Texas Mathematics Teacher

Volume LIX Issue 2 Fall/Winter 2012

Find the Mathematics...

... in a replica of Stonehenge

see page 25

photos by Mary Alice Hatchett

Four Fours Student Activity *see page 31*

Name That Date Scavenger Hunt *see page 13*

Puzzle Corner and Quotes *see page 24*

Texas Council of Teachers of Mathematics
Executive Board 2012 - 2013

Elected Offices (Voting Members)

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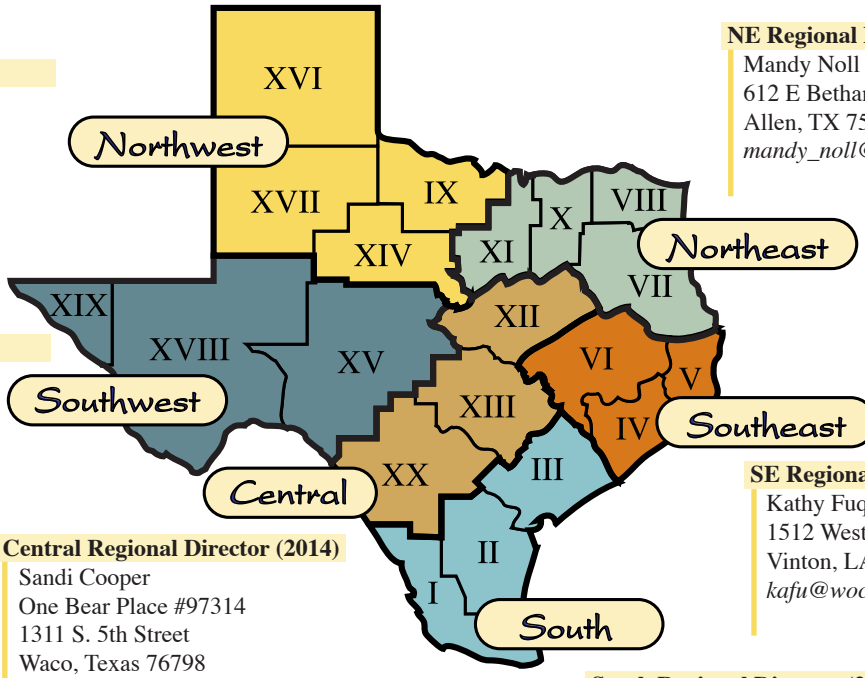

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Texas Mathematics Teacher

A PUBLICATION OF THE TEXAS COUNCIL OF TEACHERS OF MATHEMATICS

Volume LIX Issue 2 **Fall/Winter 2012**

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Permian Basin Stonehenge on The University of Texas of the Permian Basin campus in Odessa, Texas. Cover photos and above photo by Mary Alice Hatchett, 2012.

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All applications (including TCTM membership) are available online at <*www.tctmonline.org*>.

Letter from the President

Dear TCTM Members,

In my first message to you I would like to acknowledge my appreciation for your vote of confidence in selecting me as your president for the Texas Council of Teachers of Mathematics (TCTM).

Welcome to a great school year! For those who renewed your TCTM membership, welcome back to another year with TCTM, and for those who joined us as new members at CAMT 2012 in Houston, welcome to one of the best mathematics teachers' organizations in the country. Each member of the TCTM board looks forward to serving you as we promote mathematics education in Texas. One of the many ways that TCTM has helped promote mathematical education in Texas is by co-sponsoring the Conference for the Advancement of Mathematics Teaching (CAMT) along with the Texas Association of Mathematics Supervisors (TASM), and the Texas Section of the Mathematics Association of America (MAA).

As you may know TCTM is a partner affiliate of the National Council of Teachers of Mathematics (NCTM). In Texas there are also many local associate NCTM affiliates. You could visit the NCTM website <www.nctm.org>, or consult the Lone Star News section in this journal, or contact your TCTM Regional Director by phone or email to determine if there is an affiliate in your area of the state.

It's been a while since I've seen a positive K-12 story in the news. All we hear is doom and gloom from the media about the state of schools and our teacher corps. But we know better. All they need to do is visit your classrooms and see for themselves. There is so much skill, dedication, creativity and resourcefulness among Texas math teachers and that's what gets fostered when we work together in TCTM. Several years ago Dr. Deborah Loewenberg Ball, an education professor at the University of Michigan in Ann Arbor, published some research findings about teachers' "mathematical knowledge for teaching" vs. "students' learning in mathematics." As I see it, the knowledge good math teachers need consists of more than knowing math well or understanding how children think at particular developmental stages. I think it comes from knowing how to apply mathematical knowledge quickly, in ways that make sense to students. I believe Dr. Ball would agree. Her research shows that students whose teachers rank high on a "mathematical knowledge for teaching" scale learn more math over the school year than do students of other teachers.

So how can TCTM help each of us reinvigorate ourselves in becoming a more knowledgeable math teacher and gaining more "mathematical knowledge for teaching?" How can we change those K-12 news stories? Here are a few ideas:

- TCTM will provide information booths at state and local conferences in order to promote an awareness of our organization.
- TCTM will continue to encourage Texas teachers to grow and learn the mathematics above and/or below the grade that they teach by attending CAMT and local affiliate events.
- TCTM will continue to provide a high quality professional peer-reviewed journal (*Texas Mathematics Teacher*) for members to read, discuss and communicate with colleagues.

I'm sure that you too have some great ideas about how TCTM can promote mathematics education in Texas. Why not share these with all of us? Write a short piece for Voices from the Classroom, post a comment on our FACEBOOK page, or drop me an email. I would love to see my email inbox fill up with ideas from Texas math teachers.

Teach well and remember that each student in your classroom is somebody's whole entire world.

Sincerely,

Mary Alice Hatchett
TCTM President
<mahat@earthlink.net>

Website: *<www.tctmonline.org>*
Facebook: *Texas Council of Teachers of Mathematics*
Twitter: *< TCTM_Updates>*

Affiliate Groups

These are local affiliated groups in Texas. If you are actively involved with them, please send future meeting and conference information to Cynthia Schneider at <*cschneider@austin.utexas.edu*> so we may publicize your events. Contact information for each group is available on the NCTM website, <*www.nctm.org*>. Contact information for regional directors is located on the inside front cover.

NORTHWEST REGION *Service Centers 9, 14, 16, 17*
Sherry Clark, Regional Director

Texas South Plains CTM
Nineteenth Annual Panhandle Area Mathematics and Science Conference was held on September 29, 2012, in Canyon, TX. Contact: Treasure Brasher, <*tbrasher1@suddenlink.net*>

SOUTHWEST REGION *Service Centers 15, 18, 19*
Veronica Hernandez, Director

Greater El Paso CTM

GEPCTM will co-host a regional UIL practice meet on Feb 9, 2013. For future event information please contact: GEPCTM President, Craig Rhoads at <*crhoad@sisd.net*>

SOUTH TEXAS REGION *Service Centers 1, 2, 3*
Shere Salinas, Regional Director

The South Texas Region is on Project Share! The group is "Texas Council of Teachers of Mathematics: South Region."

Coastal CTM
The 9th annual ME by the SEa conference will be held at Texas A&M University – Corpus Christi on Friday, June 14, 2013. Registration is available online. Contact: Faye Bruun, or see <*cctm.tamucc.edu*>.

CTM @ Texas A&M University at Corpus Christi (Student Affiliate)
Contact faculty advisor Faye Bruun, <*faye.bruun@tamucc.edu*>

CTM @ Texas A&M University at Kingsville (Student Affiliate)
Contact NCTM Representative: Susan Sabrio

Rio Grande Valley CTM
The 47th Annual RGVCTM Mathematics Conference will be on Saturday, November 17, 2012 at the University of Texas - Pan American in Edinburg, Texas. Contact: Lucy Munoz at <*hlucymh@aol.com*>, or see <*www.rgvctm.org*>.

STATEWIDE

Texas Association of Supervisors of Mathematics (TASM) meets in the fall and spring in Austin and at CAMT. Membership is required to register for this meeting. For membership and registration information, please see <*www.tasmonline.net*>.

The Association of Mathematics Teacher Educators of Texas (AMTE-TX) holds its annual meeting at CAMT. For more information contact the current president Trena Wilkerson at <*Trena_Wilkerson@baylor.edu*>.

NORTHEAST REGION *Service Centers 7, 8, 10, 11*
Mandy Noll, Regional Director

East Texas CTM
If you are interested in helping re-start this organization, please contact Martha Godwin at <*mgodwin@qcisd.net*>.

Greater Dallas CTM
Holds two mathematics contests (W. K. McNabb Mathematics Contests) for students in grades 7 - 12 - one in the fall (early Nov.) and one in the spring (early April). A banquet in May is held for the winners. Contact: Richard Newcomb, <*RNewcomb@cistercian.org*> .

SOUTHEAST REGION *Service Centers 4, 5, 6*
Kathy Fuqua, Regional Director

Fort Bend CTM
Holds a short meeting in August, a fall mini-conference, a spring mini-conference and an end-of-year banquet to serve the districts of Alief, Fort Bend, Katy, and Stafford. Contact: Alena McClanahan, <*alena.mcclanahan@fortbend.k12.tx.us*>.

CENTRAL TEXAS REGION *Service Centers 12, 13, 20*
Sandi Cooper, Regional Director

Austin Area CTM
The AACTM Fall meeting was held Saturday, Oct 27, 2012 at Dobie Middle School in Austin. The topic was "*Making Every Moment Count Conference: Meeting STAAR Challenges*" and the keynote speaker was Pam Harris, consultant and author. For more information, please go to <*www.aactm.org*>.

Alamo District CTM
Contact president Linda Gann at <*Linda.Gann@nisd.net*>.

Central Texas CTM
The CTCTM Fall meeting was October 16, 2012 from 5:00-6:30 on the Baylor University campus, Draper 116. The topic was *"Mathematical Tug-of-War: Problem-Solving in the Classroom."* The CTCTM Spring Conference will be held on February 23, 2013 from 8:30 – 1:00 at University High School in Waco. For more information, go to <*www.ctctm.org*> or contact Sandi Cooper, President of CTCTM, at <*sandra_cooper@baylor.edu*>.

NATIONAL

National Council of Teachers of Mathematics (NCTM) Annual Meeting and Exposition will be held in Denver, CO on April 17-20, 2013. Visit <*nctm.org*> for more infomation.

TEA Talks

The Texas Education Agency (TEA) has several webpages important for mathematics educators.

Curriculum

To find out more about the Texas Essential Knowledge and Skills (TEKS) and resources to support their implementation, see the TEA website at *<www.tea.state.tx.us>*. On the left, click on Curriculum and scroll down to the quick links (different from the home page quick links) to Curriculum Division. On this page, scroll down to the Curriculum Newsletters to download a pdf of the most current information about the standards and professional development or click on the link to Mathematics for more subject-specific information. For additional information, contact: Jo Ann Bilderback, Math/Science Content Specialist at (512) 463-9581 or *<joann.bilderback@tea.state.tx.us>*.

Assessment

To find out more about the State of Texas Assessments of Academic Readiness (STAAR) and changes resulting from the new mathematics TEKS, see *<www.tea.state.tx.us>*. On the left, click on Testing and Accountability and scroll down to the quick links to STAAR. Information about standard setting, timelines, blueprints and more can be found on this page. For additional information, contact: Student Assessment Division at (512) 463-9536 or *<student.assessment@tea.state.tx.us>*.

