

THE NUMBER LINE

April 2016

www.lamath.org



LOUISIANA ASSOCIATION of
TEACHERS of MATHEMATICS

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PRESIDENT'S MESSAGE

I know that as a classroom teacher, this time of the year always was a time of divided thoughts for me. On one hand my thoughts were focused on completing this school year despite all of the distractions that occur at the end of the year. On the other hand, I began to think of the promise and excitement of a new school year.

I think LATM is a wonderful resource to help you whether you are wrapping up this school year or thinking of next year. Our presence on Facebook offers timely articles and information that is updated regularly. Whether pointers are given to support standards-based teaching or logic problems to encourage critical thinking, there is something for everyone. Mathematical discourse is an important part of the mathematics classroom. To help facilitate that discussion, we as educators need to keep abreast of current events and research in mathematics. We may not always agree with articles, but we still learn from looking at other perspectives.

LATM is pleased to be working with the Louisiana Department of Education by presenting at the Teacher Leader Summit to be held the first week in June. LATM Executive Council members and other LATM members will work together to deliver presentations to support effective mathematics teaching. Look for the LATM presence if you attend the Summit. Talk to those presenters to see how you might become more involved with our organization.

Through this publication, you will discover lots of valuable information. Earlier in the school year, we were featuring our Carol Meyer Scholarships for college students. In April, LATM supports the Louisiana Science and Engineering Fair. On May 1, 2016 all applications for the LATM Teacher Awards and the Presidential Award for Excellence in Mathematics and Science Teaching must be submitted. <http://www.lamath.org/Awards> Next up and prominently featured in this edition, we are asking for proposals for the Short Course/Extended Sessions that take place during our Joint LSTA/LATM Conference that will be held in October.

https://docs.google.com/forms/d/1fPWuRg3dI9OfMM_vF2wbRAOtSo0emF5xn7I3PFWM2A4/viewform

Immediately following that will be a call for proposals for the Regular Sessions. Think about lessons, projects, and strategies that work well in your classroom. Consider sharing that information with your fellow educators. We also offer Travel Grants to help some of our members fund their trip to the conference this year.

The culmination of LATM's year comes with our conference held in Baton Rouge from October 24-26, 2016. However, that is early in your school year. What a great way to come discover ideas that you can take back to your classroom! I hope to see you there.

Wishing you simply the best in all your educational endeavors!

Sincerely,



Maryanne W. Smith
LATM President

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VICE-PRESIDENTS' CIRCLE

Making the Distributive Property a Way of Thinking

Tricia Miller

Vice-President for Elementary Schools

The distributive property may be the single most powerful and useful concept related to multiplication. Formerly, this was a property thought to be reserved for high school algebra. I think that many math teachers felt that it was too abstract for younger children to learn. However, when students are first beginning to learn about multiplication, we now teach them this property so that it becomes a part of the child's conceptual understanding. It is just as easy to understand as basic one-digit multiplication facts. Third grade students are expected to be fluent with their facts, use models for multiplication, and use what they know about it to explain patterns and solve problems. The distributive property is one of those patterns.

We see in classrooms all over the state teachers presenting a sequence of learning activities that lead to the use of the area model for multiplication to help their students understand the distributive property. Students often use addition to begin to make sense of multiplication. They learn that 3×6 is the same as $6 + 6 + 6$. Of course, relying on repeated addition is not enough.



Think about a student who tries to use repeated addition or skip count for 6×7 . This takes a lot of time and leaves much room for error. It would be much more efficient for him to be able to say, "I know that 5×7 is 35 and one more group of 7 would be 42." Students being able to reason this way leads them from repeated addition to using the distributive property to understand multiplication.

This understanding does not just begin in third grade when students learn to multiply numbers. It begins in the early grades as the young children learn to decompose all numbers up to ten and even beyond ten. Consider a first or second grader that solves $18 + 5$ by decomposing the 5 into 2 and 3, adding the 2 to the 18 to make it 20, and then adding the 3 to the 20 to get 23. Later in second grade and early in third grade, students can draw rectangles on grid paper and then skip count to find the total number of unit squares inside. As students move to higher grades, the distributive property will be very valuable to their understanding of multiplication as they begin working with fractions, mixed numbers, negative numbers, and also algebraic expressions. This property can be found in just about any multiplication situation.

The distributive property:

- is an informal mental computation strategy for many adults. For example, in calculating a 15% tip on a \$24 restaurant tab, one could figure that 10% is \$2.40, so 5% is \$1.20. Add the two together to get \$3.60. $(0.15 \times 24) = (0.1 \times 24) + (0.05 \times 24)$
- shows you how to break down a complicated multiplication problem into simpler problems. Just as the number 7 can be decomposed into 5 and 2, the problem 7×8 can be decomposed into 2×8 and 5×8 .
- tells you how to add one to a factor in a multiplication problem. For example, if you know that $5 \times 4 = 20$, then you can figure out 6×4 by just adding one more 4.

