



MONTANA MATHEMATICS

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Using Technology In Your Classroom

By Jacquie McDonald

Looking for ways to incorporate technology in your classroom, but don't have the time to look for activities? Try checking out the technology resources available at www.nctm.org. The *Illuminations* page on the NCTM site contains a multitude of lesson plans and technology tools for all grade bands and strands in the NCTM Standards. The lesson plans contain objectives, material lists, procedures and links to any applets that are needed for the lessons. Additional plans are added to the site on a regular basis and the page has recently been updated, so if you haven't seen *Illuminations* in awhile, now is the time to revisit it.

A second great feature of the NCTM site is the *ON-Math* electronic journal. This journal is the only NCTM journal that spans all grade bands. Articles are also unique in that each takes advantage of electronic media. The current issue contains an article called, "Fill and Pour", where students are challenged to figure out how to measure 3 ounces given two cups of size 7 ounces and 11 ounces. While this activity can be done in the classroom with real water, the article contains an applet that gives students a similar experience with none of the mess. While visiting the *ON-Math* page, also check out the article on the TIMMS study. This article contains video clips of teachers teaching lessons in various countries. While at first I wondered what I could learn from a lesson taught in a language I didn't understand, math truly is a universal language and I found myself fascinated by the contents of the clips. The article does a fine job explaining differences in teaching methods between teachers in the United States and those in other countries. Finally, I have to mention the newest department on the *ON-Math* site,

called, "E-Teaching Tools," headed by Ted Hodgson. The featured site in the first article is the Shodor Interactivate site. Ted does a great job highlighting some of the applets on the site and giving suggestions for using them in the classroom.

The third and final link on the NCTM site I would like to mention is the link to lessons written by Karen Longhart that coincide with the *Numbers* television episodes. While I seem to never have the VCR ready to record (except for the one episode that turned out to be inappropriate for the classroom), the activities are phenomenal (and I am hoping former episodes will be available in boxed sets soon.)

Technology activities can be completed by individuals in a lab, by classes watching a projected image on a screen, or by small groups in front of one or two computers placed at the side of the room. If the internet is involved in the lesson, just be sure to have "plan B" available (especially if you are a computer jinx, like me). No matter how you use technology, be advised that it is addictive for both teachers and students, so be prepared to ask for new equipment!

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President's Message

As I write my last President's message, I am wondering, how did two years go by so fast? I have to say that I truly enjoyed every hour of every day being involved with the mathematics community of Montana. I use the word community because I believe that the more you get involved, the more your fellow math teachers become family.

My parting thoughts for this newsletter deal with our classrooms. I would like all of us to think about this question. What are we doing to make math exciting and challenging for our students? I am not talking about playing games all day, but rather are we providing quality instruction in a matter that makes the learning interesting.

Naturally, I have some thoughts and suggestions on this subject. 1) Talk with other math teachers. I learn so much just hanging around with other math teachers. Being high school trained, I especially like to listen to elementary teachers to find their thoughts for problem solving. Instead of x's and y's they have such creative ways of approaching problems. 2) Attend professional conferences. New and innovative ideas are all around, but we do have to go out and find them. 3) Take a risk in the classroom and try something new. I told you in the last newsletter that I am trying writing in the classroom. This is not a comfortable ground for me, but I can see some benefits for both the students and myself. 4) Encourage conceptual development. Do not just tell the "how to", use appropriate strategies to take students from the concrete to the abstract. Let them find the beauty in the "why" in mathematics. 5) Make sure to incorporate applications in your lesson plans. Engage students and end boredom. 6) Make sure your teaching improves from year to year. Look back and assess your year. We assess students, how about ourselves? 7) Do not settle for low-level achievement. Expect quality, expect achievement.

