THE NUMBER LINE

August 2016

www.lamath.org



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PRESIDENT'S MESSAGE

In the fall of 2010, I thought I was writing my farewell President's letter for our LATM *Numberline*. Silly me! Seems I left the Executive Council as Past President in the fall of 2012 only to return as President-elect in 2014. This really is my farewell letter! I'm so excited that Tricia Miller will be stepping into these shoes in October. She is energetic and has a passion for mathematics and the Louisiana educational system. We are lucky.

Exciting things are taking place in LATM. We are again co-hosting a joint mathematics and science conference with LSTA which will be held in Baton Rouge at the River Center on October 24-26. All of the information for this is enclosed in this newsletter. Have you ever attended an Extended Session? If so, I hope you will do so again this year. If not, please consider. Often a concurrent session gives you good information in an hour. An extended session is three or six hours in duration. You can gain in-depth knowledge about a topic or subject. The offerings are distributed over grade spans and math, science, and both subjects. All Extended Sessions are held on Monday the 24th. You must register by the Early Bird Registration deadline to guarantee participation. If you need more general information, you may email me.

The Lifetime Service to Mathematics awards nominees are being accepted until August 15. If you know someone who meets the criteria, please consider submitting an application for that person. This process should remain anonymous. Information on this can be found on the lamath.org site under *Awards*. You may contact me at <u>President@lamath.org</u> for more information. In addition, the Outstanding Mathematics Teacher awards will be presented during the conference. Our Presidential Awards finalists will also be recognized. If you are attending the conference, please come support these very deserving individuals.

Up to ten, \$300 LATM Travel Grants will be offered to those who are members of LATM as of August 1, 2016. These funds can be used to help defray the costs of registration, travel, meals, and or lodging. This makes attending the conference more affordable. The deadline for submitting for the 2016 conference is September 26, 2016. Information can be found in the Awards section of the LATM website and in this newsletter.

We support our pre-service teachers by offering two \$500.00 Carol Meyer scholarships to college upperclassmen who will be majoring in mathematics education or elementary education. We want to encourage them to stay the course in education and to become part of a professional organization which supports their work.

As teachers, you should look for LATM sponsored professional development workshops/activities offered at this conference, across the state, and at Teacher Leader Summit and the Teacher Leader Collaborations throughout the year. We want to provide our members with information and instructional strategies that are of use to them.

Information on all of these opportunities are sent to members via email, through our newsletters, on our website and through social media. Make sure you are checking. Our Facebook page is updated daily.

Take care, and I look forward to seeing you in October!

Maryanne W. Smith

Maryanne W. Smith LATM President

VICE-PRESIDENTS' CIRCLE

Focusing on the WHY, Not Just the HOW

Tricia Miller Vice-President for Elementary Schools

According to NCTM's <u>Principles to Actions</u> (p. 7), effective mathematics teachers "engage students in meaningful learning through experiences that promote their ability to make sense of mathematical ideas and reason mathematically." Let me share a couple of ideas with you about how to promote reasoning and help students become mathematical thinkers, not just doers.

One thing that teachers are finding successful is the use of routines that focus more on the WHY than just determining the correct answer. The ideas stem from research, practice, and some examples described in another NCTM publication, <u>High-Yield Routines</u>. Any routine, such as "Number of the Day", can be helpful as long as it includes higher level demands on student thinking. These routines could be worked into 10-15 minutes at any point during the day, prior to a lesson to prepare students for the learning, or even afterwards as an exit ticket or formative assessment tool.

For example, instead of focusing on one number of the day, you can ask students to compare and contrast two numbers. I like to give them a list of 5-6 numbers and let them choose the two that they want to compare and contrast. Younger students will usually focus on the values of the two numbers, basic place value, and the digits themselves. Older students may work with fractions, more advanced place value, and even discuss that certain numbers are categorized differently than others.

My favorite is the "How do You Know?" routine. Instead of asking students to solve a problem, you ask them to explain the answers to problems. Again, the focus is on WHY.

Here are some examples:

How do you know that 6,192 is greater than 5,192?