2012 NCTM Affiliate Leaders Conference

Texas Affiliate Leaders with NCTM President Linda Gojak

From Left to Right:

Don Balka, *President of TODOS*

Mandy Noll, *Northeast Regional Director for TCTM*

Linda Gojak, *President of NCTM*

Mary Alice Hatchett, *President of TCTM*

Veronica Galvan, *NCTM Representative for TCTM*

NCTM 63rd Delegate Assembly

April 25-28, 2012 Philadelphia, PA

Nancy Trapp, TCTM President, attended the Southern Regional Caucus. There were no resolutions to discuss.

The NCTM Delegate Assembly was similar to the regional caucus in that there were no resolutions presented. To view the assembly proceedings, photographs, and the NCTM President's message go to :

<www.nctm.org/about/affiliates/content.aspx?id=1122>

Although the conference brought about no new resolutions, the overall experience was beneficial for all who attended.

Networking and discussion with peers from all over the United States allowed those attending from Texas to realize that educators everywhere seem to face similar problems while striving to ensure the best education possible for their students.

Kathy Gillespie • NCTM Representative
Motley County ISD • <kgillesp@motleyco.org>

Prime Year

Lessons I've Learned: What Every New Elementary Math Teacher Should Know

Every new teacher is excited to acquire his or her first teaching job. They are full of anticipation, wonder, apprehension, and nervousness. How will my classroom look to others? What is the overall environment I want to have? What will my students think of me? Will my students have fun? Will I have fun? With the excitement of a new position, there are some areas that are often forgotten. As a result, there are six areas a new elementary teacher should know before they start teaching. Even if you are not a new teacher, these can easily be adapted into a new classroom at any time.

First, a new teacher, regardless of their content area or grade, should readily know their state student expectations. In Texas, these are the Texas Essential Knowledge and Skills or TEKS. The student expectations are frequently referred to as SEs. Although the TEKS can be overwhelming to read, these are the standards and expectations the state mandates you teach in each content area. These are the road map to what students should be taught. These can be easily modified into lessons and activities for students.

Another important area new teachers should be familiar with is the needs of their students. While planning helps one lay out the overall structure of the lesson, knowing the needs of individual students helps the teacher identify targeted areas with which the students may need additional support. Knowing students' abilities aids you in determining what areas they may need more one-on-one instruction, more use of manipulatives, reteaching of a certain skill, or differentiation to meet the needs of more advanced learners.

The next area that new math teachers should consider is the organization of materials. This is the most important aspect for any teacher regardless of the number of years they have taught. After you have planned your lessons for the upcoming week, the teacher needs to ensure that all of the materials they will need are gathered and ready. Lesson plans should not be written and materials should not be gathered at the last minute. A teacher never knows when they may be absent, running late, pulled into an Admission, Review, and Dismissal (ARD) meeting, have a broken copier, or receive a new student. Storing manipuliatives in tubs with lids keeps the items clean and protected and the tubs are simply transported if there is a need to move them among workstations or even classrooms.

The number of activities a teacher must perform on any given day of the year can be overwhelming for a new teacher. However, if there is an organizational system in place, the day will go much smoother for everyone. Although not every teacher has strong organizational skills, has a perfect classroom, or keeps an immaculate desk, every teacher does have the ability to create some type of organizational system that works for them. A new teacher needs to find a way of keeping track of meetings, conferences, grading due dates, graded papers, materials for upcoming lessons, homework, etc. For some, that may include using a paper calendar, computer calendar, PDA, smart phone, or notebook paper.

Lastly, new math teachers should never be afraid to ask questions! This is how you learn and gather ideas from experienced teachers. There is never a question that is too small to be asked. There could be other teachers in your content area or school that have the same questions. It is important to get clarification on something rather than guess. This is especially important in subject matter content. You do not want to teach students the wrong information or method to do something.

Remember, be creative and have fun, as that is what teaching is all about. If you are excited about what you are teaching, your students will be excited about learning!

Alison Lentz • Second Grade Classroom Teacher
Matthys Elementary, Pasadena ISD
• <alentz@pasadenaisd.org>

New TCTM Grant

What is the goal of the TCTM Grant?

To help teachers and professional organizations in Texas improve mathematics teaching and learning.

When are applications due?

November 30, 2013

What information do we need on the grant application?

Apply online with our grant application at <*www.tctmonline.org*>, or download the PDF and mail the form to the address listed at the bottom of the form.

When will recipients be notified they will receive the grant?

January 31, 2014

When is the grant period?

February 1, 2014 through January 31, 2015

Who is eligible to receive the grant?

K-12 educators, university faculty and NCTM affiliate groups in Texas. (Please note, pre-service teachers are not included as they can apply for the Mathematics Preservice Teacher Scholarship.)

Can the grant be awarded to a group of teachers? To another NCTM or NCSM affiliate organization?

Yes, if they are in Texas.

What is the maximum grant award to any individual or group?

- Grant requests up to $1,200 will be accepted.
- Winners must complete a W-9 form, including providing TCTM with a taxpayer ID (Social Security) number prior to receipt of the award. Winners are responsible for reporting the amount of this award on their federal tax return for 2014, as the information will be reported to the Internal Revenue Service (IRS). Pursuant to IRS regulations, TCTM will provide you with a 1099-MISC for 2014 by January 31, 2015 if your award exceeds $600.00.

How can the grant funds be used?

The application should contain a short statement about how the funds will be used. Uses include (1) improving mathematics classroom(s), or (2) helping your school achieve its goals related to mathematics, or (3) promoting mathematics teaching and learning, or (4) improving your ability to teach mathematics. The following examples are suggestions:

- Tuition for mathematics or mathematics education courses at colleges or universities in Texas; tuition can be applied to one or two semesters of courses; if requested, funds will be sent directly to the university or college.
- Travel for a teacher to attend local, state, national or international mathematics or mathematics education conferences (such as NCTM, CAMT, or AACTM). Travel includes transportation to and from the conference, food, hotel, registration fees, parking at a garage (if flying), and incidentals (such as taxis, tips).
- Expenses for an affiliate to conduct a conference (such as room rental fees, printing costs, food for participants, custodial services, insurance, marketing give a-ways such as luggage tags or sticky note pads);
- Resources for university faculty and/or pre-service student groups to promote mathematics education; and
- Funds to a teacher for resources for the classroom to promote mathematics education.

What information do we need after the grant period has ended?

A short report (1-2 pages) and/or receipts indicating how the funds were used.

On the next two pages is a print copy of the online application. Please go to <*www.tctmonline.org*> and click on TCTM Grant in the left navigation bar to find and complete the online application, or use the print copy available here and fax it in.

TCTM 2014 Grant Application

Postmark Deadline : November 30, 2013

Notification by January 31, 2014

This grant is for K-12 educators, university faculty and NCTM affiliate groups in Texas. Please note, pre-service teachers are not included as they can apply for the Mathematics Preservice Teacher Scholarship. The grant can be awarded to an individual, a group of teachers or to another NCTM or NCSM affiliate organization, if they are in Texas. Grant requests up to $1,200 will be accepted.

Name:	Last	First	Middle
Address:	Number and street		Apt. or Suite number
	City	State	Zip Code
Contact:	☐ Home Phone ☐ Office Phone ☐ Cell Phone	☐ Home Phone ☐ Office Phone ☐ Cell Phone	Email Address
Workplace:	District and Campus		ESC

Grant Amount Requested _____ The application should contain a short statement about how the funds will be usedand a budget (see page 2).

Uses include (1) improving mathematics classroom(s), or (2) helping your school achieve its goals related to mathematics, or (3) promoting mathematics teaching and learning, or (4) improving your ability to teach mathematics. The following examples are suggestions:

- Tuition for mathematics or mathematics education courses at colleges or universities in Texas; tuition can be applied to one or two semesters of courses; if requested, funds will be sent directly to the university or college.
- Travel for a teacher to attend local, state, national or international mathematics or mathematics education conferences (such as NCTM, CAMT, or AACTM). Travel includes transportation to and from the conference, food, hotel, registration fees, parking at a garage (if flying), and incidentals (such as taxis, tips).
- Expenses for an affiliate to conduct a conference (such as room rental fees, printing costs, food for participants, custodial services, insurance, marketing give a-ways such as luggage tags or sticky note pads);
- Resources for university faculty and/or pre-service student groups to promote mathematics education; and
- Funds to a teacher for resources for the classroom to promote mathematics education.

What information do we need after the grant period has ended?

- A short report (1-2 pages) and/or receipts indicating how the funds were used submitted by February 28, 2015.

Send your completed application to:

by mail:
Cynthia L. Schneider
1616 Guadalupe, Suite 3.206
Austin, TX 78701

by fax:
(512) 232-1855
ATTN: Cynthia L. Schneider

by email:
<cschneider@austin.utexas.edu>

Winners must complete a W-9 form, including providing TCTM with a taxpayer ID (Social Security) Number prior to receipt of the award at CAMT. Winners are responsible for reporting the amount of this award on their federal tax return, as the information will be reported to the Internal Revenue Service (IRS). Pursuant to IRS regulations, TCTM will provide you with a 1099-MISC for 2014.

TCTM 2014 Grant Application

Postmark Deadline : November 30, 2013 *Notification by January 31, 2014*

Please describe your proposal in the area below. If you need more room, please include additional documents.

Please include your budget in the area below. If you need more room, please include additional documents.

Application Information

2013-14 Mathematics Preservice Teacher Scholarship

There are ten $2000 scholarships available for 2013-14. Any student attending a Texas college or university - public or private - and who plans on student teaching during the 2013-14 school year in order to pursue teacher certification at the elementary, middle or secondary level with a specialization or teaching field in mathematics is eligible to apply. A GPA of 3.0 overall and 3.25 in all courses that apply to the degree (or certification) is required. Look for the scholarship application online at *<www.tctmonline.org>*. The application deadline is May 1, 2013. Winners will be announced in July 2013.

NCTM Membership

What's an easy way to support TCTM?

Join NCTM or renew your NCTM membership!

Sign up for your NCTM membership and use the link on the web form to indicate TCTM as the affiliate you wish to receive a rebate! Go to *<www.nctm.org>*.

TCTM will receive $5.00 if you are joining NCTM as a new member, and $3.00 if you are renewing. Now you can sign up directly with NCTM and give back to your state affiliate. However, you may only choose one state affiliate for the rebate (it will not be split).

Please remember, you cannot join your local affiliates from the NCTM website. You must join the local affiliates directly by the process they have established. You may join TCTM by either attending the CAMT conference as a paid participant, or by using our membership form found online at *<www.tctmonline.org>*.

TCTM Communications

Follow TCTM on Twitter!

Did you know that we now have an official Twitter account? Find out the latest about TCTM and other information just for Texas mathematics teachers!

twitter.com/TCTM_Updates

Follow TCTM on Facebook!

Like the Texas Council of Teachers of Mathematics page on Facebook.

Snail Mail!

The journal is sent to the address you indicated on your membership form or the address that was used when you registered for CAMT. Please update your mailing address if it is not correct. If you have an e-mail address, please be sure it is on file and up-to-date with TCTM. If you do not have an e-mail address, please let us know. You may update your information online at *<www.tctmonline.org>* .

