

THE NUMBER LINE

April 2017

www.lamath.org



LOUISIANA ASSOCIATION of
TEACHERS of MATHEMATICS

Table of Contents

President's Message	2
Vice-Presidents' Circle	3-6
2017 LATM Conference	7-8
Presidential Award for Excellence	9
Opportunities for Teachers	10-13
Opportunities for Students	14
LDE Update	15
Science Standards Update	16
Affiliate News	17-18
NCTM Update	19
Executive Council Member Contact List	20
Membership Renewal	20

Hyperlinks in the Table of Contents may be used to quickly access specific articles.



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organization and
profession!

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PRESIDENT'S MESSAGE

Greetings, Louisiana Mathematics Educators.

In this edition of *The Number Line*, you will find valuable information. In addition to the informative articles written by our Vice Presidents, you will also find details concerning items such as

- NCTM Updates,
- News from our partner affiliates around the state,
- Travel Grants to the upcoming LATM Conference,
- Louisiana Science and Engineering Fair,
- the Presidential Awards for Excellence in Mathematics and Science Teaching, and
- Updates from the Louisiana Department of Education.

Be sure to mark your calendars for **November 6-8** to meet us at the **Crowne Plaza Executive Center in Baton Rouge** for our **2017 LATM Conference**. We're excited about planning this event and are currently asking for proposals for the Short Course/Extended Sessions. In a few weeks, we will put out a call for proposals for the Regular Sessions. Consider sharing with other Louisiana math educators some of the effective lessons, projects, and/or strategies that have proven to work for your students.

As you anticipate the ending of another school year, I'd like to challenge you to reflect upon your work this year. Has it been a good year? Celebrate the successes you've had with your students, but also seek ways to improve in areas that you think might be able to be made a little better. LATM is dedicated to the promotion of excellence in the teaching and learning of mathematics in Louisiana's schools. We are happy for the opportunity, once again, to offer sessions at the LDOE Teacher Leader Summit this June. Visit our sessions and engage with us in conversations about important mathematical ideas and strategies.

The LATM Executive Council will continue our work to recruit new members, brainstorm ideas for helping our membership feel more engaged and supported, and provide support to you all.

Don't forget to like us on Facebook and visit our website for the latest information. Wishing each of you a happy spring and restful summer.

Sincerely,



Tricia Miller
President, Louisiana Association of Teachers of Mathematics

[Return to Table of Contents](#)

VICE-PRESIDENTS' CIRCLE

Does Order Matter? Circles or Trigonometry... Which Comes First in a Geometry Class?

Lori Fanning
Vice-President for High Schools

As we continue to refine the implementation of content standards and mathematical practice standards in the K-12 curriculum, NCTM's Principles to Action: Ensuring Mathematical Success for All, 2014 reminds us that effective teaching in our content builds fluency with procedures on a foundation of conceptual understanding. We do this so that students will become problem solvers that use the procedures flexibly based on the context of the problem at hand. In this article, we will pose questions for reflection regarding the development of and connection between circles and trigonometry.

Students who possess conceptual understanding in mathematics know more than isolated facts and methods. Research indicates that these students know why a mathematical idea is important and the kinds of contexts in which it is useful. As a classroom teacher, the students who possess conceptual understanding in my class are able to remember, retain ideas, and apply them at any time. No "re-teaching" is necessary before beginning a new unit of instruction. Unfortunately, many of the students I teach do not fall into the category of possessing conceptual understanding. Sound familiar?