Something I've found it to be helpful with the use of routines like these is to require that students reveal their mathematical understanding and reasoning in written form and through classroom discourse. For example, in Kindergarten and first grades, I may ask students to discuss their answer with a partner first, and then using a sentence frame, write it down in their math journals. This helps them to develop the skill of writing down their reasoning, which is often difficult for them. In second through fifth grades, I ask students to write their answers in their math journals first and then explain their thinking to a partner.

In addition to using high cognitive demand routines such as these, student learning is also greater in classrooms where learners are engaged with tasks that move beyond just procedural skills to ones that encourage high-level student thinking and reasoning.

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Solve $\frac{1}{4} \times \frac{2}{3}$ **Procedural Task:**

Student Response:

$$\frac{1}{4} \times \frac{2}{3} = \frac{1 \times 2}{4 \times 3} = \frac{2}{12}$$

Higher-Level Task:

Create a real-world situation for $\frac{1}{4} \times \frac{2}{3}$. Solve the problem you write using a representation, not just the rule.

Student Response:

Aunt Janet gave me $\frac{2}{3}$ of a pizza, but I could only eat $\frac{1}{4}$ of what she gave me. How much of the whole pizza did I eat?

I ate this much.



Aunt Janet gave me this much $\frac{2}{3}$ of the whole pizza.

I had to break each part in half to show the fourth that I ate. When I look at the whole pizza, I see that I ate one sixth of the pizza, so $\frac{1}{4} \times \frac{2}{3} = \frac{1}{4}$.

Routines and tasks that encourage the use of formulas or procedures without connection to meaning place only lower-level cognitive demands on students, which leads to minimal real learning. Students are able to transfer mathematical learning to new or different situations when they understand the WHY, not just the HOW.

References:

The National Council of Teachers of Mathematics. "Principles to Actions: Ensuring Mathematics Success for All." 2014

McCoy, Ann, Joann Barnett, and Emily Combs. "High-Yield Routines" Reston, VA.: National Council of Teachers of Mathematics, 2014.

A Sprinkling of Remediation

Penny Gennuso Vice-President for Middle Schools

How can we sprinkle in the remediation students need to be successful each day? Many of our students will need to be supported in their learning. We can support student learning through proactive and responsive remediation. We often ponder how to address student needs without aborting the progress toward mastery of grade level standards. We can use the Louisiana Remediation Guide (http://www.louisianabelieves.com/resources/library/k-12-math-year-long-planning) to help us find the prerequisite or foundation standard to target.

A teacher can proactively plan questions targeting specific skills or concepts at the beginning of a lesson so that students could retrieve prior knowledge and build on it to be successful in that day's lesson. Select one to five problems followed by appropriate questions that will require students to explain their answers and thinking. This practice will give a teacher insight into their students' deep conceptual understanding or misconception. Students will then make connections to prior learning and build on that knowledge to understand more rigorous content in the day's lesson. Building fluency in the pre-requisite skills through quick white board exchanges or sprints can also lay this foundation for students to master the content today.

Assessments should always be used to guide teaching and learning. In collecting formative assessment data after the lesson, the teacher can respond similarly with a small group of students needing additional support to master the grade level content. Once a teacher has determined the specific knowledge gap in students, he/she can then determine the progression of skills that will prepare the students for the grade-level work on targeted standards. Following this, resources and practice tasks to bridge the gap can be located. Finally, small group or individual time to work with the students who need additional support can be used. All of our students can achieve if we first believe they can and then prepare to support them so they are successful!

A good source for Effective Questioning that is modified from an NCSM publication is found on this San Francisco Unified School District page. It is tailored for questioning in the mathematics classroom.

http://www.sfusdmath.org/effective-questioning.html

For more about mathematical fluency, an excellent short article to read is a position paper published by NCTM.

http://www.nctm.org/Standards-and-Positions/Position-Statements/Procedural-Fluency-in-Mathematics/

Want to learn more about the difference between formative and summative assessment? Check out this site

http://www.brighthubeducation.com/student-assessment-tools/7223-explanation-of-formativeand-summative-mathematics-assessment/



Non-Standard Problem Solving Activities

Jeffrey Weaver Vice-President of Colleges (2011) This article originally appeared in *The Numberline*, September 2011, but is as timely now as it was then and warrants republication.