Foundations for College Mathematics 3e

Teaching algebra for understanding and long-term memory with recall can be a difficult task, especially for your weaker Algebra I and II students. You will find the textbook *Foundations for College Mathematics 3e and the ancillary activity book Explorations, Concept Quizzes, Investigations, and Modeling Projects for Foundations for College Mathematics 3e* focus on these issues. Foundations 3e uses function as a common theme, with function representation and function behaviors being the driving force behind the curriculum and pedagogy. The reasons for using function as the central theme are:

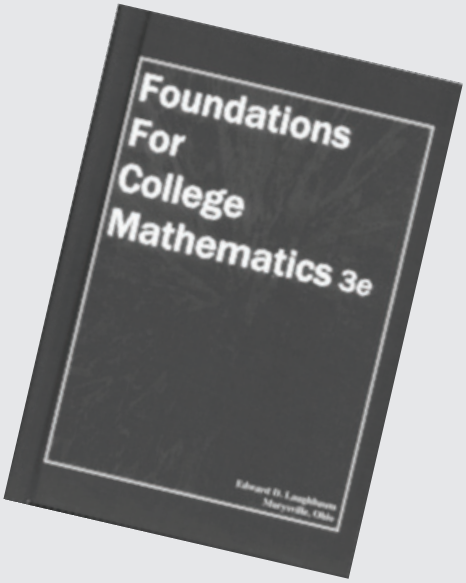
1. remediation requires a different approach to avoid psychological issues,
2. education leaders have called for more work with function,
3. neuroscientific research is clear that daily connections are crucial to understanding and long-term memory, and
4. function representation and behaviors are connected to every algebraic concept and procedure.

***Foundations 3e* has been adopted in over 170 high schools in 18 states.**

Neural-response teaching and curriculum methods are implemented through a function approach in this remedial Algebra II textbook. (Graphing calculator-highly recommended)

Available on the App Store

Foundations 3e is available as a print version from **Red Bank Publishing**, and in digital format from Apple iBooks. In addition, **80 activities are available as apps for the iPad**, (and soon on the Kindle, Nook, iPhone, and Android platforms). They are structured as stand-alone lessons. Search on "Laughbaum" in iTunes or the App Store.



See www.redbankpublishing.com for sample sections, rationale, TOC, etc.

Email <ed@redbankpublishing.com> for a free examination textbook, activity book, and ancillary CD.

Scavenger Hunt

Spring 2012 Winner
Johnette Monaghan

Last Issue's Winner

Congratulations to Johnette Monaghan from McKinney ISD. Johnette won a $100 NCTM gift certificate. Her name was drawn from the correct submissions to the QR Scavenger Hunt in the Spring/Summer 2012 *Texas Mathematics Teacher*.

Name That Date Scavenger Hunt

In this issue you need to find the missing pieces in the table below for the Name That Date Scavenger Hunt. These pieces may be found throughout this issue. All of the dates have a connection to mathematics. Submit the completed table via email to Mary Alice Hatchett by February 15, 2013 at <mahat@earthlink.net>. All correct entries will be entered into a drawing for a $100 NCTM gift certificate. The winner will be notified by February 28, 2013.

page	name	example date
		March 14 (3/14)
		April 4, 2016 (4/4/16)
	e Day	
		7/9/11
	Power of 10 Day (Base-10 Day)	

page	name	example date
		November 23 (11/23)
		November 12 (11/12/13)
	Next Palindrome Day	
		2017
	Last Repeated Date	

Apply now for a MET Grant, Scholarship, or Award!

NCTM's Mathematics Education Trust (MET) channels the generosity of contributors through the creation and funding of grants, awards, honors, and other projects that support the improvement of mathematics teaching and learning.

MET provides funds to support classroom teachers in the areas of improving classroom practices and increasing mathematical knowledge. MET also sponsors activities for prospective teachers and NCTM Affiliates, as well as recognizing the lifetime achievement of leaders of mathematics education. Grant, scholarship, and award funding ranges from $1,200 to $24,000 and can be used for conferences, workshops, seminars; research and in-service training in mathematics coursework; or professional development activities. MET is currently accepting applications for its summer cycle of grants and scholarships for current and future math teachers. The deadline is May 3, 2013.

If you are a teacher, prospective teacher, or school administrator and would like more information about MET grants, scholarships, and awards, please visit their website, *<www.nctm.org/met>* or e-mail them at *<exec@nctm.org>*.

CAMT Board Update

To all who attended CAMT 2012, thank you so much! It was great seeing each of you in Houston this past July. The CAMT Board is already busy making plans for CAMT 2013, which will be held July 10-12, 2013, in San Antonio.

A few numbers from CAMT 2012 for you (we are math teachers, after all):

- CAMT 2012 had about 6,500 attendees, including about 500 speakers
- This attendance is down about 5% from CAMT 2008 (last CAMT in Houston).
- Other states' mathematics conferences saw declines in attendance of about 10-15% during the 2011-12 school year.

CAMT 2012 also saw an important first for CAMT – a world premiere of a feature film! Flatland 2: Sphereland was debuted in a special screening with director Seth Kaplan in a packed auditorium of over 3,500 teachers.

Did you know that in order to secure dates at convention facilities when we want them, we must often book those dates up to 10 years in advance? In order to keep those dates from changing, we must also commit to the local convention and visitors' bureau that our attendees will book a certain number of hotel rooms at conference hotels. We are a teachers' organization, and definitely negotiate hard with hotels to obtain the best possible rate that we can for you. Even though the conference rates may seem high – and they are certainly higher than state rate rooms may be – for a conference of our size, we are competing with Fortune 500 companies, high-dollar conferences, and numerous other groups in order to keep a block of hotel rooms available near the CAMT facilities. Believe it or not, the conference hotel rate is often lower than the market rate for the hotels in our block!

Looking ahead to CAMT 2013…

CAMT 2013 will be the 60th annual CAMT! We are planning some very special events to commemorate this important milestone. Mark your calendars now so that you can be a part of the celebration! More details will appear in the Spring 2013 Texas Mathematics Teacher as well as on the CAMT website as they are available.

I am very excited to introduce you to Joyce Polanco, who is the Program Chair for CAMT 2013. She and her committee are already working hard to put together a solid lineup of featured speakers for CAMT 2013 that won't disappoint you. If you are looking for ways to Unlock the Mathematical Mind, CAMT 2013 is the place for you!

Some conference highlights:

- Participant registration for CAMT 2013 will open on February 1, 2013. Visit our website, *<www.camtonline.org>*, for details about how to register.
- Earlybird registration, from February 1 until May 1, will be $145.
- Onsite registration will be $205.
- Opening Session of the conference will be Wednesday, July 10.

You can also sign up to volunteer by contacting our Volunteers Chair, Kelly Meshell, of Austin ISD. Kelly's contact information is in the journal on page 30 as well as on the CAMT website.

Don't forget to "like" CAMT on Facebook and to follow us on Twitter with our *<username @camttweets>*. These are the best ways to keep current with important news and events regarding CAMT 2013. On Twitter, use the hashtag *<#camt13>* to tweet about CAMT 2013.

Get out your smartphone and scan the QR codes below to link directly to CAMT on Facebook or Twitter right now!

Like CAMT on Facebook! *Follow CAMT on Twitter!*

The CAMT Board and I look forward to seeing you in San Antonio next July!

Paul Gray, Ed.D. • *<pgray73@sbcglobal.net>*
CAMT Board President • *Houston, TX*

Fibonacci Day

Mathematical Thinking and Reasoning: Achieving the Process Standards

Literacy has long been established as the undergirding for an educated populace. In our world today, literacy has broadened to include mathematical literacy. Conceptual understanding of mathematics is critical. This broadened view of mathematics, one that moves beyond efficient computation, demands shifts in classroom instructional practices and supporting instructional materials.

In the spring of 2012, Texas changed the Texas Assessment of Knowledge and Skills (TAKS) test to the State of Texas Assessment of Academic Readiness (STAAR). With this change in assessment, Texas reaffirms student expectations by addressing the process standards in both the existing and the new Texas mathematics standards. The process standards match well with those of the National Council of Teachers of Mathematics (2000), which are: problem solving, reasoning and proof, connections, communication, and representation (p. 7).

The process standards in the new Texas Essential Knowledge and Skills (Texas Education Agency, 2012) are:

I. Apply mathematics to problems arising in everyday life, society and the workplace.
II. Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution and evaluating the problem-solving process and the reasonableness of the solution.
III. Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.
IV. Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.
V. Create and use representations to organize, record, and communicate mathematical ideas.
VI. Analyze mathematical relationships to connect and communicate mathematical ideas.
VII. Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communications.

Empirical evidence has emerged that supports greater degrees of genuine engagement for students in learning mathematics. The National Research Council (2004) concludes that, "Learning and succeeding in school requires active engagement – whether students are rich or poor, black, brown, or white" (p. 1).

A focus on standards, assessment, and engagement will encourage teachers to transform their practices. For students learning mathematics, merely spending additional time on a concept is not the answer for many. Engagement in school mathematics focuses on students actively attending to and participating in classroom instructional activities rather than being passive listeners (National Research Council, 2004; National Research Council, 2002).

Communication Is Key

To effectively communicate with teachers, school leaders, and parents about the notion of engaging mathematics classrooms and the intent of the processes and proficiencies, two phrases, mathematical thinking and mathematical reasoning, serve to clarify the new view of mathematical understanding. A brief description of the two phrases follows:

Mathematical Thinking

- Attending to (or focusing on) the learning or problem
- Seeking holistic understanding of the situation or content
- Making sense of the problem or situation
- Drawing upon previous learning or knowledge
- Recalling prior experiences with similar situations
- Formulating ideas and questions

Mathematical Reasoning

- Removing extraneous or irrelevant information
- Applying logic to solve problems
- Using valid arguments to justify approaches and solutions
- Solving nontraditional or unfamiliar problems

Mathematics educators frequently combine these two phrases or treat them interchangeably. We often assume that mathematics leaders and teachers already know the distinction and know how to assist students in applying thinking and reasoning. Including thinking and reasoning in mathematics requires teachers to explicitly teach various skills and processes that promote mathematical thinking and reasoning and also to assess the results of students' thinking and reasoning – the very essence of the standards.

Thinking and reasoning are extensions of deeper mathematical learning and understanding. Teachers encourage students to both think and reason while the students are engaged in solving mathematical problems. The new assessments require students to think and reason mathematically.

A Tool for Understanding the Texas Process Standards and Proficiencies

Since thinking and reasoning are vital for students' mathematical understanding, then teachers and leaders require tools to assist in incorporating these abilities in what students do. The Texas Mathematical Processes Proficiency Matrix has been developed as a tool to assist Texas teachers and instructional leaders in both understanding the process standards and proficiencies and in transforming instructional practices. For convenience and spacing, we have organized the Texas process standards around five ideas generally found in the NCTM Standards (2000). These ideas include: making mathematical connections (I, VI), solving mathematical problems (II, III), representing mathematically (III, IV), communicating mathematically (IV, V, VI, VII), and reasoning mathematically (II, VI).

Given these five ideas, each idea is assigned, left to right, three degrees of proficiency (initial, intermediate, and advanced). The matrix also offers various instructional strategies within each cell that teachers might incorporate in their classrooms. As additional strategies are incorporated into classroom routines, higher degrees of student proficiency are obtained. Consequently, the tool can be used as a planning document for lesson construction. It can also serve as a vehicle to promote collegial conversations concerning the process standards and proficiencies. Finally, the tool is intended to serve as a rubric for gauging student's degree of engagement and proficiency in learning mathematics.

Each of the process standards and degrees of proficiency phrases can be related to thinking and reasoning. As a result, when students are explicitly taught about mathematical thinking and mathematical reasoning, and their knowledge and abilities are continually assessed, the process standards emerge and students are on their way to mathematical literacy.

As an example, consider the following problem that can be adapted for multiple grade levels. The problem could fit under more than one process standard; however, we will only discuss Solving Mathematical Problems (II).

> I have 4 coins in my pocket. The coins may only be pennies, nickels, dimes, or quarters. I reach into my pocket and pull out 3 coins. How much money might I have in my hand?

At the Initial level, a student might respond by quickly saying 3¢ or 75¢. At the Initial level, a student might continue the same type of thinking and say 15¢ and 30¢ (one coin value times 3).

