? We look forward to working with you to help the cause of our organization.



Jim Rubillo, NCTM Executive Director; Karen Coblentz, MCTM President; Judy Stucki, MCTM President-Elect; Francis (Skip) Fennell, NCTM President

I hope you have a great school year. Take care of the students in front of you! Your words and actions have a great impact on them and their future. Good luck and enjoy the year!

Karen Coblentz

The Other Data

Everyone anticipates the MCA-II test data that informs schools if they have made Adequate Yearly Progress (AYP). That information is scheduled to be released in November 2006.

There is other data that is used for developing the MCA-II. Teachers have served on Data Review panels for Grades 3-8 and 11 MCA-IIs this summer. The data they review is from field testing of new items. New items must be field-tested and have the data reviewed to

determine if items qualify for the operational tests. During the Data Review process, a series of questions is considered for each item:

- Does the item produce results as expected?
- Does the item produce results that indicate it is biased against some group?
- Does the item produce statistics that make it eligible for the operational test?
- What can be learned from students' incorrect responses?

What can be learned from students' incorrect responses?

When multiple choice test items are developed, a lot of attention is given to the “wrong” answer choices. Answer choices must be plausible and must reflect what students do when they have misconceptions about the benchmark being assessed.

As the panels examined data across grades, some patterns in student responses emerged. The patterns are not surprising but, given what we know, what can be done to improve student learning? The substrand examples below show some of these emerging patterns.

The Number Sense substrand for Computation and Operation in the Academic Standards for Grade 3 contains this benchmark:

II.B.4. Demonstrate mastery of basic addition facts for addends 0 through 9, without a calculator.

The data for items containing basic facts shows very high percentages of students getting the items correct. The errors indicate that some students use a counting-up method and consistently get a result that is 1 more than the actual sum.

Another benchmark in the Number Sense substrand for Grade 3 is:

II.B.1. Use addition of up to three whole number addends, containing up to four digits each in real-world and mathematical problems.

This benchmark is assessed in a segment of the MCA-II where students have calculators available. The data suggest that many students do not use the calculator for these items. Incorrect answer responses indicate that students do know the basic addition facts but the most common error is left alignment of the digits in the numbers rather than alignment by place value. This error is most common for students performing in the lower third of the students taking the test.

Items containing context with indicated addition (together, in all) produce results consistent with items containing computation only.

Another benchmark to consider in the Number Sense substrand for Grade 3 is:

II.B.2. Use subtraction with up to three digit whole numbers in real-world and mathematical problems.

When subtraction items required regrouping, the most common error was for students to find the difference of the absolute values in each place (e.g. $341 - 279 = 138$). This was the most common wrong response for students in the lower third and middle third of the students taking the test. Students in the lower third made more conceptual errors than computational errors. They chose answer options that used addition instead of subtraction or subtraction instead of addition but did not choose the options that contained the answer with a 1-digit computation error.

As indicated earlier in this column, the patterns are not surprising. So we move to the second part of the problem, given this information, what can be done to improve student learning?

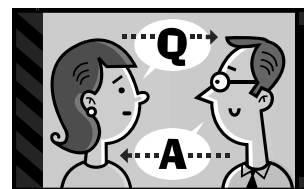
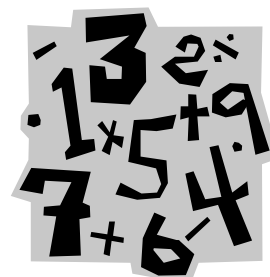
Comments and feedback from readers are welcome.

Please contact rosemary.heinitz@state.mn.us

What's New in Statewide Assessment?

Rosemary Heinitz

Math Content Specialist
MDE Research & Assessment



Mathbits

Mathematics Specialist Report

Tom Muchlinski

MDE Academic Standards
& Professional Development

The new algebra requirements passed by the legislature this past spring have caused many educators to become justifiably concerned about the impact this will have on students. Helping students to be successful in the study of algebra by the end of eighth grade and helping them complete an algebra II requirement for graduation takes much more than a legislative mandate. It requires major changes in instruction. The concern I hear most often is, "How can we do this without 'watering down' the curriculum?"

The concept of 'watering down' generally manifests itself in one of two ways. First, some see the way to helping students meet these algebra requirements is to teach some of our students an algebra course that is not rich in meaningful algebra concepts. Historically, we have gone this route and the results are clear. One of the major reasons for the achievement gap is that lower achievement students are not taught the same important concepts as higher achieving students. We cannot expect students to be successful in their study of algebra if we do not teach them algebra.