- gives the answer to why $\frac{1}{2} \times 8$ is the same as $8 \div 2$. We know that $\frac{1}{2} + \frac{1}{2} = 1$, so then $(\frac{1}{2} + \frac{1}{2}) \times 8 = 8$. So whatever $\frac{1}{2}$ times 8 is, we know that two of them together make 8. So we have to divide 8 by 2, and the answer is 4.
- is powerful because it works not only with whole numbers, but also with fractions, decimals, mixed numbers, negative numbers, and irrational numbers.

This very important property begins in the early grades and helps students understand what multiplication means, how to break down more complicated problems into simpler ones, and to connect multiplication to area. It is a tool for reasoning about multiplication so that we can apply it to other situations. And isn't that what we want our students to be able to do?

References:

Common Core State Standards for Mathematics. 2010. Washington, DC: National Governors Association Center for Best Practices and the Council of Chief State School Officers.
 Kinzer, Cathy and Ted Stanford. 2013. "The Distributive Property: The Core of Multiplication." Teaching Children Mathematics 5 (December): 302-309.

Using Technology-Based Geometry Activities for Teaching Ideas Related to Circles

Lori Fanning
 Vice-President for High Schools

Although the study of circles has been around since the Greeks, new standards have brought light to a few concepts that have not made their way into most traditional Geometry courses. Proving that all circles are similar and defining that the radian measure of an angle is the constant of proportionality are topics that many high school students have not had experience with to name a few. The following activity is presented as an example of an investigation to address the need for effective learning experiences for students with circles using Geogebra.

Using dynamic geometry software in the teaching and learning process were found to have helped students to gain a deeper understanding and increase student motivation in the learning of mathematics. It is very beneficial for students to test conjectures using technology as an inductive method of proof. Geometric constructions with geometry software of any kind not only provide a conduit to discovering theorems, but adds to the deep and long lasting understanding of the geometric concepts. Dynamic software also helps students to understand the why and how to go about proving theorems. As students move through the van Hiele levels of geometric understanding, geometry software serves as a tool for the transition toward more complex mathematics where concepts between algebra and geometry are closely connected.

Geogebra.org provides several links to tutorials and videos that are searchable by topic. See the link: <http://tube.geogebra.org/student/bKTc2odjh>
Another popular site that uses Geogebra as a tool to investigate geometric concepts is <http://www.greatmathsteachingideas.com/geogebra-resources/>.

Related standards

HSG-C.A.1 Prove that all circles are similar

HSG-C.B.5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for area of a sector.

Activity: Inductively proving that all circles are similar.

Open Geogebra in the Algebra Mode.

Construct a square with a side length of 2 units and another with side length of 6 units.	Construct a circle with radius of 2 units and another circle of radius 6 units.
Translate one square on to the other so that the squares share a common angle (use the vector tool).	Translate one circle on to the other using the vector tool so that the circles are concentric.
Write the similarity statement for the two squares.	Write the similarity statement for the two circles
Find the center of dilation by constructing lines that pass through the corresponding vertices and intersect to form the center of the dilation.	What is the center of dilation for the circles?
What is the scale factor of this dilation?	What is the scale factor of this dilation?
What is the ratio of the perimeters of the squares? The areas?	What is the ratio of the circumferences? The areas?
Do the same ideas for similarity of squares hold for circles if one circle has a radius r and the other has a radius called R ?	
By definition a dilation from the common center of the circles with scale factor $k=R/r$ takes one of the centers and maps them onto the second circle.	

Effective Teaching of Mathematics

Vickie Flanders
Vice-President for Colleges

Start off on the right foot. There is only one chance to make a first impression – and yes, it is important for teachers to make good impressions on their students. The stakes are higher as the grade level increases. A proper introduction is necessary. Share some interests and hobbies outside of the classroom. Set goals and expectations on the first day of class. Let the students know what will be expected of them, and let them know that those expectations will be returned. In other words, if you expect the students to be prepared and arrive on time for class, you should be prepared and on time for class. Students are quick to see hypocrisies, so be sure you are not exhibiting any. Instill confidence in your students by letting them know that you will be there every step of the way. Assure them that you are committed to helping them succeed in your class. This builds trust between the students and the teacher, which in turn leads to confident students. Let the students know you will be available and willing to help them outside of class. Be approachable and unintimidating.