Students at the Intermediate level might respond with similar explanations; however, they expand their explanations and make various combinations of three coins. These students are carefully thinking about the problem, and they are applying reasoning to the situation.

At the Advanced level, students explain that there are several different amounts of money that are possible. They create a table with headings showing the four coin values, and fill in the table indicating 0,1, 2, or 3 coins. They are able to explain the table entries. They continue checking to be sure that they have included all possible combinations of coins. They are able to discuss what amounts of money are impossible to obtain, such as 4¢ or 13¢. Students think, reason, organize, solve, and justify their reasoning.

Often, typical problems that require limited thinking can be transformed to create more complex situations that require both thinking and reasoning. For instance, teachers may have seen the following problem:

> Mary has invited 12 friends over for a party. She wants to give each of her friends 5 small gifts to open during the party. How many gifts does Mary need to buy?
>
> A. 17 B. 60* C. 50 D. 7

Texas Mathematical Processes Proficiency Matrix (With Supporting Strategies)

	(I) = Initial	(IN) = Intermediate	(A) = Advanced
Making Mathematical Connections I, VI	Draw from and relate to previous learning in understanding the current content. (Pair-Share)	Relate and use current content knowledge and process skills from various mathematical topics to solve problems. (Showing Thinking)	Understand and easily transfer concepts and procedures from various mathematical topics while problem solving within mathematics and across other subject areas. (Encouraging Reasoning)
Solving Mathematical Problems II, III	Explain their thought processes in solving a problem one way. (Pair-Share) Stay with a challenging problem for more than one attempt. (Questioning/Wait Time)	Explain their thought processes in solving a problem and representing it in several ways. (Questioning/Wait Time) Try several approaches in finding a solution and only seek hints if stuck. (Grouping/Engaging)	Discuss, explain, and demonstrate solving a problem with multiple representations and in multiple ways. (Grouping/Engaging) Struggle with various attempts over time, and learn from previous solution attempts. (Allowing Struggle)
Representing Mathematically III, IV	Use models to represent and solve problems and translate the solution into mathematical symbols. (Grouping/Engaging) Use the appropriate tool to find a solution. (Grouping/Engaging)	Use models and symbols to represent and solve a problem and accurately explain the solution representation. (Grouping/Engaging) Select from a variety of tools the ones that can be used to solve a problem and explain their reasoning for the selection. (Grouping/Engaging)	Use a variety of models, symbol representations, and technology tools to demonstrate a solution to a problem. (Showing Thinking) Combine various tools (including technology), explore, and solve a problem as well as justify their tool selection and problem solution. (Allowing Struggle)
Communicating Mathematically IV, V, VI, VII	Explain their thinking for the solution they found. (Showing Thinking) Understand and discuss other ideas and approaches (Pair-Share) Communicate their reasoning and solutions to others. (Showing Thinking)	Explain their own thinking and thinking of others with accurate vocabulary. (Questioning/Wait Time) Explain other students' solutions and identify strengths and weaknesses of the solutions. (Questioning/Wait Time) Incorporate appropriate vocabulary and symbols in communicating their reasoning and solution to others (Allowing Struggle)	Justify and explain, with accurate language and vocabulary, why their solution is correct. (Grouping/Engaging) Compare and contrast various solution strategies, and explain the reasoning of others. (Grouping/Engaging) Use appropriate symbols, vocabulary, and labeling to effectively communicate and exchange ideas. (Encouraging Reasoning)
Reasoning Mathematically II, VI	Reason with models or pictorial representations to solve problems. (Grouping/Engaging)	Analyze given information to translate situations into symbols for solving problems. (Grouping/Engaging)	Convert situations into symbols to appropriately solve problems as well as convert symbols into meaningful situations to analyze mathematical relationships. (Encouraging Reasoning)

This problem requires the student to multiply 12 by 5. Thinking is extremely limited. The problem can be transformed as:

> Mary is giving a party. She wants to give each invited friend 4 or 5 gifts to open during the party. Mary can invite up to 12 friends. Mary's mother asked her to keep the cost of gifts to about $60. What might Mary do?
>
> (Hull, Balka, and Harbin Miles, 2011, p. 39)

Students are free to explore the many options available. They must think about the problem restrictions such as "up to 12 friends" and "4 or 5 gifts." There is also the issue of $60, but students are free to make their own decisions. Students must both think and reason to obtain several variations of friends, gifts, and approximate cost per gift.

Seeking Coherence

Two significant situations emerge as a result of the efforts to transform current instructional practice. First, the process standards and mathematical proficiencies need to be clarified. This is a significant task that must receive attention throughout the state. Second, our two phrases mathematical thinking and mathematical reasoning also need clarity. Teachers at all grade levels need to know how these processes can be incorporated into their own classrooms in dynamic ways that allow their students to develop mathematical thinking and reasoning skills, but also in ways that provide teachers a means of assessing student understanding and proficiency.

Separating mathematical thinking and mathematical reasoning into two disparate categories is not the purpose of this article. The purpose is to begin setting the stage for teachers and instructional leaders to understand mathematical thinking and reasoning. Using the Texas Mathematical Processes Proficiency Matrix is an easy way to start the dialogue and to initiate the shift in instructional practices that includes student engagement and an important emphasis on conceptual understanding of mathematics.

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Sequential Day

Texas graduation rates top the charts

AUSTIN – Texas tied for the third highest high school graduation rate in the country for all students and ranks number one in graduation rates for Asian and white students, according to preliminary data released by the U.S. Department of Education.

"This state-by-state comparison confirms what Texas educators have been saying for a long time. Our public schools are delivering a high quality education and our students are having great success," said Texas Commissioner of Education Michael L. Williams.

This marks the first time all states have used a uniform method for calculating graduation rates.

The USDE data for the Class of 2011 shows Texas:

- Number 1 with Asian students with a graduation rate of 95 percent.
- Number 1 for white students with a graduation rate of 92 percent.
- Number 1 by tying with Montana with a graduation rate of 81 percent for African-American students.
- Has the third highest graduation rate for all students, tying with Tennessee, New Hampshire, Indiana, Nebraska and North Dakota with a rate of 86 percent. Iowa, Vermont and Wisconsin exceed Texas by one to two percentage points.
- Number 2 for Hispanic students with a graduation rate of 82 percent, behind only Maine.
- Number 2 for children with disabilities who graduate at a rate of 77 percent. Only South Dakota had a higher rate.
- In a tie for second place with Missouri for multi-racial students who have a graduation rate of 92 percent, with only Delaware students graduating at a higher rate.
- In a tie for second place with New Jersey with an American-Indian graduate rate of 87 percent. Only Tennessee has a higher rate.
- Number 2 for economically-disadvantaged students who graduate at a rate of 84 percent, behind only South Dakota.
- Number 26 for limited English proficient students who have a graduation rate of 58 percent. Those who become proficient in English are removed from the limited English proficient category.

"We think, in part, the state's school accountability system has helped shine a light on this issue over the past 15 years and focused greater attention on raising the graduation rate" Williams said.

"Of course, there is more work to be done to raise the rates even higher. But let's give credit where credit is due. Thanks to hard work from teachers, administrators, students and parents, more Texas students are earning a high school diploma than ever before," he said.

The state-by-state comparison is available on the U.S. Department of Education website at *<www2.ed.gov/documents/press-releases/state-2010-11-graduation-rate-data.pdf>*.

Texas Education Agency Press Release November 27, 2012

For additional information, contact:

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1701 North Congress Avenue
Austin, TX 78701
512/463-9000

<teainfo@tea.state.tx.us>

2012 President's Grant Award

Six $600.00 President's Grants were awarded this past summer by TCTM. We would like to extend our congratulations to each of the following recipients. All recipients volunteered two hours of their time at CAMT and attended the annual TCTM reception as guests of TCTM. If you have been teaching for five or more years, look for the President's Grant application online. The President's Grant is intended to encourage experienced teachers to attend CAMT by helping cover part of the expenses associated with attending the annual conference.

Ana Reyna Gonzalez
Pomeroy Elementary School
Pasadena ISD

Karen J. Kizer
Arp Jr. High School
Arp ISD

Dawn R. Rogers
Fossil Hill Middle School
Keller ISD

Sylvia Jean Sandoval
Harlandale ISD
San Antonio, TX

Devra D. Simpson
Premier High School of Beaumont
Beaumont, TX

Selena M. Strickland
Lincoln Middle School
San Angelo ISD

2012-13 Mathematics Specialist Scholarship Award

Two Texas students were awarded the $2000 TCTM Mathematics Specialist Scholarship for 2012-13. We would like to extend our congratulations to each of the following recipients. Each scholarship awardee attend a Texas college or university - public or private - and works as a student teacher in order to pursue teacher certification at the elementary, middle or secondary level with a specilization or teaching field in mathematics.

Callie King
Texas A&M University

Melissa Donham
University of Mary Hardin-Baylor

Last Odd Day

TCTM Leader Spotlight

Each year since 1995, TCTM has accepted nominations for two awards for leaders in our professional community. The TCTM Leadership Award is presented to a TCTM member who is nominated by a TCTM affiliate. The second award, the E. Glenadine Gibb Achievement Award, is presented to someone nominated by a TCTM member. The following individuals have been honored and we wish to acknowledge their former and ongoing contributions this year in the leader spotlight. **If you wish to nominate someone for 2013, please download the forms from our website. Please submit your nomination by Dec. 31, 2012.**

Our prior awardees are:

Year	Leadership(local/state)	Gibb (state/national)
1995	Mary Alice Hatchett	Iris Carl
1996	Betty Forte	Cathy Seeley
1997	Diane McGowan	Pam Chandler
1998	----	----
1999	Linda Shaub	Eva Gates
2000	Lloy Lizcano	Bill Hopkins
2001	Susan Hull	Pam Alexander
2002	Janie Schielack	Judy Kelley
2003	Bonnie McNemar	Dinah Chancellor
2004	Dixie Ross	Jacqueline Weilmuenster
2005	Barbara "Basia" Hall	Barrie Madison
2006	Nancy Trapp	Lois Gordon Moseley
2007	Kathy Hale	Cynthia L. Schneider
2008	Jim Wohlgeheagen	Juanita Copley
2009	Jane Silvey	Jo Ann Wheeler
2010	Elaine Young	Paula Steffen Moeller
2011	Beverly Burg Anderson	Jennie M. Bennett
2012	Paul Gray, Jr.	Linda Gann

2012 TCTM CAMTership Awards

Seven $600.00 CAMTerships were awarded this past summer by TCTM. We would like to extend our congratulations to each of the following recipients. All recipients volunteered two hours of their time at CAMT and attended the annual TCTM reception as guests of TCTM. If you have been teaching for five or fewer years, look for the CAMTership application online. The CAMTership is intended to encourage beginning teachers to attend CAMT by helping cover part of the expenses associated with attending the annual conference.

Noor F. Aga
The Tenney School
Houston, TX

Caroline Del Rio
Sam Houston Middle School
Garland ISD

Holly L. McAlpine
South Shaver School
Pasadena ISD

Lori A. Miller
Apache Elementary School
Ft. Stockton ISD

Michelle Rinehart
Rankin High School
Rankin ISD

Cinthia P. Salinas
Travis Elementary School
Midland ISD

Korey D. Solomon
Marshall ISD

2012 TCTM Leadership Award

Paul Gray, Jr.

This year, TCTM is pleased to honor **Paul Gray, Jr.** for his leadership across the state of Texas.

