

THE NUMBER LINE

September 2018

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LOUISIANA ASSOCIATION of
TEACHERS of MATHEMATICS

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PRESIDENT'S MESSAGE

Greetings, Louisiana Math Educators.

With the 2018-19 school year underway, I am hopeful that you all have gotten off to a fantastic start. You have such an important, yet challenging job!

We are excited to be partnering with the Louisiana Science Teachers Association (LSTA) this year for a joint conference, *Full STEAM Ahead!* We hope you are making plans to meet us at the Shreveport Convention Center on Oct. 22-24. This year, participants will have the opportunity to hear from Dr. Debbie Silver in an extended session on Leadership and many more presenters. Extended Sessions will be held on Monday, October 22nd. There will be morning sessions from 8:30 am - 11:30 am and afternoon sessions from 12:30 pm - 3:30 pm. Registration for extended sessions closes at the end of the day on Wednesday, October 10th. In addition to Dr. Silver, we have a great lineup for you, and I want to encourage you to consider participating in one or two of them.

In anticipation for the usual lunch dilemma, we highly recommend that you take advantage of the Grab and Go Lunch option. These lunches are sold on a pre-paid basis, so keep this in mind when you register for the conference.

Our Outstanding Math Teacher Award winners will be honored at the LATM Awards Ceremony during the conference. Please plan to join us as we honor these great mathematics teachers.

We are always in need of volunteers at the conference. One of the easiest ways to volunteer is by serving as a session presider. There is a need for Presiders for each regular session of the conference; these people help to protect the integrity of the CLU program. This is a great opportunity to support your organization. Since sessions fill up quickly, presiders have the advantage of being guaranteed a seat at the session in which that person is presiding. If you are willing to serve as a presider, please indicate this on the presider line on the registration form. Presiders will be contacted in October for assignments.

You can find more information about the conference in subsequent sections of this newsletter, but also at <https://lsta.info/annual-conference> .

The Quality Science & Mathematics Grant Program (QSM) has funds to award approximately \$162,000 in grants to eligible classroom teachers for the 2018-2019 school year. This year requests for grants of up to \$1000 for approved non-consumable instructional materials and manipulatives will be accepted. Friday, September 28th is the deadline for submission. I hope that many of you will take advantage of this opportunity to enhance your instruction. More information can be found in the Teacher Opportunities section of this newsletter.

Take care, and I look forward to seeing you all at the conference in October.

Sincerely,



Tricia Miller

Tricia Miller
President, Louisiana Association of Teachers of Mathematics

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VICE-PRESIDENTS' CIRCLE

Preparing for LEAP 2025

By Christen Timmins, VP – Secondary Schools

With the school year in full-swing across the state, now is a good time to think about the major learning goals we have for our students this year. For those of us who teach 3rd-8th grade math, Algebra I, and/or Geometry, the knowledge and skills required to perform well on the LEAP 2025 assessments must be considered when setting student goals and planning instruction. To that end, I am excited about one of the newer resources available from the Louisiana Department of Education (LDE), the LEAP 2025 Achievement Level Descriptor Guides, which can be found [here](#). The Achievement Level Descriptor Guides, available in math for grades 3 through Geometry, provide a detailed description of what students must know and be able to do in order to score at the Advanced, Mastery, Basic, or Approaching Basic level on the LEAP 2025. By studying the Achievement Level Descriptor Guide for your grade level, you can gain a clearer picture of how you should be asking students to demonstrate their knowledge in both class assignments and on tests.

To help understand the usefulness of the guides, let's look at the Geometry Achievement Level Descriptor Guide. Here is a portion of the first page.