Create an atmosphere conducive to learning. Good teachers ask their students questions and likewise welcome questions from their students. This kind of environment is vital for the learning process to take place. Students need to feel comfortable enough to both ask and answer questions. When asking a question to the class, allow students time to process the question and patiently wait for a response. Be sure to give back praise or constructive criticisms. The teacher must be the one to create this classroom environment. The fear of incorrectly answering questions is detrimental to the student's learning process, for it is in mistakes that we truly learn. Thomas Edison once said about inventing the light bulb, "I have not failed. I have found 10,000 ways that won't work." Students are more intimidated in a math class than any other subject area. This intimidation causes the student to become unreceptive and passive in the classroom. Teachers should use positive reinforcement statements, even when a student gets a wrong answer. Negative statements told to students by teachers instill deep feelings of anxiety that sometimes stay with the student their entire life. This anxiety creates a lack of confidence and blocks the learning process. These students often refer to themselves as "not a math person." Creating an atmosphere

conducive to learning is not an easy task for the teacher. The teacher must constantly instill confidence in their students much like a motivational speaker or a coach giving a pep talk. This is a lot of work and has nothing to do with the concepts of the math lesson; however it is essential to the learning process taking place in the classroom.

Show enthusiasm about mathematics. Mathematics is beautiful! Its beauty is everywhere! Is there mathematics in a sunflower? Why yes, there is! The petals spiral around the center of the sunflower according to the Fibonacci sequence. There are numerous examples of this natural phenomenon. There is a wonderful and lightly sarcastic video found on YouTube by Vi Hart explaining to Nickelodeon that they did not portray SpongeBob's house as a true pineapple because its spirals did not follow the Fibonacci sequence. Nickelodeon responded with a video in the same slightly sarcastic tone apologizing for the error and they redesigned the pineapple house according to the Fibonacci sequence. This video is great to show in class and demonstrates that mathematics can be found everywhere, even in a pineapple house under the sea. Mathematics is the foundation of all of the sciences, and we use mathematics to literally explain everything. Theoretical physicist Stephen Hawking has been searching for a single beautiful equation to explain everything. His passion to find this equation is captured in a movie based on his life, *The Theory of Everything*. I highly encourage math teachers to learn the history of mathematics. Take time to learn about famous mathematicians and what was going on at the time of their lives and discoveries. There are so many fascinating stories that make math come to life. When a teacher shows enthusiasm about their subject, students are more likely to find it interesting. Enthusiasm is contagious, and students will feed off of a teacher's energy! There is so much to be excited about in mathematics!

Create lessons that incorporate active learning strategies. In order for learning to take place, students need to be actively engaged in the lesson. This can be quite a challenge for the teacher. After all, most students want to just sit back, watch the teacher, and copy what is on the board without actually thinking about the mathematical concepts. It requires work to think critically, and most students, if given the option, will choose the easy way out. They would rather take a passive role in the classroom. However, this is why they cannot remember what to do at home while trying to do their homework. They were passive during the lesson in the classroom. However, in an active learning classroom, students are compelled to become engaged in the lesson. One such active learning strategy is Think-Pair-Share. For example, suppose a teacher works a couple of examples on solving a quadratic equation by factoring. Before doing a third example, have the students try one on their own. This makes the students think individually. They must now become active and work the problem themselves. Be adamant that they try the problem. Do not let them bypass this important role in the learning process. After they have worked the problem, have them pair up with a neighbor and share their work. If a pair of students disagrees, have them work through the problem together and decide on the solution. This peer review is great for introverted students, as they are more comfortable sharing with one person rather than with the entire class. Gap notes are another great active learning strategy. These are notes that are partially complete, but contain gaps or fill-in-the-blanks. Gap notes could involve vocabulary, formulas, theorems, examples, or other information. Some teachers give reading assignments to fill in these gaps before the lesson is presented. This obligates the student to read their textbook in preparation for the lesson. These gap notes also save time in class so that the student is not spending valuable time copying down all of the notes. They can put their pencils down and carefully listen to the teacher explain the notes. Too many times, students do not listen as they copy down notes from the board. Even though they actively write the notes down, they are passive about learning as they write. This is also why it is important to have students work out examples on their own in class. Students must be actively participating in the lesson in order for the learning process to take place.

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2016 LATM/LSTA Conference



Short Course (Extended Session) Proposals for 2016 LATM/LSTA Joint Math Science Conference River Center, Baton Rouge

Interested presenters may submit a proposal for a 3 hour or a 6 hour session or field trip that will be held on **Monday, October 24, 2016**. One offsite computer lab is available for a technology session. Submissions using local area community sites are welcome. The presenters for field trips and other alternative settings are responsible for securing the off-site location and providing information on the facility.

Internet access will be provided for the presenter only at the River Center. With the exception of an extended session which requires the mentioned computer lab, presenters must provide all equipment (computers, LCD panels, additional internet access for participants, and other items) needed for their presentation.

To submit an online Extended Session proposal go to

https://docs.google.com/forms/d/1fPWuRg3dI9OfMM_vF2wbRAOtSo0emF5xn7I3PFWM2A4/viewform or <http://tinyurl.com/hjbfqsp>

Proposals must be submitted via this link **by May 27, 2016**.