Dr. Paul Gray is a curriculum developer and professional development consultant for Cosenza & Associates, LLC, as well as a project manager for the Institute for Public School Initiatives at The University of Texas at Austin. As a classroom teacher, Paul taught mathematics and science to junior and senior high school students in Chickasha, Oklahoma, and Houston, Texas. He has also served as an education specialist at the regional level and as director of mathematics and science for an exemplary school district.

Paul has provided leadership for several statewide curriculum and professional development projects, most recently as a member of the development team for the OnTRACK for College Readiness mathematics courses.

Paul has also served on several statewide committees, including the 2012 Mathematics TEKS Revision Committee for Advanced Quantitative Reasoning and the 2008 TAKS Vertical Scale Score Committee. He also serves on the boards of directors for several statewide organizations, including as Past-President of the Texas Council of Teachers of Mathematics (TCTM), Secretary of Texas Association of Supervisors of Mathematics (TASM), and President of the CAMT Board of Directors.

Paul is a co-author of two high school mathematics textbooks: *Modeling with Mathematics: A Bridge to Algebra 2*, and *Math for Financial Literacy*. Paul received his bachelor's degree in meteorology from the University of Oklahoma, and holds his master's degree and doctorate in curriculum and instruction from the University of Houston.

Feb 7

2012 E. Glenadine Gibb Achievement Award

Linda Gann

TCTM is pleased to honor **Linda Gann** for her leadership at both the state and national levels.

For twenty-four years, Linda Gann has worked for Northside Independent School District. Her career began at the district's first high school, now called John Marshall HS. She opened Sandra Day O'Connor HS in 1998 as the department coordinator. Currently, Linda serves at the district's Secondary Mathematics Instructional Specialist.

During her time as a classroom teacher, Linda was awarded the Presidential Award for Excellence in Teaching, the Radio Shack National Teacher Award, the HEB Teaching Excellence Award (State Finalist), and the AP Siemens Award. For many years, Linda worked for the College Board as a consultant for AP Calculus AB, BC, and Statistics, and as a reader for AP Statistics. Sharing with others exemplifies Linda's continued efforts to build connections among teachers and resources. Her presentations began within her district and local math teachers' gatherings, such as the Calculus Consortium at UTSA, and extended to the Conference of the Advancement of Mathematics Teachers (CAMT) and National Council of Teachers of Mathematics (NCTM) annual conference.

Being afforded wonderful opportunities, Linda has served as program chair for the 2010 CAMT, served as Central Regional Director for two years for the Texas Council of Teachers Mathematics, and currently serves as Southern Regional Representative for the National Council of Supervisors of Mathematics. Linda has participated in many Texas Education Agency TAKS, TEKS, and EOC committees. She has also served as the co-chair for the College and Career Readiness Standards for Mathematics for all three writing phases.

Her passion for all students being prepared for college and careers following high school has extended her efforts, serving as co-chair of the Mathematics committee of the San Antonio Pathways. Although the nationally funded grant to study educational partnerships lasted only a few years, Linda collaborated and participated in the San Antonio Mathematics and Science Educational Partnership, SAMSEP, in conjunction with UTSA's Dr. Lazor and Dr. Cassill.

Her educational background consists of a B.S. in Mathematics from Illinois State University and an M.S. in Mathematics from the University of Texas of San Antonio. Additionally, she is nearing completion of her Ph.D. in Interdisciplinary of Learning and Teaching from UTSA. She presently serves as president of the Alamo District Council of Teachers of Mathematics and scholarship chair for the Priest Holmes Foundation.

Although Linda has dedicated many hours to teaching, her love centers on her family, especially her three grandchildren. Her favorite story she shares is how Bradley, Madelyn, and Jake call her Gamma, after the probability density function.

PAEMST

Presidential Awards for Excellence in Mathematics and Science Teaching

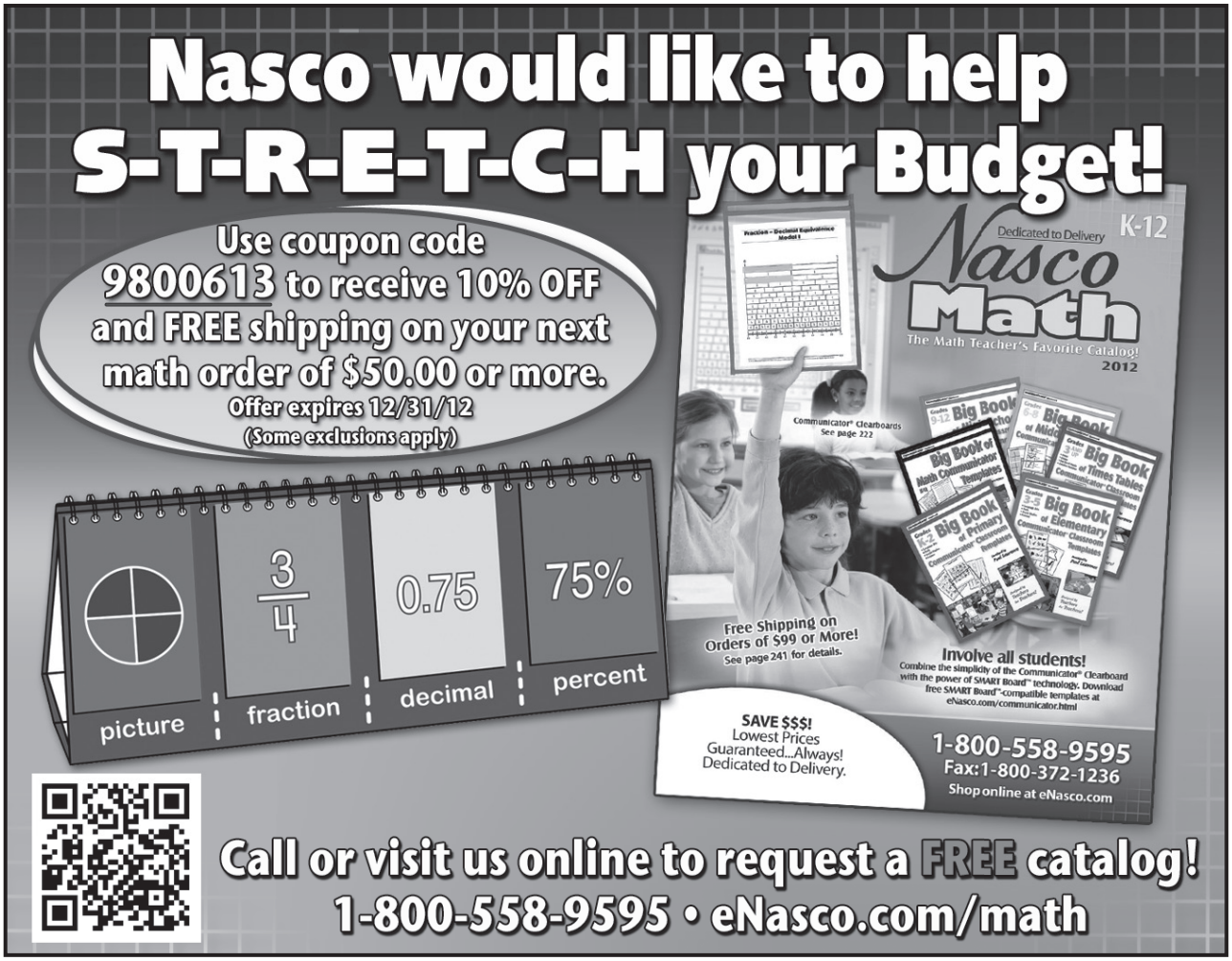
The 2012 PAEMST awards recognized outstanding grade K–6 science and mathematics teachers whose innovative methods bring teaching to life in the classroom. In 2013, the PAEMST program will recognize outstanding mathematics teachers in grades 7–12.

The Texas finalists in elementary mathematics are Maggie Anderson of Richardson ISD, Stephen Garretson of Midway ISD, and Wendy Hendry of Grapevine-Colleyville ISD. Maggie Anderson is a 4th grade math and science teacher at Lake Highlands Elementary School and has 6 years of teaching experience. Stephen Garretson is a 6th grade mathematics teacher at River Valley Intermediate School and has 20 years of teaching experience. Wendy Hendry is a kindergarten teacher at Bransford Elementary School and has 16 years of teaching experience.

A state panel of master teachers, specialists, and administrators reviewed the applications and chose the outstanding mathematics teachers for the National Science Foundation to consider for state finalist status. After an initial selection process at the state level, a national panel of distinguished scientists, mathematicians, and educators recommends a finalist to receive the national award. If chosen as a national winner, the state finalist will receive $10,000 and an all expense paid trip for two to Washington D.C. for ceremonies that include recognition from the president of the United States at the Capitol.

Currently, outstanding certified mathematics and science teachers in grades 7–12, with five years or more of teaching experience, are eligible to apply. If you would like to nominate an outstanding mathematics or science teacher, nomination forms and applications are available at *<http://www.paemst.org>*. Nominations are due by April 1, 2013, and applications are due by May 1, 2013.

Dixie Ross was selected as the 2011 PAEMST awardee from Texas from the three finalists forwarded to the national committee. To review other past awardees, please see *<https://www.paemst.org/awardee/find_awardee>*.



Legislative Update and Advocacy

Texas Education Agency seeks public comment on new accountability system

Comments are being accepted until January 18, 2013, and can be submitted electronically at <*http://ritter.tea.state.tx.us/perfreport/account/2013/proposals.html*>. Consideration of educator feedback is critical to the development of a fair and comprehensive accountability system.

New TEA Commissioner

There is also a new Commissioner of Education, Michael L. Williams, he took office September 1, 2012. Quoting from the Texas Education Agency's press release on this appointment, "The son of public school teachers (who earned degrees in math) and the husband of a mechanical engineer, Williams is the creator and co-sponsor of "Winnovators," a summer camp for 6th through 12th graders to help inspire the next generation of scientists, technologists, engineers and mathematicians."

Texas Legislature

The legislative session is due to begin in January 2013. There have already been changes to the house and senate education committee chairs as well as the committees.

Results of SBOE Election

In November 2012, we elected several new members to the State Board of Education. All members, 7 new *(N)* and 8 returning, are listed below. These members' term of office begins January 1, 2013. You may contact any of these members with this email <*sboesupport@tea.state.tx.us*>. Be sure to identify your SBOE member. SBOE actions for 2013 will include review of K-8 mathematics instructional materials for Proclamation 2014 (educator committee review during summer 2013 and final SBOE approval in November 2013, with goal of classroom implementation in August 2014 -- all pending legislative allocation of funding).

District	SBOE Member		District	SBOE Member	
1	Ms. Dominguez	*(N)*	9	Mr. Ratliff	
2	Mr. Cortez, Jr.	*(N)*	10	Mr. Maynard	*(N)*
3	Ms. Perez	*(N)*	11	Ms. Hardy	
4	Mr. Allen, Jr.		12	Ms. Miller	
5	Mr. Mercer	*(N)*	13	Ms. Knight	
6	Ms. Bahorich		14	Ms. Melton	*(N)*
7	Mr. Bradley		15	Mr. Rowley	*(N)*
8	Ms. Cargill				

Cynthia L. Schneider, Ph.D. • <*cschneider@austin.utexas.edu*>
Research Associate • *Charles A. Dana Center,*
The University of Texas at Austin

Recommended Readings and Resources

Rigor is NOT a Four-Letter Word
by Barbara R. Blackkburn

ISBN: 978-1-59667-092-1
Publisher: Eye On Education

When I read *"All students are motivated, just not necessarily by the things we would like."* I thought this lady knows what she is talking about! I was not disappointed. Rigor is NOT a Four-Letter Word is a reader-friendly, practical book focused on what you can do in your classroom to increase rigor to benefit all your students. Most of the described learning experiences do not use a mathematics context but are general and therefore easily adaptable.