Major Content				
Content	Level 5: Advanced	Level 4: Mastery	Level 3: Basic	Level 2: Approaching Basic
Congruence Transformations GM: G-CO.B.6 LEAP.I.GM.1	Determines and uses appropriate geometric theorems and properties of rigid motions, lines, angles, triangles, and parallelograms to solve problems and prove statements about angle measurement, triangles, distance, line properties, and congruence.	Uses given geometric theorems and properties of rigid motions, lines, angles, triangles, and parallelograms to solve routine problems and prove statements about angle measurement, triangles, distance, line properties, and congruence.	Uses given geometric theorems and properties of rigid motions, lines, angles, triangles, and parallelograms to solve routine problems and reason about angle measurement, triangles, distance, line properties, and congruence.	Uses given geometric theorems and properties of rigid motions, lines, angles, triangles, and parallelograms to solve routine problems.
Similarity GM: G-SRT.A.1 GM: G-SRT.A.2 GM: G-SRT.B.5	Uses transformations and congruence and similarity criteria for triangles to prove relationships among geometric figures and to solve problems.	Uses transformations to determine relationships among simple geometric figures and to solve problems.	Identifies transformation relationships in simple geometric figures.	Identifies transformation relationships in simple geometric figures in cases where an image is provided.

Each Achievement Level Descriptor Guide is divided into three main sections that correspond to the three types of assessment tasks on the LEAP 2025. (See the LEAP 2025 Assessment Guide for your subject for more information about Type I, Type II, and Type III tasks and LEAP evidence statements.) The page above is related to Type I tasks. LDE defines a Type 1 task as being “designed to assess conceptual understanding, fluency, and application, are aligned to the major, additional, and supporting content”.

Looking at the guide, you'll notice a column labeled *Content* on the far-left. Here the grade-level standards and Type I LEAP 2025 evidence statements are grouped by topic. There is also a column for each achievement level going in descending order from left to right. There is no column for Level 1: Unsatisfactory.

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The best way to read the chart is to pick a content topic, let's look at "Similarity", and then starting in the *Level 2: Approaching Basic* column, read each level from right to left. Doing this, we see that students must demonstrate understanding of similarity in an increasingly more sophisticated way in order to move from one achievement level to the next. Specifically, at *Level 2* and *3* students are simply able to look at geometric figures and identify the transformation that occurred. At *Level 4: Mastery*, students are able to use transformations to solve problems. At *Level 5: Advanced*, students can demonstrate their understanding even further by using transformations to *prove* geometric relationships.

Food for Thought: How might a teacher use this information in planning a unit or a lesson? How might a teacher scaffold instruction to move students from solving an Approaching Basic-level problem to a higher-level problem?

Look a bit further into the Geometry Achievement Level Descriptor Guide. Here is a portion related to Type II tasks which are "designed to assess student reasoning ability of selected major content . . . in applied contexts."

Expressing Mathematical Reasoning				
	Level 5: Advanced	Level 4: Mastery	Level 3: Basic	Level 2: Approaching Basic
Content	The student clearly constructs and communicates a complete response based on a chain of reasoning to justify or refute algebraic and/or geometric propositions or conjectures; geometric reasoning in a coordinate setting; or a response to a multi-step problem, by:	The student clearly constructs and communicates a response based on a chain of reasoning to justify or refute algebraic and/or geometric propositions or conjectures; geometric reasoning in a coordinate setting; or a response to a multi-step problem, by:	The student constructs and communicates a partial response based on a chain of reasoning to justify or refute algebraic and/or geometric propositions or conjectures; geometric reasoning in a coordinate setting; or a response to a multi-step problem, by:	The student constructs and communicates an incomplete response based on a chain of reasoning to justify or refute algebraic and/or geometric propositions or conjectures; geometric reasoning in a coordinate setting; or a response to a multi-step problem, by:
Reasoning LEAP.II.GM.1 LEAP.II.GM.2 LEAP.II.GM.3 LEAP.II.GM.4	<ul style="list-style-type: none"> using a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) providing an efficient and logical progression of steps or chain of reasoning with appropriate justification performing precise calculations using correct grade-level vocabulary, symbols and labels providing a justification of a conclusion 	<ul style="list-style-type: none"> using a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) providing a logical progression of steps or chain of reasoning with appropriate justification performing precise calculations using correct grade-level vocabulary, symbols and labels providing a justification of a conclusion 	<ul style="list-style-type: none"> using a logical approach based on a conjecture and/or stated assumptions providing a logical, but incomplete, progression of steps or chain of reasoning performing minor calculation errors using some grade-level vocabulary, symbols and labels providing a partial justification of a conclusion based on own calculations 	<ul style="list-style-type: none"> using an approach based on a conjecture and/or stated assumptions providing an incomplete or illogical progression of steps or chain of reasoning making an intrusive calculation error using limited grade-level vocabulary, symbols and labels providing a partial justification of a conclusion based on own calculations

Here you'll notice the formatting has changed. The *Content* column on the far-left lists Type II LEAP evidence statements. Across the top of the chart, in grey, is a general description of how a student might respond to a question designed to test reasoning ability. Below each grey box is a bulleted list that further clarifies the distinguishing characteristics for that level of response. The

best way to understand this chart is to start at the right (*Level 2*) and read all the way down that column. Then move one column to the left (*Level 3*) and read all the way down. Continue this way until you have read the entire chart. Beware: Sometimes the bullet points continue onto the next page!