The second manifestation of 'watering down' is in terms of instruction. For many, the belief is that we must teach algebra from a procedural perspective. To do anything else is 'watering down' the instruction. While being proficient in performing algebraic procedures is certainly one aspect of algebra, again historically this approach has been shown to be highly ineffective with many students. Implied in this adherence to teaching algebra procedurally, is the idea that if we make use of concrete experiences to help develop conceptual understanding as well as procedural skill, then we are 'watering down' instruction.

This would be true if we never moved beyond the concrete phase of instruction. However, there is mounting evidence to support the fact that if we thoughtfully design instruction to move from concrete experiences to increasingly more abstract experiences, that many more students can be successful in the study of algebra. This thoughtful design of instruction requires attention to at least two things. First, this progression from concrete to abstract takes place over time; not days or weeks, but years. Second, careful consideration needs to be given to the concrete experiences students encounter; and then teachers need to be explicit in helping students see that how the mathematics plays out in the concrete experience is the same as how it plays out in the more abstract treatment. If this progression of instruction is considered 'watering down', then I am of the opinion that we need to not just 'water down' instruction but we must make it soaking wet.

As for Isaiah Benjamin, while on vacation at a resort in northern Minnesota this past August, he learned about the concepts of perpendicular and parallel in one brief lesson. He was playing tag with his Aunt Kate and Aunt Laura and after awhile became tired of running away from them. So he decided (much to his detriment) that if he would just put his blanket over his head his aunts would not see him and he could run away from them. So he threw the blanket over his head and took off only after about three steps to run directly into a large pine tree. In a split second he went from being perpendicular with the ground to being parallel with it.

I hope your school year is off to a good start and that you find your work to be personally and professionally rewarding.

Tom Muchlinski

**If this...is considered
'watering down,'
then...we need to not
just 'water down'...
but make it soaking
wet.**

**Look for the NCTM
Curriculum Focal Points
Coming Soon!**

Produced by NCTM, *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence* is the Council's next important publication. The publication will be available late September. *Curriculum Focal Points* supports and extends *Principles and Standards for School Mathematics*. According to an article on the front page of the September 2006 *NCTM News Bulletin*: "Using *Principles and Standards* as a basis, the authors take a look at curriculum expectations. For each grade level, they suggest a series of 'focal points,' or significant mathematical targets, which can be used as a foundation for classroom instruction."

Report on a Great Party!

The Third Occasional MCTM Foundation Dinner was held at the Canyon Grille in Coon Rapids on June 20, 2006. This gathering was a celebration of the past, present, and future of mathematics education in Minnesota.

The invitation list included honorary members of MCTM, Foundation donors, members of the MCTM Executive Committee, and the Foundation Governing Board. Although they could not attend, Helen Kock and Lorraine Fox sent greetings. The thirty-three attendees enjoyed a wonderful meal and heard from Foundation grant recipients Alex Galt, Susan Mullen-Karvonen, and Hannah Ekholm (in absentia). These women thanked the Foundation supporters and reported the impact that MCTM Spring Conference participation had on their work.

Sue Westegaard, recent past president of MCTM, led the group in recognizing the wealth of mathematics education experience represented in the dining room. We were awed at the number of response paddles raised to such questions as: Do you have more than 20, 30, 40 years of teaching experience? Have you served on the board or on a committee of NCTM or MCTM? Has your work been published in an NCTM or MCTM publication? Have you been a presenter at an NCTM or MCTM meeting?



Joyce Dye and Mary Jo Aiken



Noreen Luck and Ross Taylor

Lots of stories, laughs, and hugs were the major order of the evening. If you were not at the event, you can still share in the fun. Ask Mary Jo Aiken the reason for the mouse ears (see photo). Check out Ross Taylor's latest project, PUMP, at www.mathpump.com. Contact Chuck Ernst to hear stories about mathematics education in east Africa.



The Bills Table: Putnam, Eppright, and Johnson

For more information about the MCTM Foundation, see the MCTM website or contact Cathy Wick, the chair of the Foundation Governing Board, at cwick@ties2.net.

MCTM Foundation

- The MCTM Foundation funding supports:
- ◆ Recruitment /retention assistance for math teachers, schools and district.
 - ◆ Acquisition of proper teaching tools and materials.
 - ◆ Teachers to attend external learning opportunities.
 - ◆ Peer networks within schools, districts and statewide.
 - ◆ Math Mentor Network.
 - ◆ Business and industry partnerships, to provide practical applications.

Pass this on to new teachers in your building!

If there are teachers in your building who are in their first few years of teaching math, make sure that they get CONNECTed to MCTM. As part of the Council's service to members, the MCTM CONNECT Committee offers several opportunities to help novice teachers feel supported and grow professionally. Since there is no convenient way to get in touch with new colleagues, we rely on you, our members, to help us get connected. Please give this page to your colleagues who are new.