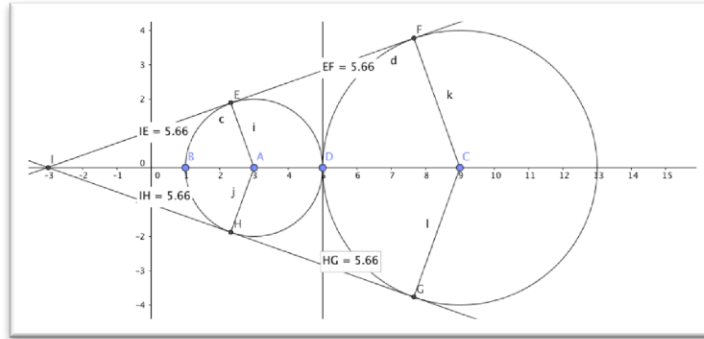
One group of concepts that are particularly problematic for many students is trigonometry. Students can be relatively successful if they memorize the formulas needed in a particular context. However, when progressing to an unfamiliar context, students lack the ability to apply what they already know to solve problems that are more complex. Currently, teaching trigonometric concepts relies on abstract application of angles without the use of circles. The connections between dilations, similarity, circles, and trigonometry remain undone in the minds of students until they reach grade 11 or 12.

A key concept that bridges the divide between circles and trigonometry is the idea that all circles are similar. I have chosen to develop a sequence of instruction in the following way: Circle vocabulary; Dilations and Similarity of Circles; Equations and graphs of Circles; Angles of Circles; Tangents of Circles; Chords in a circle; Segments of a circle; and Arc length and sector area. Building investigations in "Geogebra" or other dynamic geometry software can assist students in developing a curiosity about the dilation of circles.

Possible sequence of instruction:

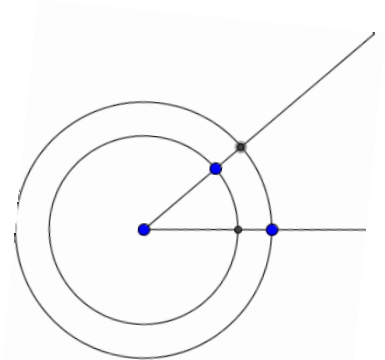
Task 1: Dilations of Circles

1. Graph Circle A with center at (3, 0) and radius 2. Dilate Circle A by applying a scale factor of 2 and center of dilation P (-3, 0).
2. What is the ratio between the radii of the circles?
3. What is the ratio between the circumferences of the circles?
4. What is the ratio between the areas of the circles?
5. What do area ratios and circumference ratios have to do with scale factor?



Task 2: But what about the Angles?

1. What is the ratio of the radii (you choose different radii for each circle)?
2. What is the relationship between the central angles of the circle?
3. What is the ratio of the arc lengths cut off by the rays of the angles?
4. Are the circles similar? If so, what is the scale factor and the center of dilation?
5. What is the ratio of the area of the sectors?



Providing students with the opportunity to create circles of their own opens the opportunities to extend the concept to drawing perpendicular chords from the initial side of the angles to the intersection of the circle to the terminal side of the angles. If you find the ratio of the side opposite the central angle to the adjacent side of the central angle for the smaller and the larger right triangle formed, you will find that the ratios are the same. While discussing this concept during the circles unit, you do not need to use the trigonometric name, just focus on the ratio of particular pairs of sides being the same when the angles are equal.

Giving students an opportunity to discover the trigonometric functions from concentric circles and central angles makes connections that will bring a great deal more conceptual understanding than just memorizing SOH-CAH-TOA and not remembering what it means.

[Return to Table of Contents](#)

Teaching the Algorithm for Fraction Division

David Thomas
Vice-President for Colleges

In the last issue I made the argument that “invert and multiply” or “keep, change, flip” i.e. $\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c} = \frac{ad}{bc}$ was not the best way to teach the concept of fraction division. It is a great computational algorithm but not a very good teaching algorithm. In fact, in the assessment I did at different schools and for different grades, the number of students who could successfully provide a correct real-life context for a fraction addition problem was more than 7 times greater than the number who could provide a correct real-life context for a fraction division problem. The questions from my assessment are found in the last issue of the Number Line. In this issue, we will look at the Louisiana Student Standards (LSS) and see how they address division involving fractions. The approach they suggest corresponds to my idea of a teaching algorithm, because each standard suggests that students “create a story context for” each fraction expression, as well as “use a visual fraction model to show the quotient.”