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Once again, in reading the chart from right to left, we get an understanding of the increased level of sophistication needed to move from a lower achievement level to a higher one. In this particular case, a student who scores *Level 2: Approaching Basic* can attempt to construct a chain of reasoning, but does so with significant errors in thinking, understanding, and communication. In contrast, a student who scores *Level 5: Advanced* can develop and communicate an efficient chain of reasoning and can justify their reasoning.

Food for Thought: How might a teacher use this information when planning a unit or lesson? How can a teacher support students' vocabulary acquisition and writing development? How often should teachers give students opportunities to develop and communicate chains of reasoning? How can a teacher provide feedback about a student's reasoning ability? Would peer-to-peer critiques be useful for improving student reasoning?

Let's take one last look at the Geometry Achievement Level Descriptor Guide. This portion is related to Type III tasks, which are "designed to assess student modeling ability of selected content . . . in applied contexts."

Modeling & Application				
Content	Level 5: Advanced	Level 4: Mastery	Level 3: Basic	Level 2: Approaching Basic
	The student devises and enacts a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by:	The student devises and enacts a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by:	The student devises and enacts a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by:	The student devises and enacts a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by:
Modeling LEAP.III.GM.1 LEAP.III.GM.2 LEAP.III.GM.3 LEAP.III.GM.4 LEAP.III.GM.5	<ul style="list-style-type: none"> using stated assumptions and making assumptions and approximations to simplify a re-world situation (includes micro-models) 	<ul style="list-style-type: none"> using stated assumptions and making assumptions and approximations to simplify a real-world situation (includes micro-models) 	<ul style="list-style-type: none"> using stated assumptions and approximations to simplify a real-world situation 	<ul style="list-style-type: none"> using stated assumptions and approximations to simplify a real-world situation
	<ul style="list-style-type: none"> mapping relationships between important quantities 	<ul style="list-style-type: none"> mapping relationships between important quantities 	<ul style="list-style-type: none"> illustrating relationships between important quantities 	<ul style="list-style-type: none"> identifying important quantities
	<ul style="list-style-type: none"> analyzing relationship mathematically between quantities to draw conclusions 	<ul style="list-style-type: none"> analyzing relationships mathematically between quantities to draw conclusions 	<ul style="list-style-type: none"> analyzing relationships mathematically between quantities to draw conclusions 	<ul style="list-style-type: none"> analyzing relationships mathematically to draw conclusions
	<ul style="list-style-type: none"> interpreting mathematical results in the context of the situation 	<ul style="list-style-type: none"> interpreting mathematical results in the context of the situation 	<ul style="list-style-type: none"> interpreting mathematical results in a simplified context 	
	<ul style="list-style-type: none"> reflecting on whether the results make sense 	<ul style="list-style-type: none"> reflecting on whether the results make sense 	<ul style="list-style-type: none"> reflecting on whether the results make sense 	
	<ul style="list-style-type: none"> improving the model if it has not served its purpose 	<ul style="list-style-type: none"> improving the model if it has not served its purpose 	<ul style="list-style-type: none"> modifying the model if it has not served its purpose 	