Also, what kind of person are you as you teach? I would love to say that these are my own ideas, but alas, I borrowed these. 1) Stay upbeat in the classroom. Maintain a positive attitude all year. 2) Respect all students. Not all students have the home life that is conducive to studying and some could care less about math and its applications. 3) Maintain your commitment to excellence all year. It is easy to "leave no child left behind" in the early months and drop our expectations as the months wear on and they stretch our level of tolerance. 4) Take pride in the achievements of all students. Sometimes little steps are better than none. Be an advocate for each student (I know that can be tough). Compliment each student as much as possible. Cathy Seeley, past president of NCTM, promotes the idea that we need to invest in every student. My son Mike is at Missoula going to school because Dr. Bolstad of the U. of M. music department called our home three times to let Mike know that he was interested in having him at Missoula. Never underestimate the power of a personal touch. 5) Share your enthusiasm for teaching and the fun and value of learning. When someone walks in your room, do they want to stay? Are you making your classroom vibrant, active and interesting? 6) Attend activities in which the students participate. Go to their concerts, their award ceremonies, their volleyball matches, and their art shows. Then engage them the next day and compliment them on their achievements. Take a step beyond and take some photos of them in their event and post them in your classroom.

In closing, I would to thank all of the people who have served on the board in the two years I have been president. Your MCTM Board of Directors is absolutely fantastic. They have been willing to give up their time and lend their talents toward making Montana a great place to teach and learn math. I would also like to thank all of the math teachers in Montana for allowing me to serve as president of the greatest organization in the world. I really mean it.

-Jim Hamlin

Lesson Plans

Complete lesson plans are available at www.montanamath.org

K-3

The Shape Shifter

Submitted by Angel Greenley (greenleya@billings.k12.mt.us)

K-6 Math Coach, Billings Public Schools

A great primary geometry lesson! This lesson is adapted from an AIMS Education Foundation lesson that ties literature and hands-on geometry. Students discover properties of polygons through literature and then apply that knowledge by creating the polygons using Chinese jump ropes.

4-6

Lines to Design

Submitted by Angel Greenley (greenleya@billings.k12.mt.us)

K-6 Math Coach, Billings Public Schools

This geometry lesson plan has students discover lines (parallel, perpendicular and intersecting), angles (acute, right and obtuse) and shapes (congruent and similar) by using a pattern block, linguini and drawings. It is easily adapted to meet the needs of your students by modifying the worksheet.

See www.montanamath.org for complete lesson plans.

Middle School

Classifying Number Sets

Submitted by Lisa Scott

scottl@billings.k12.mt.us

This lesson is design for students to learn how to classify numbers sets belonging to the real number system in a hands-on way. The students will build an understanding of the real number set by using Venn Diagrams and Tree Diagrams. Students will work together to define number sets and then classify them.

High School

Monte Carlo Simulation: The Birthday Problem

Submitted by Lisa Scott

scottl@billings.k12.mt.us

The students will explore a Monty Carlo simulation using The Birthday Problem. The participants will understand and apply basic concepts of probability. They will use simulations to generate and explore data and develop an understanding of permutations as a counting technique. They will generalize patterns using explicitly defined and recursively defined functions and use varied representations to model and interpret mathematical phenomena. There is a program written to use with the TI-83 calculator.

ASK BARNEY



1. Barney do you have any suggestions to help make the summer an even more amazing part of the year?

I certainly do (you wouldn't expect anything else would you?). My greatest bit of advice is to act like a dog. 1) Run, romp and play daily, 2) avoid biting when a simple growl will do, 3) on hot days, drink lots of water and lay under a shady tree 4) when it is in your best interest, practice obedience, 5) delight in the simple joy of a long walk, and 6) be loyal.

2. I have been having trouble with my dog. Every time the door bell rings, he heads for a corner. What can I do?

I am going to take a guess here. Is your dog a Boxer?

3. I know it is far in the future, but is MCTM still planning to have a lunch at the fall conference in Billings?

I snuck (is that a word) into the MCTM Board of Directors meeting last May 6th and was listening to some of the talk that was happening. The MCTM Annual Meeting will be held on Thursday at noon. It will be a two hour meeting and all MCTM members are invited. I understand that the luncheon is going to be absolutely scrumptious this year. The board is going "overboard" to provide a quality lunch for the MCTM members this year. You really need to be there. Again, I plan to be there to sign autographs – if someone would just ask. This is getting embarrassing because no one seems to be interested. I really can't understand it.