As the school year begins, the prepared professional begins planning for the year in their classroom teaching. Not only should the plans satisfy the needs for the student's learning of the expected curriculum, but they should also include opportunities for non-standard problem solving activities to promote critical thinking and the development of mathematical thinking. One resource that is available is the use of KenKen puzzles.

KenKen or KenDoku is a style of arithmetic and logic puzzle invented in 2004 by the Japanese math teacher Tetsuya Miyamoto, an innovator who says he practices "the art of teaching without teaching." He intends the puzzles as an instruction-free method of training the brain. The names Calcudoku and Mathdoku are sometimes used by those who don't have the rights to use the KenKen or KenDoku trademarks. The name derives from the Japanese for cleverness. As in sudoku, the goal of each puzzle is to fill a grid with digits -1 through 4 for a 4×4 grid, 1 through 5 for a 5×5, etc., so that no digit appears more than once in any row or column. Grids range in size from 3×3 to 9×9 . Additionally, KenKen grids are divided into heavily outlined groups

of cells -- often called "cages" -- and the numbers in the cells of each cage must produce a certain "target" number when combined using a specified mathematical operation (either addition, subtraction, multiplication or division). The target number and operation appear in the upper left hand corner of each cage.

For example, a three-cell cage specifying addition and a target number of 6 in a 4×4 puzzle might be satisfied with the digits 1, 2, and 3. Digits may be repeated within a cage, as long as they are not in the same row or column. No operation is relevant for a single-cell cage: placing the "target" in the cell is the only possibility. An example of a KenKen puzzle and its solution is provided.



A puzzle can be used as a warm-up activity, a weekly challenge, or used for students that complete their work early and need an additional challenge. The added value of using such activities is to promote thinking and create a greater sense of numbers and their operations by providing additional practice in mental calculations. These puzzles can be found online or purchased in puzzle books and can be reproduced for use in the classroom. Elementary, middle, and high school students can benefit from these puzzles and they can be used at any point in the school year.

Editor's note: Free KenKen puzzles can be found at <u>http://krazydad.com/inkies/</u>.

2016 LATM/LSTA Conference

Save the Date! Cultivating Plan to attend the LATM/LSTA Joint STEM Conference in October to network with other Math and Science for the Future teachers across the state! For more information or to submit a proposal to present, visit one of our websites: http://lamath.org/ Joint Math and Science Conference Baton Rouge River Center October 24-26, 2016 http://www.lsta.info/

Conference Registration is Now Open! Take Advantage of Registration Discounts

Be an Early Bird! Postmark your <u>registration</u> no later than September 23, 2016, and save \$50 off the full registration rate. With the conference registration PayPal option, it is now easier to get your early bird payment submitted! September 23rd is also the deadline for registering if you want to attend an Extended Session/Short Course.

October 16, 2016 is the last postmark date for the pre-registration discount of \$25 off the full registration rate. Remember, anything postmarked on or after October 17, 2016, will be charged the full registration rate. Any payment made after October 16th must be made on site or via PayPal.

Conference Registration Rates

(Registration is not complete until payment is received)

The information below provides registration costs based on the date that the form is postmarked. All payments made after October 16 must be made on site.

Full Conference Early-Bird Registration (Save \$50 when compared to Full Conference Registration. Must be postmarked no later than September 23, 2016.)			
Full Conference Pre-Registration (Save \$25 when compared to Full Conference Registration. Must have postmark from September 24 to October 7, 2016.)			
Full Conference Registration (Postmarked from October 8, 2016. Any payment made after October 16, 2016 must be made on site.)			
Full-time Non-teaching Undergraduate Student Full Conference Pre-Registration (Must have postmark no later than October 7, 2016.)	\$25.00		
Full-time Non-teaching Undergraduate Student Full Conference Registration (Postmarked from October 8, 2016. Any payment made after October 16, 2016 must be made on site.)	\$30.00		
Wednesday Only Pre-Registration (Must have postmark no later than October 7, 2016.)	\$30.00		
Wednesday Only Registration (Postmarked from October 8, 2016. Any payment made after October 16, 2016 must be made on site.)			
Extended Session – AM Session* (Full Conference Early-Bird Registration no later than September 23, 2016 required.)			
Extended Session – PM Session* (Full Conference Early-Bird Registration no later than September 23, 2016 required.)			
Extended Session – Full Day* (Full Conference Early-Bird Registration no later than September 23, 2016 required.)			
Lunch Option - Option shown on online registration form	\$12.00		