Services that MCTM CONNECT provides include:

Virtual mentoring: Biweekly emails to connect with teaching ideas, problem ideas, useful websites and professional growth opportunities.

Mentors: Beginners who are interested can be connected with an experienced Math teacher for email and telephone consultation and support.

The MCTM Fall Conference, Oct 20, 2006: Several sessions are designed especially for beginners as well as many more that will be useful to beginners but also of interest to those more experienced who are looking for new ideas.

The Future Teachers Conference, Feb. 24, 2007: This conference has a focus on math and science and addresses the every-day concerns of novice teachers and connects them with others having similar concerns.

The MCTM CONNECT Session, April 26, 2007: Held the evening before the Spring Conference, pre-service and beginning teachers will make connections, learn how to maximize their conference experience, enjoy a meal compliments of MCTM and participate in the famous door prize and book give-away.

The MCTM Spring Conference, April 27-28, 2007: The major Mathematics professional development event in Minnesota each year will enable new teachers to become more aware of what others are doing and of the resources available in addition to getting connected to State and National leaders in Mathematics Education

To be sure that all new Math teachers are connected to these professional growth and support opportunities, encourage them to contact MCTM. We can't inform them of these activities if we don't know who they are. For more information visit www.mctm.org or to be CONNECTed, contact Larry Luck at larryluck@aol.com or at 763-784-0084.

CONNECT
Committee to Orient
and Network New/
Novice Educators into a
Community of (math)
Teachers

What Students Teach Us

Sharing the Stories

I'm told there is some interest in more stories like those I wrote about Chris and Bonnie in the recent Guest Columns of *Mathbits*. I will be happy to submit more, and I am wondering if these reflections prompt similar memories for other teachers. Perhaps we could have some stories submitted to me by e-mail (rahanson@integraonline.com) and then select some for a feature to be called *What Students Teach Us*.

I know we treasure the contributions of our students that improve the art of teaching or give us fresh insights into the mathematics we explore,

- Dick Hanson

The NCTM Web site has a new feature, *Tips for Teachers*, at <http://www.nctm.org/teachmath/tips.htm>. The page offers a collection of words of wisdom from NCTM members and publications. Tips on different topics will be posted. Viewers are also asked to submit tips that have worked for them. The topic for the month of September is *Communicating with Parents*. The topic for the month of October is *Homework*. Send your favorite tips to feedback@nctm.org and the best will be posted.

In this third installment of *Ask Matt Mentor*, Matt Mentor, a wise and experienced teacher, offers advice about teaching mathematics topics to beginning teachers. Of course, experienced teachers can join in as well. Here's how it works:

Matt Mentor will respond in *Mathbits* to a teaching question posed by a reader. Other readers who have different suggestions or alternative answers to the question are invited to submit their replies to Matt who will post them to the Matt Mentor page on www.mctm.org. Send your answers to MattMentorMCTM@aol.com and Matt will post as many different solutions that adequately address the question as are received.

Question:

"I have been teaching Geometry using materials that allow students to discover concepts and do active investigations. Since I'm new and have only taught Geometry this way, I was disappointed when my department members, some of whom don't even teach Geometry, voted to adopt very traditional materials for this school year.. What suggestions do you have for me so that I can still maintain the enthusiasm of my students while I address the more traditional outcomes that my department expects?"

Bummed in MN?"

Matt Mentor says:

One important thing to remember is that instructional materials and textbooks serve as resources to help students and teachers to meet the learning goals set by districts and the state. The materials do not determine what is taught or how it is taught. No textbook exactly matches the learning goals for any district, nor does it determine the instructional strategies used by teachers in the district. The learning goals are specified in district curriculum documents and state academic standards.

So even if your department has determined a set of outcomes and materials that seem to lead to less effective learning than your previous students have experienced, you are responsible for the learning of your students and helping them meet the goals. I would encourage you to incorporate the investigative activities you have used and found successful. A large body of evidence exists to support an active approach to learning geometry (as well as other subjects). Students remember what they think and talk about, and active investigations are excellent tools to foster such thinking and discourse. What will be especially helpful will be to collect and share evidence of success, from classroom, district, and state assessments, or other reliable measures. Examining geometry and measurement subscores on assessments will help you ensure that you are giving your students good tools for lasting learning.