Chapters Three through Seven caused me to stop and reflect on various methods to increase rigor. Topics include:

- Raising the level of content — includes a great discussion on the difference between "reviewing and repeating".
- Increasing complexity — offers techniques for student engagement.
- Giving appropriate support and guidance — offers viable solutions for students that want to give up.
- Opening one's focus — "Open-ended" is more than just a type of question! Problem solving tasks, assignment choices and even vocabulary instruction can be open-ended as well. The authors' explanations of these strategies will become some of your favorites.
- Raising expectations — gives attention to issues such as "A,B, Not Yet" grading and creating a culture of learning. Her ideas here will be helpful to many teachers, even those veteran folks.

This book refreshingly offers positive ways to improve instruction and will undoubtedly be a popular addition to your professional library.

Mary Alice Hatchett • <*mahat@earthlink.net*>
Independent K-12 Mathematics Consultant •
Georgetown, TX

Mar 1, 2013

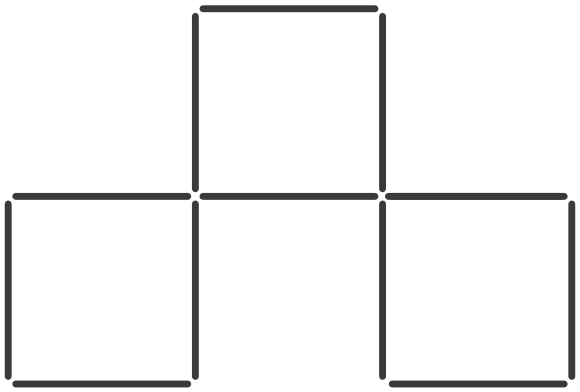
Puzzle Corner

Sticks #19 Puzzle

We are interested in how your students responded to this problem and how they explained or justified their reasoning. Please e-mail copies of your students' work, include your name, grade level, campus name and district name to Mary Alice Hatchett, Director of Publications, *Texas Mathematics Teacher*. Selected submissions will be acknowledged and published in subsequent issues.

Please prepare a sketch of your solution

Arrange 12 craft sticks to form the following figure.

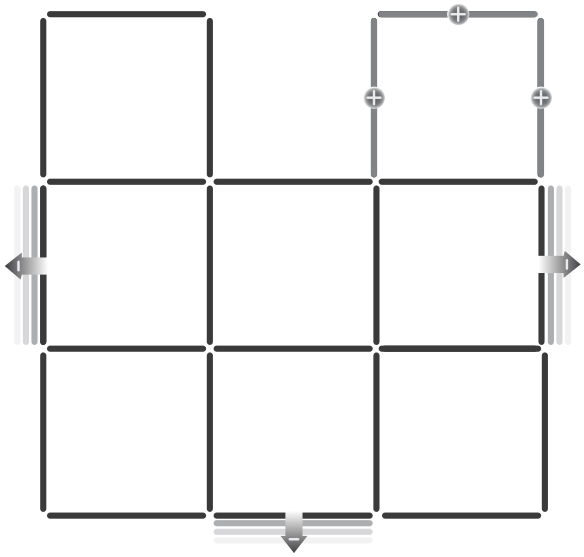


Puzzle: Rearrange three sticks to form a figure that has four congruent squares.

Sticks #18 Answer

Arrange 20 craft sticks to form the original figure. Rearrange three sticks to form a figure that has five congruent squares.

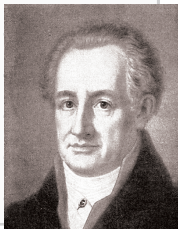
Shown is a diagram of **a solution.**



Quotes for Thought

"Instruction does much, but encouragement does everything."

Johann Wolfgang von Goethe
German writer, artist, and politician
(1749 – 1832)



"The road to success is always under construction."

Lily Tomlin
American actress, comedian, writer, and producer
(Sept 1, 1939 –)

"Listening, not imitation, may be the sincerest form of flattery."

Joyce Brothers
American psychologist and columnist
(Sept 20, 1927 –)

Find the Mathematics… in a replica of Stonehenge

The original Stonehenge was created about 2500 BCE in Amesbury, Wilshire, England. There are several theories about WHY Stonehenge was built, but the best and most logical theory was that it was built for a variety of astronomical events – such as during the summer solstice (midsummer day June 23rd) you can stand in the center of the circle and see the sun rise directly over the tip of the 35-ton heel stone.

There are several replicas of this world's best-known megalithic site. One of those is pictured on the cover and is known as the 'Permian Basin Stonehenge' located on The University of Texas of the Permian Basin (UTPB) campus in Odessa, Texas. This replica was built in 2004 by local stoneworkers. They thought that this nearly-full-size replica would make a good teaching tool for art, art history, geology, and mathematics. Each of the pieces in this replica is made of solid limestone with visible fossils. Each piece is up to 19-feet tall and weighs about 20 tons apiece. The Permian Basin Stonehenge is slightly shorter (70% of the original), but it is exact in horizontal size and astronomically accurate.

Both sites are composed of three circles. The two innermost circles of the Permain Basin Stonehenge are shown in our photos. The stones of the structure are situated in such a way that they become larger in size at the center. The Sarsen (outermost) circle is about 108 feet in diameter. Originally there were 30 neatly trimmed upright sandstone blocks, only 17 remain today. In the original Stonehenge the stones were evenly spaced approximately 3 to 4 ½ feet (1.0 to 1.4 meters) apart, and stand on average 13 feet (4 meters) above the ground. They are about 6.5 feet (2 meters) wide and 3 feet (1 meter) thick. They originally supported lintels forming a continuous circle around the top. The average length of the rectangular lintels was 10 feet 6 inches (3.2 meters). The lintels were fitted end-to end using tongue-and-groove joints, and fitted on top of the standing sarsen with mortise and tenon joints. According to Witcombe (2008), "The Sarsen Circle with its lintels was perhaps the most remarkable feature of Stonehenge in terms of design, precision stonework, and engineering."

REFERENCE

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Stonehenge Activity

At a conference at ESC 18 in Midland, TX, a session was presented by Amanda Urias, a teacher in the area. Her presentation included a project that her students did on their field trip to UTPB Stonehenge. Among the things that her students explored:

Select one of the rectangular prisms and draw a net to scale. Label the net with the measurements. Use the formulas on your mathematics chart to find the perimeter and area of each rectangular face. Determine the volume and surface area for the prism.

Below are other ideas to consider for your classroom. You will find answers to questions 1-5 on page 32.

1. What is the ratio of the height of this replica to the original?
2. Given this ratio, if the tallest stone at the Permian Basin Stonehenge is 19 feet, what should be the height of the tallest stone in England?
3. The diameter of the Sarsen circle at Permian Basin Stonehenge is 108 ft. What is the circumference? What is the radius?
4. The bottom photo was taken facing north. Was this photo taken in the morning, noon, or afternoon? *(Hint: look at the shadow)*
5. The height of the foremost stone in the bottom photo is about 2 inches tall. The shadow that it cast is almost 5 inches long. To the nearest tenth of an inch, what would be the hypotenuse length? To the nearest degree, what would be the other angle measurements?

Place the cover of this issue on your document camera and simply ask your students what mathematics they observe. Does the picture raise any questions? Does anyone know anything about this structure? Has anyone ever visited this or the original structure?

Let us know what you and your students find. Email me your stories at <*mahat@earthlink.net*>.

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Oct 10

Supporting Students' Algebra Readiness: A Response to Intervention Approach

In this article, we describe a Response to Intervention (RTI) approach for supporting students' algebra readiness. Although we provide a general description of the components of RTI, we highlight specific efforts made by the Texas Legislature and Texas Education Agency (TEA) to implement RTI within middle-school mathematics. As a result of these initiatives, teachers and administrators have access to the tools and knowledge necessary to provide quality mathematics instruction to all students in grades 5–8.

Middle-school mathematics achievement in Texas

Middle-school mathematics serves as a steppingstone to success in Algebra and future mathematics courses. Numerous topics in high school mathematics rely heavily on the procedural and conceptual understandings of content covered in middle school, including rational numbers and proportionality. However, current student achievement in middle-school mathematics in Texas suggests that not all students are adequately prepared for Algebra.

On the 2011 mathematics Texas Assessment of Knowledge and Skills (TAKS), 80% of eighth grade students met standard on the first administration (TEA, 2011). While 80% meeting standard appears to be an acceptable passing rate, an examination of subgroup scores tells a different story. Just 46% of students receiving special education services, 55% of students classified as Limited English Proficient (LEP), and 73% of economically disadvantaged students met standard on the same test. Results in the grade levels leading up to 8th grade show a steady decline in performance for these groups (See Table 1). Because content linked with algebra-readiness is heavily emphasized in middle and elementary school curriculum standards, these data suggest that students are not gaining proficiency with critical algebra-readiness skills.

Table 1.
2011 TAKS Passing Rates

Sample	Grade 6 TAKS	Grade 7 TAKS	Grade 8 TAKS
All students	83%	81%	80%
Special education	52%	48%	46%
LEP	68%	61%	55%
Economically disadvantaged	77%	74%	73%

Looking through a different lens, the National Assessment of Educational Progress (NAEP) reveals a similar picture. In 2011, only 40% of 8th grade students in Texas were deemed Proficient or Advanced, meaning 60% were performing at a Basic or Below Basic level (National Center for Education Statistics, 2011). Students with a disability and students identified as LEP fared considerably worse with only 15% and 10% performing at Proficient or Advanced levels, respectively. Just 28% percent of students eligible for the National School Lunch Program, an indicator of economic disadvantage, received Proficient or Advanced distinctions.

Because Algebra has long been considered a gateway to success in future mathematics courses and college, it is imperative that middle schools equip students with the knowledge and skills necessary to be successful in Algebra. To achieve this aim, initiatives should concentrate on improving student achievement by providing quality instruction for all students, as well as implementing focused interventions for students who are struggling.

Response to Intervention

One such initiative that is being implemented across the country and within Texas is RTI. RTI was first implemented in public health in the 1960s but has since transferred to other domains such as education (Simeonsson, 1994). In educational settings, RTI is a systemic three-tiered approach to instructional design and delivery that is intended to prevent

failure or reduce already identified difficulties. RTI requires a coordinated system for identifying students' needs and aligning those needs with evidence-based instructional practices. Routine monitoring of students' progress provides teachers and administrators with timely information needed to make instructional adjustments for individual students as well as groups of students. Although administrators make some decisions within the RTI process, the classroom mathematics teacher is primarily responsible for identifying and responding to students' instructional needs.

The tiers within the RTI process begin with high quality core instruction in the general education classroom, which is considered Tier 1. All students receive Tier 1 core instruction regardless of supplemental intervention they may receive from additional tiers. Students who experience difficulty and need assistance beyond core instruction receive Tier 2 support, which often takes the form of small-group instruction. Tier 3, the most intensive level of support, is provided for students who have been identified as having considerable difficulty with the content. Instruction in Tier 3 is often individualized for specific students' needs. This three-tiered approach improves schools' effectiveness in responding to students' learning needs.

Three principles provide the foundation for RTI. First, teachers must have access to instructional practices that are based on high-quality research. In middle-school mathematics, the research base on effective instructional practices is growing. In 2009, the Institute of Education Sciences (IES) published a Practice Guide that summarized the research on mathematics instruction and intervention practices that support struggling K–8 students (Gersten et al., 2009). This publication noted positive achievement gains for struggling students when they received interventions that used explicit and systematic instruction, instruction on the underlying structure of word problems, visual representations of mathematical concepts, and practice building procedural fluency. Additional mathematics resources published by IES include a Practice Guide on instructional practices for improving students' understanding of fractions as well as reports evaluating the effectiveness of selected curricular and intervention programs.