* Registrations for Extended Sessions must be completed as part of the online registration process for the conference so that the invoice and payment by check (or the invoice for payment made with a credit card) are postmarked no later than Friday, September 23, 2016. Extended Session participants must register for the conference.

Special assistance requests must be made by October 10, 2016 to Shavonne Price sgarnerp@me.com.

Extended Sessions/Short Course Offerings

Monday, October 24, 2016 \$15.00 per 3-Hour Session \$30.00 per 6-Hour Session

PARTICIPANTS FOR EXTENDED SESSIONS/SHORT COURSES MUST ALSO REGISTER FOR THE JOINT MATH/SCIENCE CONFERENCE BY THE EARLY BIRD DEADLINE OF SEPTEMBER 23, 2016.

Descriptions of the available Extended Sessions/Short Course offerings can be found at: <u>http://lamath.org/conference2016/docs/ExtendedSessionPre-Con_Final.pdf</u>.

Things to Remember When Registering for Extended Sessions

Every effort will be made to honor your first choice. Send your registration invoice and payment early to improve the chances of securing your first choice. There is a 20-person maximum for some extended sessions/short courses. These sessions/courses must have at least ten participants to be held. Extended/short course sessions require pre-registration, and it is critical to planning that you complete the registration form (visit <u>http://lamath.org/conference2016/registration</u>). A confirmation e-mail will be sent during the week of October 3rd. Please check your e-mail often. Also check spam mail as some systems do not recognize the address of the sender as a valid email address or the system administrators may have placed a block on many senders. If you have not received a confirmation e-mail by October 15, 2016, contact Maribeth Holzer at <u>latm.lsta.extsessions@gmail.com</u>.

There is a \$15 charge for each session; a \$30 charge for the all-day session. Extended Session participants must also register for the 2016 LATM/LSTA Joint Conference by the Early Bird deadline of September 23, 2016. All sessions will be held at the Baton Rouge River Center, unless otherwise noted.

All requests for Extended Sessions/Short Courses are to be made as part of the online conference registration process at <u>http://lamath.org/conference2016/registration</u>. Confirmation of registration in Extended Session(s) will be sent by email the week of October 3, 2016. REGISTRATION AND PAYMENT FOR EXTENDED SESSIONS MUST BE POSTMARKED BY SEPTEMBER 23, 2016.

Call for Concurrent Session (1-hour) Proposals

Interested presenters may submit a proposal for a 1-hour concurrent session to be held on Tuesday and/or Wednesday, October 25-26, 2016. Presenters must provide all equipment (computers, LCD panels, internet access, and other items) needed for their presentation. Rooms will have Wi-Fi access as well as a screen or wall space on which to project images.

Click to submit an online Concurrent Session proposal

Proposals must be submitted via this link by **August 19, 2016**. The conference program allows for each Concurrent 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 in the form as well. If the proposal is accepted, the Presenter and Co-Presenter(s) listed in the proposal must register for the conference. Registration must be complete (submitted and fully paid) by the early-bird deadline, September 23, 2016. The early-bird registration fee is \$75. After this date, increased registration fees will apply. The program committee reserves the right to remove accepted proposals from the program if registration is not completed by September 23.

Questions or concerns regarding this process should be directed to **Tricia Miller** at <u>ScienceandMathEducators@gmail.com</u>.

How Can You Help? Session Presider Volunteers Needed

How can an individual help make this conference a success? Consider volunteering as a session presider. In order to protect the integrity of the CLU program, presiders are responsible for distributing the CLUs to those who attend the entire session. Presider volunteers will be assigned to session(s) of their choosing, if available. Co-presenters will serve as presiders for their session(s).