The conference program allows for each Extended Session to have a maximum of 3 names listed as the presenters: the **Lead Presenter** followed by, at most, two **Co-Presenters**. Co-Presenter information must be entered at the bottom of the form. **The Presenter and Co-Presenter(s) listed in this proposal must register for the conference.**

Questions or concerns regarding this process should be directed to Maribeth Holzer at latm.lsta.extsessions@gmail.com

2016 LATM Travel Grant Application

The Louisiana Association of Teachers of Mathematics is awarding up to ten travel grants of \$300 each to offset the expense of teachers attending its 2016 LATM/LSTA Joint Math and Science Conference in Baton Rouge, October 24-26, 2016. The money can be used by awardee(s) to cover conference registration, short course registration, lodging, meals, parking, and/or travel. Grant applicants will be notified of their status at least one month prior to the conference. The money will be awarded at the conclusion of the conference. Awardees must attend for a minimum of two days of the conference, participating in no less than 9 hours of conference presentations. They will be responsible for full conference registration and are encouraged to attend all three days of the event.

Principal Verification Sheets must be postmarked no later than September 26, 2016. The LATM Travel Grant Coordinator will select a committee of math leaders from throughout the state to score the applications. Order of receipt or geographic location will not be considered in the awarding of the travel grants.

Qualifications and regulations for grant eligibility are as follows:

1. Applicants must be LATM members on or before August 1, 2016. Membership can be confirmed by Beth Smith (bethsmith1124@gmail.com).
2. Awardees must attend for a minimum of two days of the conference, participating in no less than 9 hours of conference presentations. They will be responsible for full conference registration and are encouraged to attend all three days of the event.
3. Awardees are expected to use information and skills gained at the conference to improve their teaching skills and classroom instruction.
4. Awardees are not eligible to reapply for the travel grant until the 2019 Annual LATM or LATM/LSTA Joint Conferences.
5. Awardees that decline to attend the 2016 LATM/LSTA Joint Math and Science Conference cannot apply the money to other conferences or transfer it to another individual.
6. Awardees who have not notified the LATM Travel Grants Coordinator by October 10, 2016 are not eligible to reapply for the travel grant.
7. LATM Executive Council Members and Travel Grant Committee Members are not eligible for the grant.
8. Awardees cannot submit expenses that will be paid by other funding sources

Applications that do not meet the requirements or provide false information will be disqualified.

After submitting your application, send the Principal Verification Sheet, postmarked no later than September 26, 2016, to: Penny Gennuso, 219 Elena Dr., Scott, LA 70583

Certified Letters will NOT be accepted. A confirmation email will be sent when a Principal Verification Sheet is received. Questions can be e-mailed to Penny Gennuso latmtravelgrants@gmail.com.

[2016 LATM Travel Grant Online Application Form](#)

[2016 LATM Travel Grant Principal Verification Sheet](#)

Or Visit: http://lamath.org/LATM_Travel_Grants2016.htm

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OPPORTUNITIES FOR TEACHERS

Outstanding Mathematics Teacher Awards

The Louisiana Association of Teachers of Mathematics (LATM) honors outstanding elementary, middle, and high school teachers from participating schools each year. LATM also honors an outstanding new teacher who is in his/her first three years of teaching. We also honor an outstanding mathematics educator, which can include supervisors, coaches, lead teachers, university instructors, Department of Education personnel or others who have made a significant contribution to mathematics education (non K-12 classroom teacher). One of the goals of LATM is to honor and recognize those individuals who model and promote standards-based mathematics teaching and learning for their students. To submit an application, visit the LATM website at www.lamath.org under the Awards link. If the nominee is not a current member of LATM, a membership form must accompany the award application. The membership form can be found on the LATM website under the membership link. The applicant must fill out all portions of the application and upload two letters of recommendation by May 1, 2016. For specific guidelines, visit <http://www.lamath.org/Awards.htm>.

Presidential Award for Excellence in Mathematics and Science Teaching



Unfortunately there has been no White House proclamation for the 2014 Presidential Awardees for Excellence in Mathematics and Science Teaching (PAEMST). We remain hopeful for White House announcements of both the 2014 and 2015 Awardees.

The 2015-16 academic year which is an elementary cycle for the Presidential Award program is winding down. Teachers of math, science, computer and engineering courses in grades K-6 who were nominated by administrators, colleagues, teachers and students are completing their application packets. Packets must be submitted online by May 1, 2016. Two important formatting changes were implemented this year. The number of pages for the narrative replies was changed to a total number of characters that could be used to answer the questions and supplemental pages must be combined into one PDF file.

LATM encourages all the outstanding teachers nominated for the Presidential Award this year to complete the application process.

For additional information on the Louisiana PAEMST program contact Jean May-Brett at jam05@bellsouth.net or visit <https://www.paemst.org/home/view>



LSU-S Math Circle Spring 2016

Recent gatherings of the Math Circle were held in March and April. In March Brad Burkman from the Louisiana School for Math, Science and the Arts facilitated a discussion on geometry for the group. Dr. David Thomas from Centenary College, the 2015 LATM Outstanding Mathematics Educator, presented April 5 engaging the participants with probability activities. Jane Long from Stephen F Austin will be presenting to the group on May 3.