Fraction division is first mentioned in the fifth grade with the Cluster Header, “Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.” Since the standards tie fraction division to previous understandings of whole number division, consider the division problem $8 \div 2$. One method of performing this division is often called fair-sharing. The 8 objects are to be distributed equally among 2 groups. A second method of performing this division often called measurement or subtractive, would be to interpret the 2 as the size of each group and then divide 8 into groups of size 2. Notice that both methods of division partition the 8 objects of the dividend. In the fair-sharing case the divisor (2) tells us how many groups and the quotient is the number of members in each group. In the measurement or subtractive method the divisor is how many objects are in each group and quotient is the number of groups. In both cases, the divisor times the quotient is always the dividend.

First we examine the standard “Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.” According to LSS, students should be able to “create a story context for $\frac{1}{3} \div 4$, and use a visual fraction model to show the quotient.” Based on the two possible integer division examples above fair-sharing is the only possible option. That makes our divisor 4 the number of groups. Therefore, the story context we are interested in should talk about something of size $\frac{1}{3}$ that needs to be divided into 4 equal pieces. For example, “How much chocolate will each person get if 4 people share $\frac{1}{3}$ lb of chocolate



equally?" To solve this I would suggest the use of fraction strips. Start with a strip representing $\frac{1}{3}$. We want to divide this strip into 4 equal parts. Pieces of size $\frac{1}{8}$ are too big since three of them are bigger than $\frac{1}{3}$. In the picture to the right we see that 4 pieces of size $\frac{1}{10}$ are still a little too big but 4 pieces of size $\frac{1}{12}$ fit exactly. Thus $\frac{1}{3} \div 4 = \frac{1}{12}$ and the picture to the right is "a visual fraction model" that shows the quotient. The idea of equivalent fractions, i.e. $\frac{1}{a} = \frac{(n \times 1)}{(n \times a)}$ which is taught in the fourth grade, could also be used to get 4 equal pieces whose total size is the same as $\frac{1}{3}$. And finally we can "Use the relationship between multiplication and division to explain that $\frac{1}{3} \div 4 = \frac{1}{12}$ because $\frac{1}{12} \times 4 = \frac{1}{3}$."

The second standard is "Interpret division of a whole number by a unit fraction, and compute such quotients." According to LSS students should be able to "create a story context for $4 \div \frac{1}{5}$, and use a visual fraction model to show the quotient." To allow me to use pattern blocks as the visual model, I will change the mathematical expression to $2 \div \frac{1}{6}$. Here the story context is how many $\frac{1}{6}$'s are there in 2 wholes. An appropriate story context might be, "If all pizza slices are of $\frac{1}{6}$ of the whole pizza, how many total slices are there if you buy two pizzas. In the example pictured to the right the whole is one of the hexagons and the slices are represented by the triangles. Students should easily notice that if one pizza consists of 6 slices then two pizzas would have twice as many slices. Again we can "Use the relationship between multiplication and division to explain that" $2 \div \frac{1}{6} = 12$ because $12 \times \frac{1}{6} = 2$. In the next issue, we will explore the division of fractions by fractions.



Considering more involvement in LATM?

Contact Tricia Miller to discuss your vision.

tricia.miller@cpsb.org

[Return to Table of Contents](#)

2017 LATM Conference

SAVE THE DATE!

Mark your calendars and plan to attend the

2017 LATM Conference

P³ : Precision, Problem Solving, and Perseverance

at the Crowne Plaza Executive Center, Baton Rouge

November 6-8, 2017



P³ :

Precision

Problem Solving

Perseverance

Extended Session Proposals for 2017 LATM Conference

Interested presenters may submit a proposal for extended sessions (either a 3-hour or a 6-hour session) or field trips (either a 3-hour or a 6-hour field trip) to be held on **Monday, November 6, 2017**. One offsite computer lab is available for a technology session. With the exception of an extended session which requires a computer lab, presenters must provide all equipment (computers, LCD panels, internet access, and other items) needed for their presentation.