Many sessions fill quickly. Presiders have the advantage of being guaranteed a seat at the session over which they are presiding! Take advantage of this opportunity and volunteer as a session presider. You may volunteer by marking the days available on the presider line of the registration form and/or contact <u>conferencepresiders@gmail.com</u>. You will be contacted approximately two weeks prior to the conference regarding the session(s) for which you would like to preside. Thank you in advance for your help making this year's LATM/LSTA Joint Conference a success!

Conference Hotel Information

Belle of Baton Rouge

103 France St Baton Rouge, LA 70802 Cost: \$89/Night - Parking: Free To reserve: 1-800-266-2692; Request LA Science and Math Teachers Room Block Other information: Closest to River Center; One complimentary breakfast buffet per room or two big breakfasts from the gift shop; <u>Hotel website</u>

Hilton Baton Rouge Capitol Center

201 Lafayette Street, Baton Rouge, Louisiana, 70801 Cost: \$109/night - Parking: Valet \$16/night; some street parking lots To Reserve: Booking website <u>https://aws.passkey.com/event/14620079/owner/32164/home</u> Other Information: TEL: 800-955-6962 • FAX: 225-906-0595 • <u>Hotel website</u>

Hotel INDIGO Baton Rouge Downtown

200 Convention Street, Baton Rouge, Louisiana, 70801 Cost: \$119/night - Parking: Valet \$16/night; some street parking lots To reserve: Call 225-343-1515; Request block code LST Other information: Holiday Inn property • <u>Hotel website</u>

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OPPORTUNITIES FOR TEACHERS

2016 Outstanding Mathematics Teacher Awards

LATM is pleased to announce the recipients for the 2016 LATM Awards. They are as follows:

2016 LATM Outstanding Elementary School Math Teacher:

Tiffany May – Mayfair Laboratory School in East Baton Rouge Parish School District

2016 LATM Outstanding Middle School Math Teacher:

Bennett Becnell – Napoleonville Middle School in Assumption Parish School District

2016 LATM Outstanding High School Math Teacher:

Amanda LaFollette – Mansfield High School in DeSoto Parish School District

2016 LATM Outstanding New Math Teacher:

Nikki Martien – Delhi Elementary School in Richland Parish School District

2016 LATM Outstanding Math Educator:

Louisa Hodges -Wedgewood Elementary School in East Baton Rouge Parish School District

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. Visit the **2016 LATM Travel Grants** for more information. Applications must be completed by September 26, 2016. Questions can be e-mailed to Penny Gennuso at <u>latmtravelgrants@gmail.com</u>.

Quality Science & Math Grant Program 2016-2017

The Quality Science and Mathematics Competitive Grant Application for K-12 Regular Education Teachers in Louisiana Public Schools is now OPEN! Looking for a way to purchase classroom math and science materials? The answer might be waiting for you through the Quality Math and Science Grant Program. The QSM program administered by the Gordon Cain STEM Center at LSU (<u>http://www.cain.lsu.edu</u>) will award state-funded grants to eligible classroom teachers for the 2016-17 school year. Proposal must be submitted no later than **Monday**, **September 12**, **2016**.

You are eligible to submit an application for up to \$750 to purchase non-consumable science or math instructional materials if you are a K-12 regular education teacher working in a Louisiana public school. Charter schools are public schools.

Find out more at: <u>https://qualityscienceandmathgrantprogram.communityforce.com</u>. Questions? Contact <u>qualityscienceandmath@gmail.com</u>



Presidential Award for Excellence in Mathematics and Science Teaching

While we continue to wait for a White House proclamation for the 2014 and 2015 Presidential Awardees for Excellence in Mathematics and Science Teaching (PAEMST) our 2016 state efforts were outstanding.

Through the support of district superintendents, building principals, district staff, and teaching colleagues Louisiana had a record number of nominees and one of the highest packet submission rates for the entire country. As a result, our selection panel had the difficult task of determining the 2016 State Finalists.