Math Circle meetings, hosted monthly by Dr. Judith Covington of LSUS, meet in Bronson Hall and are free. The evening gatherings provide a cost free opportunity for math teachers to participate in a professional dialogue and learning.

Meetings begin at 5 PM with dinner provided. Following dinner teachers are engaged in mathematical conversation through presentations and the exploration of activities. Math Circle is free to participants and is a fantastic opportunity to advance mathematical content knowledge. Mark your calendars now!



LATM JOURNAL

Submit an Article for the Next Issue NOW!

Did you make a presentation at the LATM Conference in Baton Rouge? Did the audience really like the ideas you shared? Why not write an article describing your presentation and how the information can be used in a mathematics classroom? The next issue of the LATM Journal is planned for release in December 2016. If you are interested in submitting an article, articles are accepted year round. Submission information can be found at

<http://lamath.org/journal/LATMJournalSubmissionInformation.pdf>

The LATM Editorial Board is also looking for guest column writers. Possibly you have an opinion about a current mathematics education topic and would like to share that opinion with your fellow LATM members. If you have any questions or suggestions, the *LATM Journal* contact editor is Dr. DesLey V. Plaisance (desley.plaisance@nicholls.edu).

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OPPORTUNITIES FOR STUDENTS

Carol Meyer Scholarship Winners Announced

LATM is pleased to honor the memory of Carol Meyer, a dynamic elementary school mathematics teacher who died unexpectedly at an early age. In Carol's memory, the Louisiana Association of Teachers of Mathematics awards two \$500.00 scholarships each year to college upperclassmen with a declared major in elementary education, mathematics education, or mathematics. In addition to the scholarship, the awardees shall receive complementary LATM student memberships. It is our hope that another future outstanding mathematics teacher or mathematician will be helped along the way by this award.

It is our honor to announce the winners for the 2016 Carol Meyer Scholarships:

Louisiana College Student, **Alexis Campbell**

Northwestern State University Student, **Gabrielle Gonzales**

Congratulations to these two young ladies for being selected as 2016 Carol Meyer Memorial Scholarship recipients; we wish them well as they continue their studies.

LATM Awards Presented at the Louisiana State Science and Engineering Fair

Congratulations to all the winners of the special LATM math awards presented at the Louisiana State Science and Engineering Fair.

Junior Division:

1st place: Zayeed Akhter Glasgow Middle School
2nd place: Diya Desai Caddo Parish Middle Magnet
3rd place: Jadon Roy Grace Episcopal School

Senior Division:

1st place: David Luo Baton Rouge Magnet School
2nd place: Sunjay Letchuman Caddo Parish Magnet High School
3rd place: Johnum Palado Caddo Parish Magnet High School



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LDOE UPDATE

Kyle Falting
LDE Representative

At the Louisiana Department of Education (LDE), our primary focus is increasing student learning. We believe that there are three main levers which most influence classroom instruction: curriculum, assessment, and professional development. It is our goal to provide teachers and districts with the tools, resources, and support they need around these three critical areas.

On the curriculum and assessment front, not only do we plan to continue reviewing submitted curricula and assessments, we will continue to seek out and research the best available curricula from around the country and invite the developers to submit their work for our review. We want teachers and districts to be well informed of quality curriculum that embody the shifts in instruction to better meet the needs of students. We will also continue supporting the implementation of Tier 1 curricula. To help districts leverage assessments to impact student learning, we are releasing an assessment toolkit. This will include findings from the recent assessment pilot and provide guidance for districts around assessment decisions that impact students and teachers.

As mentioned in our last report, we are incredibly excited about the upcoming Annual Teacher Leader Summit in New Orleans. This year, participants will have the opportunity to learn from experts from the Cain Center at LSU, the Dana Center at University of Texas at Austin, and other nationally recognized PD providers. We have been working hard to ensure that this Summit is the best yet. The focus of the Summit for math is content, assessment, and remediation, with each session designed to help teachers understand the shift to the Louisiana Student Standards for Mathematics and the impact on the daily instruction. In addition to the Summit, we will be releasing a Professional Development Catalogue in which will highlight opportunities for ongoing support from high quality providers such as those presenting at the Summit. We want the Summit to be the kick-off for high quality PD for teachers and districts.

We hope to see you at the Summit, and we look forward to learning alongside you.

Louisiana Standards Review

LATM Makes Their Presence Known on the Standards Revision Committee

In July 2015, the process of the State Standards revision began when the public comment portal was open LATM made sure to make our voices heard by encouraging our members to go to the website and provide personal feedback. Many of our members and the majority of our Executive Council took advantage of this opportunity. But we didn't stop there! Several of our Executive Council Members also volunteered to serve on the revision committees. Tricia Miller and Serena White served as representatives for their districts, and I, Ellen Daugherty, served as the LATM/LSTA representative. I went into it excited about having a say in the direction our state was taking in drafting our very own state standards.