To submit an online Extended Session/ Field Trip proposal go to:

https://docs.google.com/forms/d/e/1FAIpQLSfFbxGViCVrLEsFjG4gSURgAYLBvsYzoDPOE Ea6HPacizWEjw/viewform?usp=send_form Make sure proposals are submitted via this link **by June 1, 2017**.

The conference program allows for each Extended Session or Field Trip 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 (see link above). **The Presenter and Co-Presenter(s) listed in this proposal must register for the conference.** Lead-Presenters can apply for LATM Presenter Travel Grants. Information is available at lamath.org and in the Number Line.

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

LATM Travel Grant Applications

The Louisiana Association of Teachers of Mathematics is awarding up to \$3000 in Travel Grants to offset the expense of teachers attending its 2017 LATM Math Conference in Baton Rouge, November 6-8, 2017. Each awardee is eligible for up to \$300 towards these expenses. The money is for use by awardee(s) to cover conference registration, extended session registration, lodging, meals, parking, and/or travel. Notification of status is at least one month prior to the conference; reimbursement comes after the conclusion of the conference. Applicants can apply in one of two categories: attendee or presenter. *See qualifications and regulations below.*

Principal Verification Sheets require a postmark no later than September 8, 2017. The LATM Travel Grant Coordinator will select a committee of math leaders from across the state to score the applications. Order of receipt or geographic location is not 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, 2017. Membership can be confirmed by Beth Smith (bethsmith1124@gmail.com).
2. Attendee Grant Recipients:
 - a. 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.
 - b. are expected to use information and skills gained at the conference to improve their teaching skills and classroom instruction.
 - c. are not eligible to reapply for the travel grant until the 2020 Annual LATM or LATM/LSTA Joint Conferences.
3. Presenter Grant Recipients:
 - a. must present at least two (2) one-hour concurrent sessions or one (1) extended session. They will be responsible for full conference registration and are encouraged to attend all three days of the event.
 - b. preference goes to those who give different presentations over multiple days.
 - c. are eligible to reapply each year.
4. Awardees that decline to attend the 2017 LATM Math Conference cannot apply the money to other conferences or transfer it to another individual.
5. Awardees who have not notified the LATM Travel Grants Coordinator by September 22, 2017 are not eligible to reapply for the travel grant.
6. LATM Executive Council Members and Travel Grant Committee Members are not eligible.
7. 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, mail the **Principal Verification Sheet** to: Tricia Miller, P.O. Box 2645, Sulphur, LA 70664. Certified Letters will NOT be accepted. A confirmation email will be sent when the application packet is received. Email questions to Tricia Miller tricia.miller@cpsb.org.

Visit: http://lamath.org/LATM_Travel_Grants2017.htm

Presidential Award for Excellence



Congratulations to the Louisiana State Finalists for the 2016 Presidential Award for Excellence in Mathematics and Science Teaching and the Awardees from 2014 and 2015 who were honored during a Recognition Luncheon at the Governor's Mansion on Thursday March 9th. These outstanding mathematics teachers along with the science honorees were recognized at the joint conference in October.

(Pictured above) 2014 Presidential Awardee Kristen Mason (far left); 2015 Presidential Awardee Donna Patten (far right); 2016 State Finalists Ashleigh Jackson, Shannon Southwell, and Claudia Suazo (middle from left to right);

The honorees and their guests enjoyed a lovely luncheon after which First Lady Donna Edwards spoke to the group and presented each teacher with a certificate. The First Lady also assisted in distributing token "thank you" gifts from the PAEMST program to the mentors and selection panel members who attended the luncheon. In addition to Kristen and Donna, past Presidential Awardees in Mathematics who were present for the luncheon were Donna Lamont, Ellen Marino, and Maryanne Smith.