The 2016 Louisiana State Finalists for the Presidential Awards for Excellence in Mathematics Teaching are:

Ashleigh Jackson, Greenacres Middle School, Bossier, 6th Grade Mathematics Claudia Suazo, Metairie Academy for Advanced Studies, Jefferson, 4th Grade Mathematics Shannon Southwell, Barret Paideia Academy, Caddo, 1st Grade

The PAEMST 2017 cycle will be for secondary level teachers. Watch the LATM FB page and website for an announcement of the opening of the nomination window. For additional information on the Louisiana PAEMST program contact Jean May-Brett at <u>jam05@bellsouth.net</u> or visit <u>https://www.paemst.org/home/view</u>

LSU-S Math Circle 2016-2017

North Louisiana 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.

Math Teachers' Circle has 9 great meetings planed for the upcoming year. For information on future dates contact Judith Covington (judith.covington@lsus.edu) or Jacob Hesselschwardt(jacob.hesselschwardt@bossierschools.org).



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).

OPPORTUNITIES FOR STUDENTS

Carol Meyer Scholarship Winners Announced

2016 Carol Meyer Scholarship Recipients



Mathematics Education Louisiana College Gabrielle Gonzales Elementary Education Northwestern State University

Applications for the 2017 Carol Meyer Scholarships will be available in early 2017 at <u>http://lamath.org/Awards.htm</u>.

LATM Nominations and Constitutional Revisions

Proposed Slate of Officers

The Nominations Committee presents to the membership the following slate of officers, approved unanimously by the LATM Executive Board: Vice President of Colleges: Dave Thomas, Vice President of Elementary: Serena White, and Parliamentarian: Stacey Magee. If you have additional nominations to the Executive Board, please email them to Maryanne Smith at president@lamath.org no later than September 15, 2016, so that the ballot can be prepared for the annual business meeting that will be held at the 20156 Joint Math and Science conference in Baton Rouge. All nominees should have agreed to serve, attend all Executive Council meetings, and be a current member of LATM.

In July 2016, the LATM Executive Council re-appointed DesLey Plaisance as LATM Journal Editor. Thank you DesLey for your continued service.

Proposed Amendments to the LATM Constitution and By-Laws

The following proposed amendments and changes to the LATM Constitution and By-Laws have been made by the LATM Board. Multiple revisions of the Constitution, in conjunction with the By-laws, have been made as a "full revision" instead of a "line-by-line revision". If you have questions about any of these proposed changes, please contact Maryanne Smith at president@lamath.org. The membership will consider these proposed changes at the annual LATM membership meeting at the Joint Math and Science Conference in Baton Rouge. Please find and read the proposed changes at http://lamath.org/constitutionalchanges.htm (Please note: Although the Constitution will be revised immediately upon this vote, the changes for Vice Presidents in the Constitution: *Article IV, Section 2* and *Article 5, Section 3* will not take place until November 6, 2017).

LDE UPDATE

Kyle Falting LDE Representative

At the Louisiana Department of Education (LDE), one of the highest priorities this summer was to create resources to support implementation of the Louisiana Student Standards for Mathematics (LSSM). We would like to highlight three of the resources about which we think you will be most excited.

First, teachers should spend the majority of their instructional time on the major work of their grade/course; the **Focus by Grade Level** documents for grades K through 8 will support teachers' understanding of the major work of each grade/course. This recourse details which clusters are considered major clusters, which are considered supporting clusters, and which are considered additional clusters. Moreover, information specific to each grade/course is included that detail the key advances from the previous grade/course as well as examples in which supporting clusters can be used to support students' learning of major clusters.

Secondly, the LSSM promote rigorous mathematics instruction. Rigor in mathematics is a combination of three distinct components: conceptual understanding, procedural skill and fluency, and application. The **Guide to Rigor** for grades K through Algebra II will help teachers identify the explicit expectations of each standard. Key words and phrases for each standard have been identified to help teachers better understand the component(s) of rigor explicitly targeted in each standard. This resource will give another lens through which to look at the standards and deepen understanding of standards-based instruction and assessment.

Thirdly, since a majority of Louisiana's teachers and districts use Eureka Math as the primary instructional resource, we have created the **Louisiana Guide to Implementing Eureka**, which will help teachers understand the alignment between Eureka Math and the LSSM. This resource helps identify which lessons can be used with all students as well as lessons that can be used with certain groups of students (i.e., lessons for remediation and lessons for enrichment). For grades 6 through Geometry, an alternative, optional sequence to the topics and modules of Eureka Math has been included. The primary goal with this resource is to inform and equip teachers as they make decisions for their individual students.