Second, schools need a comprehensive assessment system that allows teachers and administrators to make timely decisions to support student learning. Formative assessments such as screening, diagnostic, and progress monitoring tests provide information to guide instruction during the learning process. Screening tests are used to identify students' risk status for achieving instructional goals and are administered to all students prior to instruction. Diagnostic tests provide specific information about students' strengths and deficits within an instructional domain. Progress monitoring tests allow teachers to evaluate students' response to instruction and their rate of growth over time. To maximize efficiency, diagnostic tests and progress monitoring tests should be administered to students who are at-risk for not meeting instructional goals and are subsequently receiving interventions.

The third principle underlying implementation of RTI is systemic decision making guided by effective leaders. In simplest terms, implementation of RTI requires systems of data management, responsive instructional supports to address individual needs, and flexible and coordinated use of resources. As strong instructional leaders, principals can support implementation of RTI by cultivating a culture of shared responsibility for the success of each student. Leading this culture includes allotting time to plan instruction and assess learning; creating structures that engage students in discussions about their data; providing mechanisms for students, parents, and teachers to communicate about learning; and participating in reflective conversations about teacher practices related to Tier 1 and Tier 2 instruction. Systems of communication and decision-making are needed in which all educators evaluate and respond to student performance data. Only through management by effective school leaders can RTI be implemented with fidelity and integrity.

Stories of successful implementation of RTI are emerging in the professional literature. Nationwide, schools are implementing RTI in reading with success in improving reading achievement as well as reducing the number of students identified as having learning disabilities (Tacket, Roberts, Baker, & Scammaca, 2009). In mathematics, however, fewer

schools have taken on the challenge of implementing RTI, especially at the middle-school level. Several reasons exist that contribute to this trend. First, although emerging, limited empirical research is available on the effectiveness of instructional practices and curricular programs for supporting student achievement. Second, few assessment systems provide technically adequate information for screening, diagnosing, and monitoring students' progress in middle-school mathematics curriculum. And, finally, many principals are unaware or under-prepared to lead a system-wide initiative that requires reorganization of priorities and resources. However, through legislative actions and directed efforts, the state of Texas is changing this trend.

Texas efforts to support and sustain RTI

The Texas Legislature and TEA are making a concerted effort to increase student achievement in middle school and Algebra by integrating the key components of RTI into statewide mathematics projects. Focusing on grades 5–8, the Middle-school Students in Texas: Algebra Ready (MSTAR) initiative equips teachers and administrators with the tools and knowledge necessary to provide quality mathematics instruction to all students and to support as well as sustain the implementation of RTI within Texas schools and classrooms.

As noted above, an integral step in the RTI process is screening all students. The MSTAR Universal Screener is a computer-based formative assessment system designed to support instructional decision-making in grades 5–8 mathematics. Based on algebra-readiness content from the Texas Response to the Curriculum Focal Points (TxRCFP), the MSTAR Universal Screener assists teachers in identifying students as on-track or at-risk for meeting algebra-readiness expectations. The MSTAR Universal Screener also suggests the level of supplemental support and intervention (minimal, strategic, or intensive) needed for each student. Because comparable forms are given in the fall, winter, and spring, teachers can monitor students' progress and risk status throughout the year.

After using the MSTAR Universal Screener to identify students' risk status, the MSTAR Diagnostic Assessment can be administered to students at-risk for not meeting algebra-readiness expectations to identify why students are struggling instead of just what they are struggling with. The MSTAR Diagnostic Assessment is a computer-based assessment that will be available Spring 2013. This tool assists teachers in determining students' current level of understanding of mathematical concepts as well as students' misconceptions. Results from this assessment can be used to plan supplemental instruction to target gaps in student understanding and remediate misconceptions. The content of the MSTAR Diagnostic Assessment is grounded in the MSTAR Learning Progressions, research-based sequences of how students learn mathematics.

However, assessing students using the MSTAR Universal Screener and MSTAR Diagnostic Assessment will not singlehandedly increase student achievement or learning. Improved instructional methods and intervention strategies must accompany the information gathered from these assessment tools. Seeking to do just that, the MSTAR Math Academies offer professional development opportunities created to equip Texas teachers with strategies to increase students' preparedness for Algebra.

With separate trainings for grades 5–6 and grades 7–8 teachers, MSTAR Academy I focuses participants' attention on strategies for teaching the knowledge and skills identified as critical for success in Algebra, such as rational numbers and proportionality (National Mathematics Advisory Panel, 2008). These trainings emphasize the importance of creating quality Tier 1 instruction for all students and allow participants to experience examples of student-centered lessons addressing the Texas Essential Knowledge and Skills (TEKS), English Language Proficiency Standards (ELPS), and College and Career Readiness Standards (CCRS).

Realizing the need to provide continuous and ongoing training, TEA developed and is continuing to create online professional development opportunities on the Project Share platform. Through online coursework and face-to-face opportunities, MSTAR Academy I Part B highlights the use of the MSTAR Lesson Study Tool to plan and refine Tier 1 instruction. Utilizing multiple pieces of data, including student work, to make data-driven decisions is also emphasized.

Even with quality Tier 1 instruction, some students will need supplemental support and intervention to be successful. MSTAR Academy II prepares teachers to identify students in need of supplemental support and to implement evidence-based practices during Tier 2 intervention. This training highlights recommendations from the IES Practice Guide, Assisting Struggling Students with Mathematics: Response to Intervention (RtI) for Elementary and Middle Schools (Gersten et al., 2009). Teachers can explore these recommendations at a deeper level in the MSTAR Implementation Tools training. This training builds upon MSTAR Academy II and prepares teachers to make instructional decisions based on student data and apply Tier 2 strategies within their classrooms. MSTAR Implementation Tools also introduces participants to the MSTAR Diagnostic Assessment. Additional training on the MSTAR Diagnostic Assessment and the MSTAR Learning Progressions will be available on Project Share during the 2012-2013 school year.

To support conversations between campus leadership and classroom teachers, TEA will offer a course within Project Share that focuses on leadership decisions supporting the implementation of the strategies and learning resulting from the MSTAR professional development offerings. This course also describes how the MSTAR content relates to the End of Course (EOC) Success offerings as well as the newly developed Elementary Students in Texas: Algebra Ready (ESTAR) offerings. Suggestions for "look-fors" and "listen-fors" are also included so that classroom visits may inform progress related to the themes of the MSTAR Academies.

Three common themes are threaded through all MSTAR professional development academies: implementing high-quality instruction focusing on the big ideas in middle-school mathematics; supporting all students with evidence-based instructional practices; and utilizing data, particularly from the MSTAR Universal Screener and MSTAR Diagnostic Assessment, to assist in instructional decision making. Campus and district leadership can support these themes by having informed conversations with teachers about the components of algebra readiness, supporting the use of the MSTAR Universal Screener and MSTAR Diagnostic Assessment to inform re-teaching efforts, and communicating that the vision of Algebra success for all students is achievable. The building blocks of strong Tier 1 and Tier 2 instruction, strategies to reach all learners, and quality data tools have been placed within reach. Through collaborative efforts between teachers, students, parents, and leaders, the building blocks can be positioned to form the foundation for Algebra success for all students.

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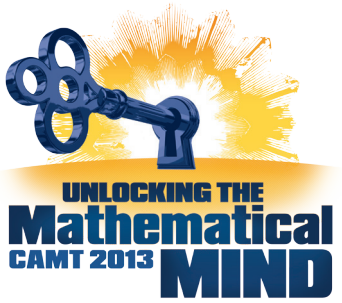
CAMT 2013

CAMT 2013: Unlocking the Mathematical Mind
Henry B. Gonzalez Convention Center

July 10 – 12, 2013
San Antonio, TX

The Conference for the Advancement of Mathematics Teaching (CAMT) 2013 will be held July 10-12, 2013, at Henry B. Gonzalez Convention Center in San Antonio, Texas. Take advantage of early-bird registration discounts before May 1.

The Administrators' Conference will be held in conjunction with CAMT. After pre-registering online, join us July 10. Registration to CAMT is complimentary to participants attending the Administrators' Conference.



This year's featured speakers include Stuart Murphy, Tim Kanold, Eric Sheninger, Susan Jo Russell, Max Ray, Julie Dixon, Dan Meyer, Harold Asturias, Cathie Dillender, Ed Burger, Eric Milou, David Molina, Rachel Cruze and Cathy Seeley.

For more details, visit the CAMT website at *<www.camtonline.org>*.

CAMT 2013 Volunteers

Dear Members of TCTM,
It's time to VOLUNTEER!

We believe that there is an opportunity for everyone to find their niche in helping CAMT to be a success for everyone involved – here's how you can join in on the efforts (we would love to have over 250 volunteers ready to go!). We are looking for fellow mathematics educators to assist us with supporting participants in areas such as the following: Registration, Exhibits, Speaker Check-In, or Transportation. Come work "behind the scenes." We need you! Please e-mail, telephone or fax your name and contact information (be sure to include contact information for the summer) to Kelly Meshell, along with which of the following dates you are available to volunteer. Kelly will respond via e-mail or home phone with a specific scheduled time and location.

Thank you for making every CAMT a wonderful experience!

Volunteer Information

	I am willing to volunteer on July	9th PM	10th AM	10th PM	11th AM	11th PM	12th AM	12th PM

Name: Last | First | Middle

Address: Number and street | Apt. number

City | State | Zip Code

Contact: ( ) Home Phone | ( ) Cell Phone | Email Address

Affiliation: District or Professional Affiliation | ESC

Please submit your form to Kelly Meshell,

by mail: **Kelly Meshell**
201 Llama Loop
Kyle, TX 78640

or by email:
< KMeshell@austinisd.org >

Student Activity: Four Fours

Using exactly four 4s and the operations +, -, x, ÷, and parentheses, write expressions that equal 0-9.

0		5	
1		6	
2		7	
3		8	
4		9	

For older grades, include the four operations, parentheses, exponents, ! factorial and square roots to write equations that equal 0-50.

0		26	
1		27	
2		28	
3		29	
4		30	
5		31	
6		32	
7		33	
8		34	
9		35	
10		36	
11		37	
12		38	
13		39	
14		40	
15		41	
16		42	
17		43	
18		44	
19		45	
20		46	
21		47	
22		48	
23		49	
24		50	
25			

Student Activity Answers

Each Problem May Have Several Solutions. Here Are Some Sample Solutions.

0	44-44	5	(4x4+4)÷4
1	44÷44	6	[(4+4)÷4]+4
2	(4÷4)+(4÷4)	7	4+4-(4÷4)
3	(4+4+4)÷4	8	4x4-(4+4)
4	(4-4)x4+4	9	4+4+(4÷4)

0		13	4!-44÷4	26	(4!x4)/4 +√4	39	(4x4-.4)/.4
1		14	4+4+4+√4	27	4!+4-4/4	40	44-√(4x4)
2		15	4x4-(4÷4)	28	(4!x4)/4 +4	41	(4x4+.4)/.4
3		16	(4x4x4)/4	29	4! +4+4/4	42	√4 +44-4
4		17	4x4+(4÷4)	30	4x4x√4-√4	43	44-4/4
5		18	4x4+4-√4	31	(4!+4)/4 +4!	44	44.4-.4
6		19	4!-4-(4÷4)	32	(4x4)+(4x4)	45	4/4+44
7		20	4x(4/4 +4)	33	(4-.4)/.4 +4!	46	44-√4+4
8		21	4!-4+(4÷4)	34	44-4/.4	47	4!+4!-4/4
9		22	44x√4/4	35	44/4+4!	48	4x(4+4+4)
10	(44-4)÷4	23	(4x4!-4)/4	36	44-4-4	49	4!x√4+4/4
11	4/.4 +4/4	24	4x4+4+4	37	(√4+4!)/√4 +4!	50	4!/4+44
12	(44+4)÷4	25	(4x4!+4)/4	38	44-4!/4		

On the Cover: Stonehenge Activity Answers

You will find the original questions on page 25.