4. Other than the luncheon, is anything else a "hot topic"?

I think I overheard a couple of really great ideas that the board has developed. First of all, MCTM is teaming up

with the MT Board of Education to form a panel to discuss Montana's content and performance standards and state assessments in mathematics. Strengths, weaknesses and common implementation strategies will be discussed. I know that Lisa Scott, Cliff Bara, and Angel Greenley will be part of the MCTM delegation. This is a "must see". I am guessing that this will be a popular sectional and I would encourage everyone interested to attend. I bet that there will be a time that the audience will have a chance at questions for the panel, too.

5. So that pretty much wraps up the fall conference?

Absolutely not! As we speak, the MCTM is preparing a "SIMMS Blitz". As you well know, MCTM is the owner of the SIMMS material developed right here in Montana in the 90's. Kendall/Hunt Publishing is currently marketing this as their high school textbook. SIMMS just went through its third revision and is really a fantastic book. Montana's own Terry Souhrada with Peter Fong did some fantastic work in this revision. The book meets every one of the NCTM standards. I know that SIMMS went through some hard times here in Montana in the last 10 years, but it is so much better now. The teacher materials are so friendly and the student work is very engaging and challenging. If you haven't seen the new book, (only Level 1 is now in print, but the others are on their way) you really need to peruse a copy. I know that Kendall/Hunt will have a booth on the exhibit floor and will be promoting their

DEADLINE EXTENSION

The MCTM PDA deadline for the TNT and Number Sense workshops has been extended until May 31st. You can find the registration form on the web at montanamath.org or you can contact Linda Horst with any questions at 406.690.0901 or at horstl@billings.k12.mt.us. Thank you.

Deadline for August Newsletter is

August 10, 2006

e-mail articles to

kathje_dalton@gfps.k12.mt.us

The Dean Preble Memorial Award

The Dean Preble Memorial Award for Outstanding Teachers of Mathematics is an annual recognition of teachers of mathematics at all levels in mathematics education. MCTM wishes to recognize an elementary (grades K-8), a secondary (grades 5-12), and a collegiate teacher of mathematics who have made significant contributions to the teaching and learning of mathematics.

This award is given in memory of our colleague Dean Preble, who passed away from cancer in the fall of 1998. Dean was recognized for his unflinching support for mathematics education in the state of Montana. His dedication to the mathematics teaching profession, his love of his students, his involvement in state and national mathematics organizations, and his devotion to the improvement of mathematics education in Montana were unparalleled. One of Dean’s wishes was to establish an annual award to recognize outstanding teachers of mathematics in Montana. In keeping with his wish, MCTM created the Dean Preble Memorial Award for Outstanding Teachers of Mathematics. The award consists of an inscribed plaque and a \$100 stipend for the recognized teachers, to be awarded at the MCTM annual meeting in October.

Award Criteria

- Any member of MCTM may submit a nomination. Current members of the MCTM Board may not be nominated for this award.
- The nominee must be a current MCTM member.
- The nominee must have taught mathematics in Montana.
- The nominee must have a record of significant and consistent contributions to the teaching and learning of mathematics.
- The nominee must demonstrate a concern for her/his fellow teachers of mathematics.
- The nominee must demonstrate a willingness to continue to grow and improve as a teacher of mathematics.
- The nominee must demonstrate an extraordinary ability to engage students in the learning of mathematics.
- The nominee must have a record of participation in professional activities involving mathematics.