Our first meeting together was in August 2015. At this meeting, we were assigned to small groups of 3 per grade level. I was grouped with two other ladies from different areas of the state to work on the 4th grade standards. Although none of us had ever met each other, we all shared a common goal. We were all committed to giving this process our best efforts. We were tasked with reading every single comment that was made on the portal, getting additional feedback from our colleagues, researching other states' revised standards, reviewing the standards at the grade level before and after, and consulting additional resources as we drafted our proposed revisions for each and every standard. We were to recommend that the current standard stand as is, be

reworded and or be deleted. We were also able to add additional standards if we felt it necessary. Initially, we did this as individuals. I know that I spent a minimum 20 hours alone on this initial activity.

From there the sub-committees were scheduled to meet two more times as a group. As a member of the 3-12 math sub-committee, we were tasked with revising all these standards, 3-12. The grade level groups of three had time together to merge all of our preliminary suggestions and then after lunch, each group presented our proposed changes for each standard one-by-one to the whole group. At this time the entire committee provided feedback on each standard as it related to the work at other grade levels. We quickly realized that none of us were willing to rush the process. In fact, some discussions on one standard lasted at least an hour. After a full day, by 7pm we had only made it through the 5th grade standards. Therefore, we had to add additional days to continue this tedious process.

Although very seldom did we all agree, I believe the process we engaged in was thorough! We ended up meeting four additional days, with some smaller groups, meeting on the side on other days as well. Each time we met, we reviewed the previous work we had completed and revised again. We were committed to getting this right. In the end, do I think it is the “perfect” set of standards? No, because I believe it will always be a work in progress, but I do believe we gave it a very thorough review and our resulting proposed changes are worthy.

When our sub-committee submitted our proposed revisions to the full Standards Committee, we were adamant that not only did we want to provide our state’s teachers with a new set of Louisiana Standards, but also a set of resources to support the teachers with their classroom implementation. Now that BESE has accepted our draft of revised standards, it will be presented to the legislature. If they approve them, we will prepare to transition to these new standards next year. In fact, The Department is currently working to create a suite of resources to support educators make a smooth transition to these new standards. These resources will include: curriculum and resources (including a detailed math addendum called for by the math content committee) and teacher training and professional development.

LATM at the Teacher Leader Summit in June

Those of you who will be attending the annual Teacher Leader Summit in New Orleans should look for sessions sponsored by the LATM Executive Council. Topics of interest may be:

Topic: Area Models	<i>Essential Math Models – Area Models: Elementary Grades</i> by Jessica Rivero
Topic: Area Models	<i>Essential Math Models – Area Models: Middle and High Schools</i> by Beth Smith
Topic: Assessment	<i>Assessment and Instruction Strategies</i> by Serena White and Maribeth Holzer
Topic: Math Discourse	<i>Take a Risk: Promoting Risk-taking and Discourse in the Math Classroom</i> by Tricia Miller
Topic: Grant writing	<i>Funding Sources for Teachers: Helping Teachers Fund Projects</i> by Maryanne Smith

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AFFILIATE NEWS

Acadiana Council of Teachers of Mathematics (ACTM)

No news submitted from ACTM. Send your news, information on resources, pictures, etc. to Cat McKay (cmckay7930@earthlink.net).

Baton Rouge Area Council of Teachers of Mathematics (BRAC TM)

BRAC TM is currently in the planning stages to collaborate with the Capital Area Reading Council to hold a spring event/meeting.

To begin receiving BRAC TM emails by becoming a member, please contact Trisha Fos at bractm@gmail.com.

Greater New Orleans Teachers of Mathematics (GNOTM)

No news submitted from GNOTM. Send your news, information on resources, pictures, etc. to Joan Albrecht (joan.albrecht@jppss.k12.la.us).

Northwest Louisiana Mathematics Association (NLMA)

The Northwest Louisiana Mathematics Association's Winter Conference was held Saturday, February 20, 2016, from 7:30 a.m. – 12:30 p.m. at Bossier Parish Community College in Bossier, Louisiana. The conference theme was: **NLMA 2016: Leaping into Mathematical Success**. The keynote speaker was Dr. Matthew Peterson, Co-founder, Chief Executive Officer and Senior Scientist at the MINDS Research Institute.

Over 120 educators were in attendance. Thirty sessions from Pre-K - College were offered with 40 presenters sharing their mathematical knowledge and expertise. Southern Hills Elementary School, Jesse Scott, Principal received a special award for the largest percentage of mathematics teachers in attendance.



Northeast Louisiana Teachers of Mathematics (NELATM)

NELATM hosted a spring mini-conference on Saturday, April 16th at Neville High School in Monroe for over eighty educators throughout Region 8. A variety of sessions were be offered for elementary, middle and high school teachers. Sessions included the following topics: Tape Diagrams; Strategies for Managing Multiple Select Items; Number Bonds, Make Ten, and Sprints: Bars, Dots, and Circles; Elementary School Geometry; Mathematical Reasoning and Discourse; MDC Tasks for a Variety of Topics; and more.