1. What is the ratio of the height of this replica to the original? **(0.7:1)**
2. Given this ratio, if the tallest stone at the Permian Basin Stonehenge is 19 feet, what should be the height of the tallest stone in England?

   (19 = 70% of *x* is 27)
3. The diameter of the Sarsen circle at Permian Basin Stonehenge is 108 ft. What is the circumference?

   ($d \cdot \pi = 339$ feet)

   What is the radius?

   ($d \div 2 = 54$ feet)
4. The bottom photo was taken facing north. Was this photo taken in the morning, noon, or afternoon? *(Hint: look at the shadow)*

   (late afternoon)
5. The height of the foremost stone in the bottom photo is about 2 inches tall. The shadow that it cast is almost 5 inches long. To the nearest tenth of an inch, what would be the hypotenuse length? To the nearest degree what would be the other angle measurements?

   (5.4 inches; 22 degrees and 68 degrees)

Reflections from a First Year Mathematics Peer Facilitator

During my first year as a Mathematics Peer Facilitator, two factors allowed me to establish a collaborative relationship with my colleagues. First, our campus administrator explicitly focused on the improvement of mathematics instruction and the appointment of a mathematics peer facilitator greatly supported that initiative. In previous years, almost all of the support that was provided for teachers in terms of small group pull-outs and resources was geared towards language arts. This allowed our campus to achieve critical implementation of the balanced literacy framework. However, the results in the area of mathematics were not as successful; therefore the need to focus on mathematics was clear for our faculty. The teachers knew about my passion for mathematics instruction and respected my ideas about how to approach the curriculum in this area.

Second, this was the year that the state transitioned from TAKS to STAAR. This transition leveled the playing field for everyone, we did not know what to expect. The perceived vulnerability permitted the sharing of ideas and strategies with a more open mind since no one could be considered an expert. This cemented the relationship among teachers and me as peers, while giving me the opportunity to work with our district to look for answers and resources. With the clear necessity of incrementing the rigor, I found it easier to talk about changing instruction, to create discussion groups, and to facilitate discussions about mathematics alignment in our school. Additionally, the transition towards a new test was accompanied with lack of resources that were truly aligned with the new exam. The lack of resources in terms of testing materials was both a challenge and an advantage. The advantage was rooted in the fact that we needed to reconsider the way we were assessing, and those conversations are challenging in their own nature. We are still having discussions about alignment between instruction and assessment, and we will continue having those discussions because there is a lot of room for improvement and learning in this area.

This last year was my first year as a Mathematics Peer Facilitator and I still need to grow as the leader for mathematics instruction in my building. However, I truly believe that the fact that 2011-2012 was such a challenging year for public schools in Texas helped me establish collaborative relationships with the teachers at my campus. This was the first step towards successfully becoming an agent of change. As a campus we learned that we need to act together and share our knowledge if we are to be successful teachers. We also learned to welcome a challenge and transform it into a great opportunity for improvement. I am aware of the need to continue building relationships with my colleagues, and I will be working towards more interactions with other faculty members both from our campus and other campuses in our district. We still need to work on the alignment of instruction and assessment, and we will have other challenges coming our way. I look forward to facing those challenges because they will bring valuable lessons to our professional practice and that is why we are in the teaching profession, to continue learning and modeling a passion for knowledge to young students.

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Dec 12, 2012

About This Publication

Since 1971, the Texas Council of Teachers of Mathematics (TCTM) has produced the journal *Texas Mathematics Teacher* for our members. Our mission is to promote mathematics education in Texas. In the journal we accomplish this by publishing peer-reviewed articles by leading authors, state updates from the Texas Education Agency, and local news from around the state. TCTM is committed to improving mathematics instruction at all levels. We place an emphasis on classroom activities that are aligned to the Texas Essential Knowledge and Skills and the NCTM *Principles and Standards for School Mathematics.*

The *Texas Mathematics Teacher* seeks articles on issues of interest to mathematics educators, especially K-12 classroom teachers in Texas. All readers are encouraged to contribute articles and opinions for any section of the journal. Teachers are encouraged to submit articles for Voices From the Classroom, including inspirational stories, exemplary lessons, or management tools. More specific guidelines for submissions may be found below.

In 2004-05, our publication took on a new look. Original artwork on the cover is another appealing change for our readers. We publish the journal twice each school year, in the fall and spring semesters. **Next year, we plan to provide our publication in a web-based format as well as print. You will be given the option to decide if you wish to continue to receive the print version or not. Our current website archives the more recent journals in PDF format.** Please see

<*www.tctmonline.net*>

if you wish to view prior issues.

Our current Editorial Board consists of Cynthia Schneider, Mary Alice Hatchett, Geoffrey Potter, Larry Lesser and James Epperson. Larry and James serve as expert advisors; Cynthia is the editor. Mary Alice does many jobs, including requesting articles, serving as an elementary expert, and communicating with authors. Geoff is the layout and graphic designer; he manages to fit all the text into the limited number of pages we have to work with. The TCTM Board wishes to thank them for their leadership in improving the *Texas Mathematics Teacher*.

The Editorial Board wishes to acknowledge the contributions - time, effort, and expertise - that our volunteer reviewers make to our final journal. Those that reviewed for the journal and deserve our thanks for their support last year, in 2011-12, were:

Jo Peters, Emma Trevino, Nancy Trapp, Liz Scott, Susan Thomas, Lyn Crowell, Juli D'Ann Ratheal, Elaine Mechler, Shere Salinas, Janet Palermo, Mary Ann McDaniels.

Advertising Guidelines for Texas Mathematics Teacher

All advertising is subject to the approval of the publisher. The journal staff shall be responsible for ascertaining the acceptability of advertisements. All advertisements should be sent "copy-ready" by the closing dates of September 1 for the fall issue and January 15 for the spring issue. Position preference, such as right-hand pages or first half of issue will be honored on a first-come basis. All advertisements must be pre-paid by the closing date with a check made payable to TCTM, and mailed to our current treasurer, Martha Godwin. Rates for *Texas Mathematics Teacher* per issue are: full page $500.00, half page $300.00, quarter page $200.00.

All advertisers must adhere to the guidelines posted on our website at <*www.tctmonline.org*>.

Editorial Board

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Texas Mathematics Teacher (ISSN# 0277-030X), the official journal of the Texas Council of Teachers of Mathematics (TCTM), is published in the fall and spring. Editorial correspondence should be mailed or e-mailed to the editor.

This journal is funded by the Texas Council of Teachers of Mathematics and printed at The University of Texas at Austin, which does not imply endorsement by the University or by the Charles A. Dana Center.

Call For Articles

Texas Mathematics Teacher seeks articles on issues of interest to mathematics educators, especially K-12 classroom teachers in Texas. All readers are encouraged to contribute articles and opinions for any section of the journal.

Manuscripts, including tables and figures, should be typed in Microsoft Word and submitted electronically as an e-mail attachment to the editor with a copy to the director. No author identification should appear on or in the manuscript. A cover letter containing author's name, address, affiliations, phone, e-mail address, and the article's intended audience should be included. After refereeing, authors will be notified of a publication decision.

Teachers are encouraged to submit articles for ***Voices From the Classroom,*** including inspirational stories, exemplary lessons, or management tools. If submitting a lesson, it should include identification of the appropriate grade level and any prerequisites.

Items for ***Lone Star News*** include, but are not limited to, NCTM affiliated group announcements, advertisements of upcoming professional meetings, and member updates.

Businesses interested in placing an **advertisement** for mathematics materials should contact Mary Alice Hatchett. Advertisements do not imply endorsement by TCTM's board, editorial staff or members.

Deadline for submissions: Fall, July 1 Spring, January 1

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TCTM 2012-13 Mission, Focus and Goal Statements

Mission of the Texas Council of Teachers of Mathematics:

To promote mathematics education in Texas

To support this mission, TCTM has five **focus areas:**

Recruit and Retain Mathematics Teachers	Curriculum and Instruction Support	Advocacy	Promote Communication among Teachers	Serve as Partner Affiliate for NCTM

TCTM activities will align to the five strategic goals. **Goals** of the organization include six strands:

Administration

- Streamline online membership registration through CAMT

Publications

- Survey membership to identify what they want in the *Texas Mathematics Teacher* (*TMT*)
- Review and refine the *TMT* journal and the TCTM website
- Improve the review protocol, establish criteria for reviewers
- Provide tips for new teachers in the *TMT* and on the website

Service

- Increase the donations toward Mathematics Specialist College Scholarships
- Staff CAMT with volunteers as necessary
- Advertise affiliated group conferences on the TCTM website, in the *TMT* and at CAMT

Communication

- Maintain an e-mail list of members for timely announcements
- Communicate with affiliated groups in a timely manner

Membership

- Encourage affiliated groups to include TCTM registration on their membership forms

Public Relations

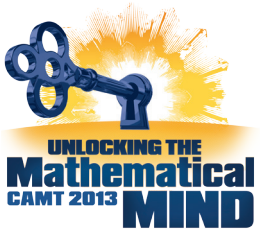
- Sponsor and staff the TCTM booth at CAMT
- Follow NCTM Advocacy Toolkit (2004) for increased voice of TCTM membership on issues relevant to our mission

TCTM Past-Presidents

1970-1972	James E. Carson	1984-1986	Ralph Cain	1998-2000	Pam Alexander
1972-1974	Shirley Ray	1986-1988	Maggie Dement	2000-2002	Kathy Mittag
1974-1976	W. A. Ashworth, Jr.	1988-1990	Otto Bielss	2002-2006	Cynthia L. Schneider
1976-1978	Shirley Cousins	1990-1992	Karen Hall	2006-2008	Jo Ann Wheeler
1978-1980	Anita Priest	1992-1994	Susan Thomas	2008-2010	Paul Gray
1980-1982	Patsy Johnson	1994-1996	Diane McGowan	2010-2012	Nancy Trapp
1982-1984	Betty Travis	1996-1998	Basia Hall		

The Conference for the Advancement of Mathematics Teaching (CAMT) 2013 will be held July 10-12, 2013, at Henry B. Gonzalez Convention Center in San Antonio, Texas. Take advantage of early-bird registration discounts before May 1.

The Administrators' Conference will be held in conjunction with CAMT. After pre-registering online, join us July 10. Registration to CAMT is complimentary to participants attending the Administrators' Conference.



This year's featured speakers include Stuart Murphy, Tim Kanold, Eric Sheninger, Susan Jo Russell, Max Ray, Julie Dixon, Dan Meyer, Harold Asturias, Cathie Dillender, Ed Burger, Eric Milou, David Molina, Rachel Cruze and Cathy Seeley.

For more details, visit the CAMT website at *<www.camtonline.org>*.

The University of Texas at Austin
Texas Mathematics Teacher
Charles A. Dana Center
1616 Guadalupe, Suite 3.206
Austin, TX 78701

Nonprofit Org.
U.S. Postage Paid
Austin, TX
Permit #391

Texas Council of Teachers of Mathematics

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Valid Through July 31, 2013

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Mary Alice Hatchett — President

Use the membership form online at <*www.tctmonline.net*> to renew or join TCTM for the first time.

If this journal is addressed to you, you are a current member of TCTM. Here is your membership card.