Nomination Procedure

Nominations must be submitted in writing and consist of a maximum of two, double-spaced, typewritten pages. The nominations should directly address the criteria. The name, address, telephone number, and present position of both the nominee and the nominator must be included. Nominations are accepted at any time and may be sent or e-mailed to:

Cliff Bara
 P. O. Box 610; Troy, MT 59935
 cliffbara@hotmail.com

MCTM Membership Form

<input type="checkbox"/> New Member	<input type="checkbox"/> Renewal	Annual Dues (September- August)
<input type="checkbox"/> Elementary	<input type="checkbox"/> MS	<input type="checkbox"/> Regular (1 yr) \$15
<input type="checkbox"/> College	<input type="checkbox"/> Other	<input type="checkbox"/> Regular (2 yrs) \$25
		<input type="checkbox"/> Regular (10 yrs) \$100
Name _____	<input type="checkbox"/> Life Time	\$150
Address _____	<input type="checkbox"/> Student	\$8
_____	<input type="checkbox"/> Retired Educator	FREE
_____	<input type="checkbox"/> MCTM & MSTA	\$30
Phone Number: _____	<input type="checkbox"/> Contribution to Scholarship	
Email: _____	Fund \$5 to \$ 8	

Send Form with correct amount to:
 Lisa Wood, MCTM Membership Chair
 1911 Belvedere Drive
 Billings, MT 59102
 woodl@billings.k12.mt.us

MCTM History Tidbits

Adding and subtracting

Reading and writing included

Interesting

Timings included

Having to do with logic

Math is great

Amounts

Take time on tests

Includes fractions

Computers can be used

by Molly Rouston, Lockwood

The poem at left and song below were winning entries in the 1989 MCTM Writing and Poster Contest. Initiated in 1985 and directed by Larry Kaber, this contest attracted as many as 450 entries a year during its 18 year life span. Following Larry, Ruth Brockelbank, Bruce Peterson, Deb Wickum, and Anna Flynn each took on the director's role. Students were judged according to grade bands on posters, jingles, poems, cartoons, editorials, etc. Participants included the students in Adult Basic Education programs. For a number of years entries decorated the hallways at the MCTM fall conference. The contest was last held in 2001.

The Calculus Blues

by Andrea Sliter Flathead High School

Back in the very beginning,

Back when you thought math was swinging,

You learned to add and multiply.

You never thought your brain would fry.

Now you're a math 5 student,

You think your course choice wasn't prudent!

All these theorems and definitions

This can't be your life's ambition.

Chorus:

You've got the Calculus Blues

Yeah, the Calculus Blues

No one wants to be in your shoes,

You've got the Calculus Blues

Yeah, the Calculus Blues.

Mr. Kaber expects you to

Memorize the stuff,

You want to hit the booze.

This is killing your g.p.a.

You're headed for college

This can't be the way.

Chorus

Hey, wait, let's get this straight,

You know you've got lots

of good-looking classmates,

Call one up and make a date,

You're studying math and it's goin' to be

great.

No more Calculus Blues

No more Calculus Blues

Your know you've got nothing to lose,

When you study math in two's

No more Calculus Blues

No more Calculus Blues.

Information taken from the History of the Montana Council of Teachers of Mathematics compiled by Kimberley Girard (1981-2003) and past issues of

Jokes & Quotes by charlie

What do you call pall bearers in Oklahoma?
Kari-okies

Thanks to, Kathie Daviau

Why don't the Amish water ski?
It drowns the horses.

Lena called the airlines information desk and inquired,
How long does it take to fly from Minneapolis to Fargo?"
"Yust a minute," said the busy clerk. "Vell," said Lena, "if it has to go dat fast, I tink I'll yust take da bus."

Miss Bonkers rose, "Don't fret!" She said. "You've learned the things you need to pass that test and many more - I'm certain you'll succeed. We've taught you that the earth is round, that red and white make pink, and something else that matters more - We've taught you how to think."
Dr. Seuss, Hooray for Diffendoofer Day! : Jack Prelutsky and Lane Smith

If you have a joke or quote to share, please email them to deisher6@midrivers.com.

Regards, charlie

Montana Mathematics Opportunities
Check out the MCTM web site at www.montanamath.org

***NEW FOR EVERYONE!** Illuminations and ON-Math are now available to anyone interested on the NCTM website at <http://nctm.org>. These can both be found by scrolling to the bottom of the home page.

***Mark your Calendars! MATH CONTEST TEST WRITING** see the application in this newsletter.

***MCTM is looking for presenters for MEA-MFT conference.** If you are interested in presenting, go to <http://www.mea-mft.org/edcon/> and fill out the online application.