If your department has common unit or end of course exams, these could serve as a good vehicle for beginning some dialogue among department members. If geometry teachers have an opportunity to examine the performance of their students on various outcomes, this may gradually lead to more teachers incorporating some of the investigative approaches you find successful. As a newer member of the profession, you can contribute not only ideas that work, as evidenced by various assessments, but respectfully support colleagues who are willing to try new ideas.

In summary, traditional materials need not limit your teaching, especially your instructional strategies. Even if active investigations to discover concepts are not specified in your new materials, you can incorporate strategies that work into your teaching practices. Remember that the most effective time to incorporate an investigation is during the initial introduction of a topic. If you present definitions, theorems, algorithms, formulas or rules prior to investigating a concept, the opportunity for students to make sense of the idea for themselves is lost. Keep exploring ways to help more students learn more mathematics, and good luck!

~Matt

Ask Matt Mentor!!



Have a Question for Matt?

Send your questions about teaching math topics to MattMentorMCTM@aol.com and watch for Matt's response in the next issue of *Mathbits*.

Mathbits

One Hundred Years From Now (excerpt from "Within My Power" by Forest Witcraft)

One Hundred Years From Now
 It will not matter
 what kind of car I drove,
 what kind of house I lived in,
 how much money was in my bank account,
 nor what my clothes looked like.
 But the world may be a better place because
 it was important in the life of a child.

Reflections on Teaching

Don Karlgaard
 Mathematics Teacher
 Brainerd High School
 Brainerd, MN
 (Retired)

As we start another school year, it is important to be refreshed, recharged, and excited about working with all of our 2006-2007 students. We know how important it is to have a positive attitude all year about helping each and every one of our students. How about having that same attitude about improving the mathematics content knowledge and pedagogy of our mathematics teaching staff?

As our district moves into A-Comp (our form of Governor Pawlenty's Q-Comp – the Q stands for quality, the A for alternative), we will have Professional Learning Community Leaders who meet with fellow staff during the school year. They might do a lesson study or presentations on content, new technology, etc. They will be working on setting measurable goals focusing on student achievement with continuous improvement.

We also have Peer Coaches who mentor up to ten colleagues. The Peer Coach and each colleague have a pre-observation meeting, then a classroom observation, followed by a post-observation meeting to discuss each goal. This sequence is done twice during the school year followed by an end of the year reflection interview with the building administrator. The Danielson Frameworks and the Cognitive Coaching model are used to train the coaches.

The Brainerd Teacher Support System (BTSS) has found that our mentors need intensive training, accountability, and administrative support.

The quality of the teacher is the single most important factor in determining student success. We need to change our old habits and get more involved with helping each of our own mathematics departments improve their mathematics teaching. Even if your school isn't getting paid to be involved as our teachers are, studying together and/or mentoring another mathematics teacher is rewarding in many other ways. The world may be a better place because YOU were important in the life of a teacher who was important in the life of a child!

The Minnesota State High School Math League, 160+ schools strong with over 3000 students participating, is looking for more schools to sign up a team and have fun in competitive mathematics!

The league exists to give all participants more opportunities to further their mathematical knowledge and problem - solving abilities. This is achieved by challenging the students with familiar topics as well as topics not commonly taught in the high school curriculum. Their understanding of the topics is assessed through five regular season competitions during the school year. The league recognizes high scoring individuals and teams and invites them to a state tournament in March.

One byproduct of these competitions is increased confidence in regular school classes, higher scores on ACT and SAT tests, and better success on national competitions such as the AMC 10, AMC 12, and AIME.

More information about the Minnesota State High School Math League can be found at <http://www.macalester.edu/mathleague>. Or you can contact league director, Wayne Roberts, at 651-765-2871, email league assistant director Cris Scarlett at mathleague@macalester.edu or call her at 651- 696 - 6475. We hope you can join us in this great activity!