Plans are underway for summer professional development opportunities. For more information about NELATM and its activities visit <http://nelatm.org>.

SouthEast Area Teachers of Mathematics (SEATM)

Many thanks to Jill Cowart, Manager of Math and Science with the Louisiana Department of Education, for presenting at the February SEATM meeting. Attendees left with a better understanding of how to design and analyze assessment items for the components of rigor (skill and fluency, application, and conceptual understanding).

SouthWest Louisiana Teachers of Mathematics (SWLTM)



SWLTM held their annual Mini-Conference Saturday, January 30th. At the mini-conference, a Classroom Mini-Grant was awarded to Mrs. Terri Miller, 4th grade teacher at Barbe Elementary School. She was awarded a check for \$577 to purchase math tools for her proposed project, "Hands-On Math, That's How We Roll."

Left is a picture of SWLTM Treasurer and MSU Math Instructor, Lara Guidroz (left), awarding Terri Miller (right) with her check.

Louisiana Council of Supervisors of Mathematics (LCSM)

The LCSM General Membership Meeting previously scheduled for May is cancelled. Details are currently being finalized to have the meeting in June.

Elections will be held during the June Meeting. A nominating committee, led by Sabrina Smith, is accepting nominations for vacancies on the LCSM Executive Board. The offices for which we are accepting nominations are: President, Vice President, Treasurer, and LATM Representative. If you would like to nominate someone, please submit his/her name and contact information no later than May 1, 2016 to Sabrina Smith at Sabrina.smith@jppss.k12.la.us or sabsmith@cox.net.

An email will be sent to all members announcing the revised date and location. For questions or clarification, please contact Sabrina Smith at sabsmith@cox.net.

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MDC Update

Spring trainings marked the last of four Math Design Collaborative sessions given by the training teams in Bossier and Lafayette Parishes. Our congratulations to the outstanding mathematics educators who provided the training sets that began last summer.

Edmodo: For those in the MDC Edmodo group Jacob Hesselschwardt, a member of the Bossier MDC instructional team, posted monthly technology notes offering great resources and educational tools. The Edmodo site allows members an opportunity to share the results and lessons learned from using the challenges and tasks in the Math Assessment Project. Let us know which lessons you have used or ask for guidance from others about a lesson you might be interested in. Rather than hesitating to implement ask for assistance from the network of teachers using the materials.

What's next: MDC sessions are planned for the June Teacher Leader Summit. Math teachers working with grades 6-12 are encouraged to attend these presentations and engage with colleagues from around the state who have been using some of the challenges and tasks with their students. In 2016-17 the Southern Regional Education Board will be providing MDC training to two mathematics teachers in the Orleans Parish Network Schools.

Challenges and Tasks: Remember the MAP challenges and tasks used for MDC are available free and easily accessible online <http://map.mathshell.org> for all math teachers. The website offers both Problem Solving and Concept Development lessons for middle and high school courses. The three levels of tasks (similar to Extended Constructed Responses) - Novice, Apprentice and Expert provide a wide range of items for teachers to select from. With the tasks are scoring rubrics, ungraded and graded samples of student work. The search option allows teachers to find and select according to alignment by math standards for both content and mathematical practices.



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MSP Update



Louisiana 2015-16 Math Science Partnership (MSP) project year is winding down. The final academic year meetings are being held around the state. Hundreds of Louisiana teachers of mathematics have been deepening their understanding of the mathematics they teach, adding to their skills and mastering additional techniques for engaging their students.

Several project directors, instructors and staff personnel recently traveled to attend the annual US ED MSP conference in March. The trip was kind of bittersweet with the news that the final round of funding will be sent to the state in July 2016 to fund projects during the 2017-18 school year. The changes that will result with the move from MSP funding, which specifically funds professional development for mathematics and science teachers, to block grants are not totally understood at this time.

Thirteen MSP projects will be eligible for a third and final year of professional development in content and classroom best practices. Five projects may move into a second year when the 2016 summer institute are held. In addition to the summer institutes the teachers will continue their efforts to improve their content knowledge and develop additional teaching strategies by meeting during the 2016-17 academic year. The extension of the MSP projects into the school year provides the participants with ongoing opportunities to collaborate around efforts to improve their teaching and increase student academic success.

We invite current and former MSP teachers to share their professional development experience with other by presenting during the joint math science conference October 24th -26th in Baton Rouge. Many project include conference participation in their program schedule. Former MSP teachers may want to apply for one of the LATM Conference Travel Grants.

Project partnerships bring together school districts and university departments of mathematics, engineering and technology. Participation is open to teachers from partner districts and teachers from non-public schools in the geographic reach of the project.