***Dean Preble Award.** Nominations are accepted year round! Nominate any MCTM member (board members excluded) who teaches K-college. Nomination form is in this newsletter. Or go to the website and click on Awards.

***MCTM Teacher Scholarships.** Self-nomination form can be found on the MCTM web site by clicking on Awards, and in this issue of the newsletter. These scholarships are offered year-round. Teachers can receive \$250 for help with any out of state conference or \$100 for any in state conference. Seven instate awards and one out-of-state award have been awarded this year to date. There is still \$1050.00 left to be awarded!

***Membership. MCTM membership is 600 strong!** Do you know someone in your school who is not a member of MCTM? Please encourage them to join! You can find a membership form in this newsletter.

DON'T WAIT!**SIGN UP NOW!****For more information, and to reserve a place, please contact:**

Bharath Sriraman Department of Mathematical Sciences, The University of Montana, Missoula
 Phone: (406) 243-6714 E-mail: sriramanb@mso.umt.edu

Libby Knott Department of Mathematical Sciences, The University of Montana, Missoula
 Phone: (406) 243-4818 E-mail: knott@mso.umt.edu

**WHAT WOULD MAKE YOU A
 BETTER MATHEMATICS TEACHER?**

- increased mathematical content knowledge and pedagogical content knowledge (how to best teach the content that you know)
- appropriate implementation in the classroom of current research about mathematics teaching and learning
- flexible schedule

ALL based on state-of-the-art professional teaching standards

All of this and more will be available at The University of Montana in Missoula this summer 2006!

HERE'S WHAT WE ARE OFFERING AT UM THIS SUMMER 2006

- a convenient summer schedule for teachers
- an extended focus to include middle school teachers
- a dedicated faculty committed to working with middle school and high school teachers
- a mentoring and cooperative approach to the mathematics curriculum
- a collaborative environment where middle school and high school teachers work on mathematics education problems

COURSE DESCRIPTION AND SCHEDULE

All are 3-credit graduate courses, taught on a **Monday - Friday schedule:**

MATH 550 *Analysis for Teachers* June 12 – June 30 9:00 – noon daily for 3 weeks
 Professor Bharath Sriraman

This course will steer a simple path through the central notions of real analysis. The course uses fundamental concepts arising from a detailed study of real numbers and sequences to build the notions of limits, continuity, differentiation and integration. Emphasis will be laid on construction of numerous examples to generate relevant constructs.

MATH 504*Topics in Mathematics*

July 5 – July 21

9:00 – noon

daily for 3 weeks

Education – Investigating Number (Listed as Number theory)
Professor Libby Knott

In this class we will take an informal approach to number, using middle school mathematics literature – including *The Number Devil*, and *Penrose the Mathematical Cat* – as our springboard. We will investigate interesting and unusual properties of number and work towards a deeper understanding of how numbers work and of the underlying structure of and relationship among number sets.

MATH 510*Problem Solving*

June 12 – July 21

1 – 3pm daily

[In two sessions, June 12-30 and July 5-21]

Professors Bharath Sriraman and Libby Knott

In this class we learn heuristics for general problem solving, and then heuristics, models and strategies for mathematical problem solving. We will emphasize the idea of meta-cognition i.e. thinking about one's thinking. Students will be required to keep a journal of their problem solving efforts, share their attempts with the class, both successful and unsuccessful, and write reflections on their entries and those of other students.

GRADUATE PROGRAMS AVAILABLE

- Master of Arts, Department of Mathematical Sciences
- Master's Degree in Interdisciplinary Studies (M.I.S.), Graduate School
- Master's Degree in Education (M.Ed.), Department of Curriculum and Instruction, School of Education
- Doctor of Philosophy, Emphasis in Mathematics Education, Department of Mathematical Sciences

Note: You do not have to be in a graduate program to take these courses, but in order to later transfer up to 9 credits into a graduate program, you must be admitted as a graduate non-degree student rather than a post-bac student when you take them.