Minnesota State High School Mathematics League

Submitted by Tom Young
 Math League President

2006 Resolutions

1. MCA's:
Be it resolved that MCTM publishes through *Mathbits* ideas on how districts can help students be successful on the MCA's.
Action taken: Resolution assigned to the *Mathbits* Committee. (4/30/06)
2. Curriculum review
Be it resolved that MCTM creates a way to help the schools in Minnesota do a curriculum review process.
Action taken: Resolution assigned to the Professional Concerns Committee (4/30/06)
3. Graduate opportunities
Be it resolved that MCTM be used as a clearinghouse for colleges that are providing graduate credit opportunities.
Action taken: Resolution assigned to Partnership Committee (4/30/06)
4. Math Standards
Be it resolved that MCTM requests that when the Minnesota state mathematics standards are reviewed and revised that at least one-half of the committee members be experienced teachers from diverse districts throughout the state and that MCTM convenes small groups for constructive feedback.
Action taken: Resolution assigned to Legislative Committee (4/30/06)
5. Proposed Algebra requirements
Be it resolved that MCTM 1) conducts research to respond to the proposed Algebra II and Algebra I requirements; 2) disseminates information from its own research and research available from NCTM; and 3) articulates recommendations to be provided to concerned policymakers.
Action taken: Resolution assigned to the Professional Concerns Committee (4/30/06)
6. Elementary Teacher Participation
Be it resolved that MCTM promotes participation by elementary teachers in MCTM conferences and publications.
Action taken: Resolution assigned to the Membership Committee (4/30/06)
7. Summer Institutes
Be it resolved that MCTM creates a vision and an action plan to provide summer institutes and curriculum development efforts (seeking funding from corporate sponsorship).
Action taken: After a long and fruitful discussion, the board felt 1) that summer institutes would better fall under the jurisdiction of the state mathematics specialist and the QTN, rather than MCTM, and 2) since MCTM currently sponsors two conferences yearly (which NCTM has said does not happen in other states) board members felt that adding summer institutes to the annual schedule would overburden the volunteer members that run the conferences. Consequently the board did not accept this resolution. (4/30/06)

**Report on
Spring 2006
Delegate
Assembly
Resolutions**

Resolutions that were assigned to committees were initially addressed by the appropriate committee during MCTM Committee Fest on June 20, 2006.

If you have ideas, concerns, or if you are interested in serving the organization on a committee, contact your district director. Take the opportunity to visit with your district director at the Fall Conference; your district director will appreciate the initiative. To determine which district you are in and the director's contact information, visit the MCTM website.



www.mctm.org

MCTM Fall Conference

Minnesota Council of Teachers of Mathematics

Opening Paths to Mathematics and Science Learning through Literacy

Friday • October 20th, 2006

Lakeville South High School
21135 Jacquard Avenue, Lakeville, MN 55044

<http://www.lshs.isd194.k12.mn.us/>

Schedule Highlights

7:30	Registration & Breakfast
7:30 - 1:30	Exhibits Open
8:00 - 9:15	Opening Session
9:30 - 10:15	Session I
10:30 - 11:15	Session II
11:30 - 12:15	Session III or Lunch
12:30 - 1:15	Session III or Lunch
1:30 - 2:15	Session IV
2:20 - 2:40	Door Prizes

Registration Fee

Includes lunch & MCTM membership

	Pre-Registered	On-Site
Member	\$35	\$40
Student Member	\$20	\$25
Non-Member	\$60	\$65
Student Non-Member	\$32.50	\$37.50

Special \$20 rate for each pre-service Math Ed student if group from same college registers together, in advance, with one payment. Membership is included.

Over 50 Sessions for Kindergarten through Higher Education throughout the day

Sessions will focus on classroom practice and applications.

Directions to Lakeville South High School

From 35W:

From I-35, exit at County Highway 70.

Go east on Hwy 70, and turn left (north) on Jacquard Avenue.

The school is on the left side of Jacquard Avenue.

For more information contact:

Donna Forbes, Conference Chair
dforbes@mahtomedi.k12.mn.us

Terry Wyberg, Conference Chair
612-625-9823
wyber001@umn.edu

Ann Sweeny, Conference Chair
ajsweeney@stkate.edu

Arnie Cutler, Registration
612-626-8326n
cutler@tc.umn.edu

Visit www.mctm.org for more information as it becomes available. Use the attached registration form or register online.

Insert Registration Form on this page (pdf document)

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Mission Statement:

The MCTM is an organization of professionals dedicated to promoting the teaching and learning of meaningful mathematics for all students by supporting educators in their efforts to improve mathematics education.

**Mark Your Calendar
for 2006-07**

September 20-22	NCTM Regional Conference, Chicago, IL
October 8-14	National Metric Week
October 20	MCTM Fall Conference, Lakeville, MN
February 24	Future Teachers' Conference
March 21-24	NCTM National Conference, Atlanta, GA
April 26-28	MCTM Spring Conference, Duluth, MN

**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, contact Exec. Director Arnie Cutler at 612-626-8326 or cutler@tc.umn.edu or visit the MCTM web site (www.mctm.org) membership page to make your change. Student MCTM members and members in transition are encouraged to provide a permanent address. Thank you for helping us stay in touch!

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

FYI: In an effort to be cost effective, MCTM sends newsletters at USPS bulk rate. As a result, delivery times may vary between postal districts.

Please submit items for publication in the December issue of *Mathbits* to tlgonske@nwc.edu by November 1, 2006. Email or call 651-631-5228 with any questions. - Teresa Gonske, Editor