The 2016-17 academic year is a secondary cycle for the Presidential Award program. Teachers of math, science, computer and engineering courses in grades 7-12 are eligible in 2017. The nomination process ended April 1st. Applicants who have declared the eligibility must complete and submit their packets by May 1st.

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

[Return to Table of Contents](#)

Opportunities for Teachers

Lifetime Service to Math Education Award

LATM is proud to announce that the nomination period is about to open for the [Lifetime Service to Math Education Award](#). This award is bestowed at the LATM annual conference, which in 2017 will be held in Baton Rouge on November 6-8.

As a member in good standing, you are invited to share in the selection process as you send nominations and a rationale for each nomination for consideration by the committee. Complete the form at lamath.org/latm_lifetime_service_award.html. Nominations will **open on June 15** with the **nomination deadline of August 15, 2017**. The following is a description of the award and criteria for selection:

The Lifetime Service to Math Education Award recognizes an LATM member for distinguished service in the field of mathematics education. LATM members in good standing are invited to share in the selection process by sending nominations and a rationale for each nomination to the current LATM President for review by the selection committee. The award is designed to recognize a former LATM member who has made extraordinary contributions to the advancement of math education in mathematics and/or mathematics teaching over a significant period of time, and signifying the culmination of his/her career. The recipient may be a teacher, a former LATM Executive Council member, a current or former school administrator, state department of education employee, elected official, or other individual who meets the stated criteria.

Criteria:

1. The nominee must have been a member of LATM for a minimum of five (5) years. LATM will verify membership.
2. The nominee must have exhibited an excellence of contribution to LATM.
3. Among the types of outstanding services that are considered by the committee are:
 - Unique or extraordinary contributions to the LATM organization.
 - Contributions to LATM over a significant period of time.
 - Active leadership in mathematics education at local, state, or national level.
 - Noteworthy scholarly contributions to mathematics education at any level.
 - Direct and substantial contributions to the improvement of mathematics education at any level.
 - Overall excellence of contributions.
4. If the nominee has previously served on the Executive Council, it is recommended they must have completed their last term a minimum of three (3) years prior to this nomination. Additionally, if awarded, this person will not return to the Executive Council in any capacity.

In addition to providing information about the nominee, the nomination form requires that the nominator provide two additional references (name, email address, and phone number) who can be contacted to provide additional information to support your nomination. Therefore, it is important to gather contact information for the nominee and the two references **prior to** accessing the nomination form at lamath.org/latm_lifetime_service_award.html.

The LATM Board respectfully requests that nominees not be informed of their nomination.

Most of us can think of an individual who has had an impact in advancing mathematics education. Please consider nominating one or more individuals worthy of this prestigious award no later than **August 15, 2017.**

Math Design Collaborative in Ouachita Parish

Donna Patten

Twenty-four math teachers in Ouachita Parish participated in eight days of professional development (PD) with Southern Regional Educational Board (SREB). The PD focused on the Math Design Collaborative (MDC) strategies and was followed by six onsite support visits. As a result of the teachers' excellent implementation, SREB hosted a Showcase for Ouachita, inviting district and state administrators to view the instructional shift in the classrooms where teachers employ MDC strategies.



Ouachita Parish teachers engaging in MDC tasks



Showcase/ MDC Administrator panel discussion

LSU-S Math Circle Meeting

Math Circle, hosted monthly by Dr. Judith Covington of LSUS, is a cost free evening with dinner and professional development for educators of different grade levels and teaching experience.

Meetings held in Bronson Hall begin at 5 PM with dinner provided. Following dinner teachers are engaged in mathematical conversation through presentations and the exploration of activities. Monthly presenters include university professors from several colleges and teacher leaders from Northwest Louisiana.

The last meeting of the 2016-17 academic year will be held May 9th. Additional details on the topic and presenter will be available as the date approaches. Math Circle is free to participants and is a fantastic opportunity to advance mathematical content knowledge. For information contact Judith Covington: judith.covington@lsus.edu. Mark your calendars now!