Faculty

Libby Knott has a PhD in mathematics education from Oregon State University and degrees from Wesleyan University and Colorado State University. She has taught at Lewis and Clark College (Portland, OR), SUNY College at Cortland, The University of California, Santa Barbara, Oregon State University and has been on the mathematics faculty at The University of Montana since 1996. Interests include all aspects of undergraduate mathematics teaching and learning. She is an author of the 9 – 12 *Navigating through Geometry* book in the NCTM Navigations series. Current research interests include the role of discourse mathematics teaching and learning. She is also involved in the preparation and professional development of middle and high school math teachers in the state of Montana.

Bharath Sriraman received his Ph.D in mathematics education from Northern Illinois University's Department of Mathematics. Prior to this he received his master's degree and bachelor's degrees in mathematics from Northern Illinois University and the University of Alaska, Fairbanks respectively. He has been on the UM faculty since July 2002. His research interests are diverse and include advanced mathematical thinking, creativity, cognition, cross-cultural mathematics, gifted and talented education, history and philosophy of mathematics and science, international comparisons of mathematics education theories and practice, logical foundations of mathematics, mathematics and literature, mathematical modeling and applications, non-Aristotelian logic systems, problem solving, statistical modeling techniques, theology and teacher education. He has published more than 58 papers, commentaries and book reviews in almost all of these areas, appearing in internationally distributed scholarly journals in Australia, Denmark, Germany, UK, and North America. He is the editor of *The Montana Mathematics Enthusiast*, and he also holds positions on the editorial boards of *Mathematical Thinking & Learning*; *Zentralblatt fuer Didaktik der Mathematik*; *Mediterranean Journal for Research in Mathematics Education*; *Journal of Secondary Gifted Education*; *Gifted Child Quarterly*; and *Interchange: A Quarterly Review of Education*. He has previous experience as a high school mathematics teacher and

MONTANA LEARNING CENTER NEWS

Montana Learning Center at Canyon Ferry Lake Celebrates its 2nd year Anniversary of Partnering with the Montana Council of Teachers of Mathematics in Engineering Mathematics Improvement in Montana.

After officially taking over 15 houses, a \$200,000 septic system, lots of science equipment and tons (Yes we are talking the 2000 pound variety of tons) of other stuff on Canyon Ferry Lake; we are now into our 3rd year of operation.

What has changed over these first two years? We have partnered with MCTM to offer the COMET Math Science Partnership grant. This grant has built a community of 80 mathematics teachers from grades K-12 who have joined MCTM and NCTM (most were new members) who are taking a new leadership role across this state. We saw 75 of those emerging leaders at the MCTM fall conference, and 72 of them attending a meeting after the MCTM/MSTA leadership conference in January. Many of those new leaders will be presenting at the Fall conference in Billings this October.

Another program is the “Before Its Too Late” series of workshops offered across the state. Over 100 workshop attendees learning what math is needed for post-secondary education and strategies to keep kids in school. Again this mathematics program was a partnership program with MCTM where we had all the participants join MCTM and NCTM as professional addition to the project.

We are now a site for some of the premier mathematics activities in this state. The MCTM Professional Development Academy, and the TTT conference are two of the conferences that have been successful over the last two years and we look forward to a long relationship.

We are also working at providing expanded programs to students. We are piloting a national program in science for a Lewis and Clark Experience and have added a new program this summer called Innovations in Mathematics and Science. The goal is to grow this program exponentially till it involves students in every high school in the state.

The first two year partnership between the Learning Center and the Montana Council has been amazing. We are looking forward to the first decade, then the first score, then the first century! Thanks to MCTM.

Richard Seitz
Board Chair, Montana Learning Center at Canyon Ferry Lake

MCTM Math Contest Writing Course
Great Falls High School
Great Falls, MT
June 11-12, 2006
Registration Deadline: **May 30, 2006**

___ **YES**, I want to help write the 2007 Math Contest Tests!

___ **NO**, I cannot help write this year, but would like to help by proof-reading completed tests. Tests will be mailed out by June 15th and will need to be returned by July 15, 2006.