John Hanley john.hanley@la.gov is the LDOE MSP contact.



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NCTM UPDATE



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

Affiliate News

INSPIRING TEACHERS. ENGAGING STUDENTS. BUILDING THE FUTURE.

Save the Date: 2016 Regional Conferences

Join us to connect face-to-face with your peers in education and to focus on the learning and resources that promote the mathematical habits of mind that will lead your students to college and career success. Whether you're a classroom teacher, math coach, administrator, math teacher educator, teacher-in-training, or math specialist, there's something for you at the NCTM Regional Conferences & Expositions.

2016 Locations and Dates: Phoenix, Oct 26-28, 2016 and Philadelphia, Oct 31-Nov 2, 2016

NCTM Unveils New Innov8 Conference

St. Louis, November 16-18, 2016

2016 Innov8 Conference: Engaging the Struggling Learner www.nctm.org/innov8/

Bring your team and engage in a hands-on, interactive, and new learning experience for mathematics education. While focusing on "Engaging the Struggling Learner," become part of a team environment and navigate through three different pathways:

- Response to Intervention (RtI)
- Supporting productive struggle
- Motivating the struggling learner

While collaborating with your team, create your own learning experience, using your choice of format:

- Keynote and expert presentations
- Activities in the Learning Lounge – ranging from one-on-one time with speakers and mathematical innovators, to book discussions, to problem sharing with peers, and more
- Team time to map your strategies and share ideas
- New technologies and solutions from industry partners

Bridging the Gap between Research and Practice in Today's Mathematics Classroom

[More Lessons Learned from Research, Volume 1, Edited by Edward A. Silver and Patricia Ann Kenney](http://www.nctm.org/Store/Products/More-Lessons-Learned-from-Research,-Volume-1/) www.nctm.org/Store/Products/More-Lessons-Learned-from-Research,-Volume-1/

What we discover in research should influence how we teach in our classrooms. This book's 28 chapters are adapted and updated from articles published in NCTM's *Journal for Research in Mathematics Education* between 2000 and 2010. The authors have rewritten and revised their work to make it clear, understandable, and—most of all—useful for mathematics teachers today.

To help teachers even more, these articles have been chosen for their relevance to the eight Standards for Mathematical Practice in the Common Core State Standards. The book's three sections present chapters that relate to reasoning and proving; communicating, sense making, and using tools strategically; and modeling and problem solving. Teachers who are seeking to help students develop these mathematical practices will find insights and support in this survey of research.

Mathematics teachers at all levels will find examples of research that is relevant to the challenges they face. This book, along with its forthcoming second volume, enables researchers and teachers to meet on common ground to improve mathematics education for all students.

Write or Referee for NCTM Publications

The NCTM publishing program looks to the mathematics education community for expertise, insights, and accurate content. Our authors, who include some of the most respected professionals in the field from the classroom, academia, coaching, and administration, develop professional materials for our teachers, administrators, counselors, and parent members. Covering pre-K–14, NCTM publishes approximately 15 books and 5 journals over the course of a year.

Why referee manuscripts? The answer is simple—you always learn something. As a **referee**, you learn something about writing, pedagogy, and mathematics—every single time.

Why write a manuscript? The reasons are many. For example, teachers and other professionals with excellent lessons, assessments, or ideas about classroom research and practice can share them with everyone in the mathematics education community.

Learn about writing or refereeing for NCTM publications [here](#).

Nominations Sought for NCTM Board of Directors

Do you know someone who would bring valuable experience, perspective, and judgment to the NCTM Board of Directors? The Board needs a broad representation of NCTM membership to enrich its discussions, inquiries, and decisions. Help the Nominations and Elections Committee identify talented, energetic individuals who are qualified to assume leadership roles in the Council, and nominate them today. Get complete details on the process, procedures, qualifications and responsibilities, and school incentives.

<http://www.nctm.org/nominations/>

MET Grants to Individuals

Apply for NCTM's Mathematics Education Trust grants, scholarships, and awards. Funding ranges from \$1,200 to \$24,000 and is available to help math teachers, prospective teachers, and other math educators improve the teaching and learning of mathematics. For more information, go to

www.nctm.org/MET/ and www.nctm.org/Grants/

2017 Call for Speaker Proposals

Share your teaching ideas and practices by presenting at the upcoming 2017 NCTM Annual Meeting and Exposition that will be held in San Antonio, Texas, April 5-8, 2017. Call for speaker proposals for the 2017 annual meeting opens on March 1, 2016. Submit your proposal by the May 1, 2016, deadline.

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Renew your Membership

Were you unable to attend the conference in November? Then it's time to renew your membership for 2015-2016 by visiting <http://lamath.org/Membership.htm>. Submit the renewal information online, print the renewal receipt after submitting, and pay with PayPal or mail the renewal receipt with your \$15 payment to the address specified on the receipt. If you have any difficulties with the online form, please contact Beth Smith at bethsmith1124@gmail.com.



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