Mathematics Education Trust (MET)

NCTM has set up the Mathematics Education Trust (MET), which works to channel the generosity of contributors through the creation and funding of grants, awards, honors, and other projects that support the improvement of mathematics teaching and learning. MET grants and scholarship proposals for the SUMMER CYCLE **must be postmarked by May 5**. Visit <https://www.nctm.org/MET/> to find out more about the opportunities MET offers, donate to the trust, and/or review tips for writing a successful proposal for MET grants/awards.

LATM recently made a donation to MET. Pictured here are LATM President, Tricia Miller, presenting the check to NCTM President, Matt Larson, at the NCTM Annual Conference in San Antonio, Texas.



[Return to Table of Contents](#)

Statistical Reasoning Pilot Course



You are invited to pilot a new high school course, Statistical Reasoning, in the 2017-18 academic school year. The course is being developed through collaboration between the Louisiana Department of Education (LDOE) and Louisiana State University (LSU) faculty associated with the Cain Center for STEM Literacy.

The pilot project includes:

- All curriculum materials in digital format
- A four-day professional development workshop in Baton Rouge at the LDOE Claiborne Building, tentatively scheduled for July 18-21 (travel expenses are the responsibility of the school district)
- Three follow-up course webinars
- Classroom Observations
- Opportunities to provide feedback to the curriculum writers
- Open to high school and middle school teachers.

For additional details and registration information, click on the following link:
<https://louisianaschools.adobeconnect.com/p95d1pn70ha/>.

Please pass this invitation to colleagues who may also be interested in the pilot.

Contact Jill Cowart at Jill.cowart@la.gov if you have questions regarding the pilot project. The deadline to submit assurances was April 18, but LDOE is considering late applications.

Summer Math Institute at UNO

Dr. Germain-McCarthy and Dr. Thomas Wright will offer a Math Institute for teachers of mathematics grades 3- Algebra I. Veteran teachers and mathematicians will host sessions for strengthening conceptual understanding of math and giving participants innovative tools for teaching concepts students traditionally have difficulty understanding.

The institute is planned for July 10-21

Please email Dr. Thomas Wright (tdwright@uno.edu) for more information! Space is limited!

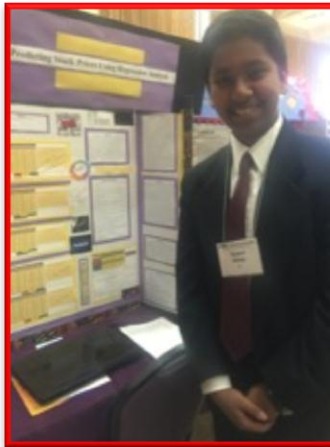
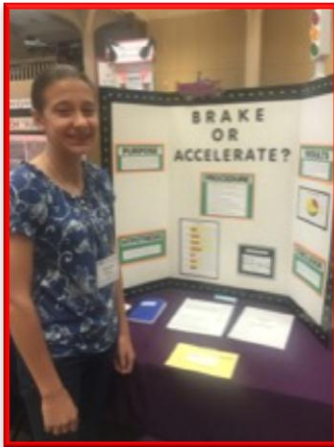
[Return to Table of Contents](#)

OPPORTUNITIES FOR STUDENTS

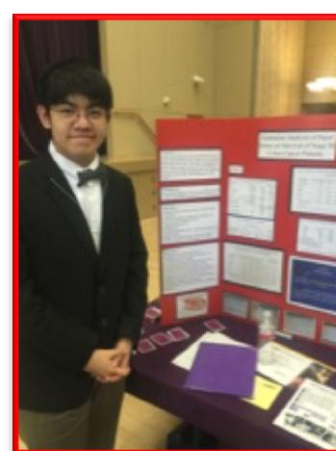
The Louisiana Science and Engineering Fair

The Louisiana Science and Engineering Fair was held March 21-22 at LSU. A special LATM Math Award was presented. Congratulations to our winners!