Name _____

Address (after June 1) _____

City/State/Zip _____

Phone number(s) _____

E-mail _____

Current Teaching Assignment (2005-2006)

Class _____ Grade levels _____

Hotel stay will be paid directly by MCTM. Sunday night meal (BBQ) will be provided. The course runs from 1-7 pm on Sunday, and 8 am - 6 pm (with an hour lunch-on your own) on Monday. Sign-up for college (U of M - Missoula) or OPI credit will be Sunday afternoon. A \$75 stipend will be mailed to each writer upon completion of the course. Mileage and food other than that provided will be the responsibility of the participant.

___ Yes, I would like to stay at a hotel on Sunday night at no charge to me.

___ No, I will make other accommodations with the understanding that any charges will be my responsibility.

THANK YOU FOR YOUR INTEREST IN HELPING!

Return forms by May 30, 2006 to:

Satinee Lightbourne
Great Falls High School
1900 2nd Avenue South
Great Falls, MT 59405

MCTM Teacher Scholarship Application

Name: _____

Email: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Home Phone: _____ Work Phone: _____

School: _____

School Address: _____

City: _____ State: _____ Zip Code: _____

Gradelevel(s) taught: _____ Subjects: _____

Have you been a recipient of this scholarship before? _____

If so when? _____

What conference or class are you planning to attend?

Location: _____ Date(s): _____

Why do you want to attend this conference or class?

**The Montana Council of Teachers of Mathematics (MCTM)
Mathematics Professional Development
List of Presenters**

.APPLICATION FORM

Please send or E-mail a resume, digital picture (optional), biography and one letter of recommendation from a previous or present employer, principal, or colleague to Angel Greenley, 415 N. 30th St. Room 234R, Billings, MT 59101 greenleya@billings.k12.mt.us, phone 247-3818.

Name: _____

Mailing Address _____

City _____ State _____ Zip Code _____

Employer _____ Email _____

Work Phone _____ Home Phone _____

Cell Phone _____

Years of Teaching Experience _____

Years of Presentation Experience _____

List the time frames you are willing to present _____
(Consider distance from home, cost, tech needs, etc.)

List the Last Three Mathematics Presentations

Date of Presentation Audience (please list grade level)	Topic of Presentation Length of Presentation	Place of Presentation

By submitting this, you agree to maintain a current membership with MCTM and give, collect and send evaluations of presentation(s) to MCTM (Send evaluations to MCTM PD Presenter c/o Jim Hamling, 1110 West Water, Lewistown, MT 59457).

Please indicate the type of presentation you would be willing to do by checking any of the following topics. Please write your objectives and a brief description of your presentation for each the item you checked. You may attach an additional page if needed.

Please Check All That Apply Professional Development Offerings	
☺	Instructional Areas
	Elementary
	Middle School
	High School
	Title Mathematics
	Special Education Mathematics
	Gifted & Talented Mathematics
	AP Mathematics Courses
	Other-Please Describe
☺	Mathematics Content K-12
	Numbers and Operations
	Algebra
	Geometry
	Measurement
	Data Analysis & Probability
	Problem Solving
	Other-Please Describe
☺	Researched-Based Mathematics Instructional Strategies
	Teacher as Facilitator
	Cooperative Learning
	Technology
	Active Learning
	Differentiated Instruction
	Assessment
	Manipulatives
	Writing in Math
	Questioning Techniques
	Other-Please Describe
☺	Other Professional Development Assistance
	Curriculum Alignment
	Course Pacing
	Mathematics Standards (District, State, and/or National)
	Other-Please Describe

**Mathematics Professional Development
List of Presenters**

MCTM is launching a new service to school districts in Montana this year and we need your expertise to make this work. Our goal is to compile a Presenters List to distribute to all school districts, OPI, consortiums, and others. If you are interested, continue reading! Any questions? Check out the website at www.montanamath.org for the application and more details. Or you can contact Lisa Wood at woodl@billings.k12.mt.us or 247-2244 or Angel Greenley at greenleya@billings.k12.mt.us or 247-3818.