All of these resources and more will be posted on the <u>Louisiana Believes website</u> and will be the topic of one of the sessions at September's Teacher Leader Collaboration. We hope to see you at September's Teacher Leader Collaboration, and we hope you have a great start to a new school year.

MDC Update

Math Design Collaborative & Related Instructional Resources for the K-12 Teachers of Math

A resource widely used in the summer 2016 Math Science Partnership Math Projects was the Math Assessment Projects (MAP) "Math Design Collaborative's (MDC) "Lessons and Tasks". Remember the MAP lessons and tasks used for MDC are always available free with easy online access at



Summer MDC Training in New Orleans for Core Element

http://map.mathshell.org for all math educators. The website offers lessons (formerly called challenges) in Problem Solving and Concept Development for middle and high school mathematics courses. The three levels of tasks - Novice, Apprentice and Expert provide a wide range of exercises 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 practice.

Frequently heard is a request from the elementary teachers for lessons at their grade levels. There are both concept development and problem solving lessons for K-

5 mathematics classroom developed through the work of outstanding teachers of mathematics in Kentucky. Check them out at:

http://education.ky.gov/curriculum/conpro/Math/Pages/ElemFormAssessLessons.aspx

Another resource several districts using MDC have found provides outstanding investigations for middle and high school students is the Bowlands Math materials at:

http://www.bowlandmaths.org.uk/ The Bowlands math materials were developed in England and are referenced on the MAP site. The Classroom Projects and Assessment Tasks permit teachers to assign work pulled from the real world or have students tackle a fantasy scenario.

For math educators who have not checked out the MAP materials for a few months a website visit will introduce them to the Teaching for Robust Understanding of Mathematics (TRU Math) Suite. This section of the website provides a review of the research into the implementation of the materials into classroom instruction. TRU provides a look with a rating scale for the Five Dimensions of Powerful Classrooms as a window to examine the classroom environment and culture. http://map.mathshell.org/trumath.php

With everyone heading back to school it is a great time to make the commitment to incorporate Talk Moves, one of the components of the MDC efforts, into our mathematics classrooms.



Lafayette/Iberia MDC

- 1. Revoicing by the teacher to clarify what a student is saying
- 2. Restating by a student instead of revoicing
- 3. Reasoning asking students to apply their own reasoning to someone else's explanation
- 4. Adding on Prompting students for further participation
- 5. Using Wait time a silent move that supports students' thinking and reasoning

More information is available online as "The Tools of Classroom Talk" from the Math Solutions website at:

http://www.mathsolutions.com/documents/9780941355537_ch2.pdf

For a variety of Talk Move poster ideas visit: <u>https://www.pinterest.com/explore/math-talk-moves/</u>

Look for sessions on the MDC Lessons and Tasks and Math Talk in your program before arriving at the Joint Math Science Conference. Plan your schedule early.

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MSP Update



What a summer!!!! Anyone taking advantage of the opportunity to visit the 2016-7 Louisiana MSP projects would have had a fabulous trip around the state. Hundreds of teachers from our metro areas, along the bayous, in the rural forest parishes were all engaged in math experiences from the finest instructors our universities can offer.



East Baton Rouge 3rd & 4th Grade Teachers MSP

Across the state teachers of mathematics in grades 3-10 participated in Math Science Partnership (MSP) Projects. For



Bossier MSP

some it was the summer of the final year of a three-year project. And there were teachers in those projects for whom this will be their only year in the MSP project. They made it known they are determined to get all that they can from the instructors and their colleagues.

Louisiana MSP projects deliver professional development over an extended time and provide ongoing support and instruction with three major components - summer institute, academic year follow-up and state conference participation. Therefore, participants whether they are enjoying their first, second or

third year in the cycle have a wealth of opportunities to improve their teaching skills, increase strategies, exchange ideas and implement best practices in their instruction.