<u>Place</u>	<u>Junior Division</u> <u>Name, School</u> <small>(pictured below left to right)</small>
1 st	Mackenzie Olinger, Rayne Catholic Elementary
2 nd	Zayed A. Akhter, Glasgow Middle School
3 rd	Ameesha Paralikar, Caddo Parish Middle Magnet



<u>Place</u>	<u>Senior Division</u> <u>Name, School</u> <small>(pictured below left to right)</small>
1 st	Srijan Duggal and Shuzheng Zheng, Isidore Newman
2 nd	Steven Guo and Ali Marzoughi, Baton Rouge Magnet
3 rd	Lawrence A. Shi, Caddo Parish Magnet



[Return to Table of Contents](#)

LDE UPDATE

Kyle Falting
Louisiana Department of Education Representative to LATM

Teacher Leader Summit - The 2017 Louisiana Teacher Leader Summit will take place June 6–9, 2017 at the New Orleans Ernest N. Morial Convention Center. This event will bring together 5,000 educators and content experts from across the state to share their knowledge, learn new skills, and prepare for the upcoming 2017–2018 school year. The 2017 Teacher Leader Summit Overview includes a tentative agenda for each day to help schools and school systems plan which educators should attend the Summit. The Department will share additional information about the Summit throughout April and May via the Teacher Leader coordinators and the Department’s newsletters. This year’s Summit will include 2-day and 1-day institutes with topics such as Launch Eureka (a new user institute), remediation approaches using the LDOE Eureka Remediation Tools (currently in production), and ZEARN math. Teachers interested in attending should connect with their district's teacher leader contact.

High School Math - Curriculum for a number of new high school math and STEM courses will be piloted during the 2017-2018 school year in over 60 schools across Louisiana:

- **Springboard Intensive Algebra I** is designed for students who need targeted support while engaging in Algebra I content. This curriculum will lead students, lesson-by-lesson and topic by topic, to conceptual understanding, fluency in procedural skills, and meaningful application of grade-level mathematics to solve real-world problems.
- **Statistical Reasoning** is a junior or senior level course that explores mathematical models built on the basis of very limited amounts of data, as well as models that are based on selecting unbiased samples from a vast amount of data. Daily activities based on applications will encourage discussion and project-based learning. This course will prepare students for success in future math courses, provide skills for the workplace and college and participation as well-informed, productive citizens in our society.
- The LSU College Readiness and Dual Enrollment Program with support from the Louisiana Department of Education will begin implementation of a new hybrid **LSU High-School Pre-Engineering Certification Pathway**. This program will begin in a limited number of identified schools and expand in following years.

[Return to Table of Contents](#)

LOUISIANA STATE SCIENCE STANDARDS UPDATE

Jean May-Brett

LATM Representative for the LSSS Working Group & Standards Committee

During the March BESE meeting the board approved a new set of Louisiana State Science Standards (LSSS). Louisiana's 20 year old state science standards were the third oldest in the United States

The LSSS were written by Louisiana science educators from across the state; representative of all education communities K-12, informal, IHEs and community resource providers.

It was my honor to serve as the LATM representative. The process was intense, the work days were long and extra days had to be added to the original schedule. Due to fall flooding the calendar time was actually abbreviated with the first meeting for both committee and working group being delayed.

The revised science standards were developed from the research found in the *Frameworks for K-12 Science Education*. They will be three-dimensional to include - Science and Engineering Practices (SEPs), Crosscutting Concepts (CCs) and Disciplinary Core Ideas (DCIs).

As with the revisions to our state mathematical standards there will be major shifts for classroom instruction and assessment. A major content reorganization occurs in middle school science where for the last 20 years science instruction in Louisiana has been by disciplines with 6th grade studying Physical Science, 7th grade focused on Life Science and 8th grade based on Earth/Space Science. The working group developed an integrated format with some standards from each science domain now placed in all middle school grades.