Goal: The Montana Council of Teachers of Mathematics (MCTM) would like to provide a service to MT schools, MT teachers, the MT mathematics community, and the Office of Public Instruction by creating a list of qualified mathematics professional development presenters.

- a. The institutions interested in a professional development service will be responsible for contracting with the presenter/s. MCTM is only responsible for providing and updating the list of presenters.
- b. The presenter will establish his/her own fee, expenses and contract with the contracting institution. A suggested stipend may be \$500 per day. The presenter may also include travel, room & board, and copy expenses.
- c. Presenters must be current MCTM members.
- d. The presenter will give, collect and send evaluation forms to MCTM (Send evaluations to MCTM PD Presenter c/o Jim Hamling, 1110 West Water, Lewistown, MT 59457)
- e. Positive evaluations will continue your presenter status on the list.
- f. Tax deductible donations sent to MCTM (MCTM c/o Cliff Bara, Box 610, Troy, MT 59935) are suggested for maintenance of the presenters list.

Application Process

- a. Each potential presenter will supply the following information to the MCTM Professional Development Committee. (Send or E-mail to MCTM PD Presenter c/o Angel Greenley, 415 N. 30th St. Room 234R, Billings, MT 59101; 406-247-3818; greenleya@billings.k12.mt.us)
 - i. Application
 - ii. Resume
 - iii. One letter of recommendation from a past or present employer, principal or colleague
 - iv. Brief Biography
 1. Example:

Lisa Scott
Lisa Scott received a Masters of Science in Mathematics Education from Montana State University in Bozeman, MT. She is currently a Middle School Mathematics Coach. Her responsibilities include coaching middle school mathematics teachers in content and pedagogy. She taught high school mathematics for seven years at Senior High School in Billings, MT. She also taught middle school and high school mathematics for four years at Joliet Public School in Joliet, MT. During these years, Lisa taught the SIMMS IM Curriculum for Level 1, 2 and 4. Lisa serves as President-Elect for the Montana Council of Teachers of Mathematics and Co-Chair for the MCTM/MSTA Leadership Conference. Lisa won the Presidential Award for Excellence in Mathematics Teaching in 2002.
 - v. Digital Picture (Optional)

THANK YOU!!!

The MCTM Board of Directors and membership would like to welcome the following wonderful people to serve for the board:

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We would like to say thank you for all your hard work and time serving for the board to the following people:

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Billings Area Lodging Facilities (2006 MEA-MFT Educators' Conference)

Note: All rates are subject to the 7% accommodations tax.

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 406-245-7515

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 Billings, MT 59101
 406-252-5603 • 1-800-237-5882
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Thank you MCTM for the opportunity to attend the National Conference in St. Louis, MO. As a first time attendee I was extremely impressed with the quality and quantity of presenters at this conference. I am a sixth grade teacher and expected the choices of sectionals to be mostly for high school level teachers. I was greatly surprised! There were more choices for the middle and elementary grades than I could have possibly attended. The best sectionals I attended were presented by other teachers still teaching in the classroom. It is amazing to hear and see some of the excellent people we have working in our profession. I strongly encourage you all, as professionals consider presenting at conferences. What we have to share with each other is so valuable. I immediately implemented some of the strategies and activities I learned, much to my students' delight! I look forward to attending my next conference and learning from my professional colleagues. Thanks again.

Sincerely,
 Jody Sulser
 Billings, MT

C'mon Inn

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406-655-1100 • 1-800-655-1170

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(*\$79.00 single or double*)

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406-252-6800 • 1-800-231-7782
(*\$50.00 single or double*)

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27 North 27th Street
Billings, MT 59101
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Montana Mathematics is a newsletter published for all members of the Montana Council of Teachers of Mathematics. The publication comes out 5 times/ year and is free to all members of the MCTM. Any information pertaining to MCTM can be sent to Kathje Dalton at Great Falls High School, 1900 2nd Ave S, Great Falls, Montana 59401. All entries will be reviewed.