Bossier MSP

The sampling of teacher survey comments clearly shows the value the participants found in spending multiple weeks in the summer

as students together with the goal of bringing math to life for their students.

"The EBR Math MSP has turned me into a confident Math instructor in a short period of time. The interactive notebook & resources, new teacher friendships, and large variety of

hands-on activities have created a calm for me at such an anxious time of the year!"



Lafayette MSP

"What I found most valuable about the Lafayette/Iberia MSP was the way the instructors presented the material to us and allowed us to persevere like we are to allow our students to



"I am a veteran teacher of 36 years in middle school math. I gained knowledge on a changing curriculum, hands-on projects, unique activities and math challenges, the progression of the math standards from grades 1-12, and have had the pleasure of working on a more personal level

and cooperatively with university professors and fellow math teachers. This program has truly been the highlight of my professional development and I am so very grateful to have been a participant."

"MSP was very helpful to me in understanding that as educators we see problems differently and all have our own take on and approach to solving them. It was very interesting to me to see how others would solve problems as opposed to what method or strategy I would use. It was an eye opening experience for me and will help me to better differentiate my instruction in my classroom."



East Baton Rouge 3rd & 4th

Grade Teachers MSP

Lafourche MSP

If your district/school was not part of an MSP this year be sure to find out about the joint conference concurrent sessions being offered by MSP instructors or even better teacher participants. Because truly the greatest resource available to us as teachers of mathematics is other teachers with their own experiences and insights.



East Baton Rouge 5th Grade Teachers MSP Participants

AFFILIATE NEWS

Baton Rouge Area Council of Teachers of Mathematics (BRACTM)

Mark your calendars! Monday, August 22 will be our first meeting of the school year. We will join forces with the Capital Area Reading Council to review the new state standards and resources to help teachers kick off their school year. The meeting will be held at the Main Library from 4:30-6:00 pm.

For more information, please email Trisha Fos at tfos1@lsu.edu

Northeast Louisiana Teachers of Mathematics (NELATM)

In April, new officers were elected to the Executive Council. Congratulations to the following: President - Serena White, VP of Colleges - Kathie Smart, VP of High Schools - Jessica Hunter, VP of K-8 - Jean Taraba, Secretary - Maribeth Holzer, Treasurer - Michael Broome, and Membership Chairman - Beth Smith

All NELATM members are encouraged to share their expertise at the LATM Conference this coming October. Submissions are due soon! If interested, you will find a link and additional information in this newsletter.

The Executive Council is planning great professional development for the fall. Additional information will be posted on the NELATM website soon!! We hope you all have a wonderful and productive school year!!

Northwest Louisiana Mathematics Association (NLMA)

Each member of NLMA is encouraged to attend the 2016 LATM/LSTA Joint Math and Science Conference, October 24 – 26, 2016 in Baton Rouge, and volunteer to serve as a session presider. Full conference registration is \$75 if paid by September 24th. Complete your registration NOW and save. Visit <u>http://www.lamath.org</u> for more information.

SouthEast Area Teachers of Mathematics (SEATM)

SEATM will be hosting its Fall workshop on Tuesday, September 13th at Fontainebleau High School. Registration will begin at 4:00. The goal of the workshop is for teachers in Kindergarten through High School to review the New Louisiana State Student Standards for Math, the crosswalk documents, and the companion documents. For more information, please email susan.carter@stpsb.org.

South West Louisiana Teachers of Mathematics (SWLTM)

SWLTM will hold its Fall Business Meeting on Saturday, September 10, 2016 at 9:00 am at McNeese State University. All elementary, middle, high school and university Math educators and also Math education degree students are invited to attend. We will discuss SWLTM business and our 2017 Mini-Conference.

NCTM UPDATE

Affiliate News

INSPIRING TEACHERS, ENGAGING STUDENTS, BUILDING THE FUTURE.

Save the Date: 2016 Regional Conferences

NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

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 ow 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

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.

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 <u>www.nctm.org/MET/</u> and <u>www.nctm.org/Grants/</u>

LATM EXECUTIVE COUNCIL

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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 <u>http://lamath.org/Membership.htm</u>. 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 <u>bethsmith1124@gmail.com</u>.



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