Some next steps are taking place for our science colleagues. During this year's Teacher Leader Summit there will be two-day and one-day sessions offered to introduce educators to the new LSSS. A materials review is planned by the LDOE parallel to the work in ELA and mathematics. Companies will be able to submit curricular materials that will be reviewed by a teacher panel assembled by the LDOE.

Stay tuned and please be ready to offer support to your colleagues teaching science!

[Return to Table of Contents](#)

AFFILIATE NEWS

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

BRAC TM along with CARC held their final general membership meeting of the year at La Caretta's on February 21st. Trisha Fos and Corey Lemoine shared how they implement the SEESAW: The Learning Journal app into their classrooms. Rebecca Svensson also presented simple informal assessment techniques that can be used across the curriculum.

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

Northeast Louisiana Teachers of Mathematics (NELATM)

The NELATM hosted its annual spring mini-conference on March 4th. Keynote Speaker, Andre Deshotel, presented the use of whole-brain teaching strategies in the math classroom. He also presented sessions for the elementary and secondary classrooms. Various sessions were offered by ULM instructors and K-12 math teachers. We would like to thank all who volunteered their expertise to make this a great conference.



[Return to Table of Contents](#)

Northwest Louisiana Mathematics Association (NLMA)

The Northwest Louisiana Math Association is undergoing an overhaul. The affiliate is working diligently to improve its impact on mathematics instruction in its area. NLMA is in the process of creating a new website home that houses professional development, Teacher tools, resources and math events in the region. Members are being encouraged to attend the upcoming LATM Conference and asked to save the November dates.

*Strategy Tip: **The Graffiti Wall** (Engagement Strategy Series)*

Large pieces of chart paper are placed around the room with mathematics problems that require solving or justification and critique. Students travel around the room in cooperative learning groups to solve and respond. As the gallery walk is conducted, students are able to comment, critique, and justify other groups' answers as well. This creates an amazing opportunity for peer-to-peer discourse on the selected skill or concept. Students are highly engaged and use their critical thinking skills to think-out and talk-through their ideas during the activity. If you want to improve your students' conceptual knowledge and analytical thinking skills, give the Graffiti Wall strategy a try!

For more information email: TLPALMS-MOORE@caddoschools.org

South West Louisiana Teachers of Mathematics (SWLTM)

SWLTM held their annual Mini-Conference Saturday, January 28th. At the mini-conference, a Classroom Mini-Grant was awarded to Ms. Kathryn Curtis, 3rd grade Math teacher at Fairview Elementary School. She is pictured here in the center, with her principal, Kuricheses Alexander (left) and SWLTM President, Chris Moore (right).



[Return to Table of Contents](#)

NCTM UPDATE

The Louisiana Association of Teachers of Mathematics (LATM) is proud to be a Partner Affiliate of the National Council of Teachers of Mathematics (NCTM). We collaborate with five Associate Affiliates across the state to ensure that we work together to build effective relationships within our respective communities. LATM believes, as does NCTM, that strong, open relationships with teachers, leaders from schools, parents, legislators, businesses, media, and others are vital to the process of improving mathematics.

Support NCTM with AmazonSmile

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Free Preview Articles from NCTM Journals

NCTM serves as an amazing resource for mathematics educators. The website, www.nctm.org, houses a wide range of information from classroom resources and professional development opportunities to an extensive database of research relevant to teaching and learning mathematics. Read the selected articles below from the March issues of the NCTM journals.

[Teaching Children Mathematics \(TCM\)](#) (Pre K – 6)

Free Preview: [Supporting Excellent Teaching of Common Core Content and Practices with Video Clubs](#)

[Mathematics Teaching in the Middle School \(MTMS\)](#) (5 – 9)

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[Return to Table of Contents](#)

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[Return to Table of Contents](#)