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Modeling & Application				
Content	Level 5: Advanced	Level 4: Mastery	Level 3: Basic	Level 2: Approaching Basic
		The student devises and enacts a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by:	The student devises and enacts a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by:	The student devises and enacts a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by:
	<ul style="list-style-type: none"> writing an algebraic expression or equation to describe a situation 	<ul style="list-style-type: none"> writing an algebraic expression or equation to describe a situation 	<ul style="list-style-type: none"> writing an algebraic expression or equation to describe a situation 	<ul style="list-style-type: none"> writing an algebraic expression or equation to describe a situation
	<ul style="list-style-type: none"> applying proportional reasoning and percentages justifying and defending models which lead to a conclusion 	<ul style="list-style-type: none"> applying proportional reasoning and percentages 	<ul style="list-style-type: none"> applying proportional reasoning and percentages 	<ul style="list-style-type: none"> applying proportional reasoning and percentages
	<ul style="list-style-type: none"> applying geometric principles and theorems 	<ul style="list-style-type: none"> applying geometric principles and theorems 	<ul style="list-style-type: none"> applying geometric principles and theorems 	<ul style="list-style-type: none"> applying geometric principles and theorems
	<ul style="list-style-type: none"> writing and using functions in any form to describe how one quantity of interest depends on another 	<ul style="list-style-type: none"> writing and using functions in any form to describe how one quantity of interest depends on another 	<ul style="list-style-type: none"> writing and using functions to describe how one quantity of interest depends on another 	<ul style="list-style-type: none"> using functions to describe how one quantity of interest depends on another
	<ul style="list-style-type: none"> using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity 	<ul style="list-style-type: none"> using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity 	<ul style="list-style-type: none"> using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity 	<ul style="list-style-type: none"> using estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity
	<ul style="list-style-type: none"> analyzing and/or creating constraints, relationships, and goals 			

This chart is set up in a similar manner to the previous one we looked at. Again, the *Content* column lists LEAP evidence statements. Reading the gray boxes across the top, we see that students will have to develop and carry out a plan to solve a real-world problem. Reading down each column, starting at the right (*Level 2*) and moving to the left (*Level 5*), we again see a progression in sophistication in a student’s ability to solve real-world problems. To score *Level 5: Advanced*, a student must go beyond simply computing an answer. The student must also analyze relationships between variables, recognize constraints, and justify or defend his/her method for solving the problem.

Food for Thought: How might a teacher use this information when planning a unit or lesson? How often should students be given the opportunity to apply academic knowledge in real world situations? How can a teacher give feedback about a student’s modeling ability? Would peer-to-peer critiques be useful for developing students’ modeling abilities?

Now that we have looked at the Geometry Achievement Level Descriptor Guide, I encourage you to go to the LDE Assessments page, [click here](#), and find the Achievement Level Descriptor Guide for the grade-level or course that you teach. While the guide might not be exciting reading, it will certainly give you a greater understanding of how your student’s will be assessed. As you read the guide, reflect on the types of assignments and tests you usually use and think about which achievement level you are asking your students to perform at on a regular basis. Make it a goal to push your instruction and your student’s performance one level higher this year. No matter what level you teach – honors, on-level, inclusion, resource, etc. – the descriptor guide can help you set goals for your students and guide your instruction.

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Member Spotlight: Research-Based Tips to Turn Up Math Talk

Excerpt from the Association for Supervision and Curriculum Development

By Bridget Soumeillan, LATM Member – Lafayette. LA

Hear that? Math class doesn't sound like it used to—at least it shouldn't.



You could hear a pin drop in my childhood math classes. We sat in rows, worked on our own, listened to the teacher at the center of the classroom, and spoke only when spoken to. Today, there is a growing understanding that academic discourse and peer-to-peer collaboration help all students make learning gains in mathematics. Students can exchange ideas in whole groups, small groups, and pairs. The common-sense idea that fostering math discussions would improve math language acquisition and learning is also validated by research. In *Visible Learning for Mathematics* (2016), John Hattie finds student-to-student and student-to-teacher dialogue positively influences student achievement.

Provide Structures That Promote Discussion

Teachers should plan groups thoughtfully to ensure that discussions elicit evidence of understanding from all students. There should be an emphasis on structuring academically diverse groups, which Hattie's research shows is far more effective than grouping kids by ability. Common to English language arts and social studies classrooms, discussion aids that set a clear structure for conversations (such as Save the Last Word for Me, Whip Around, or Concentric Circles) give teachers strategies for engaging all students in discussions because all students must participate and be active listeners (Harvard Graduate School of Education, 2017). Teachers need to build students' capacity to attentively listen and provide useful feedback through demonstration, or by using tools like Talk Cue Cards, Talking Points, or Ground Rules for Exploratory Talk offered by the University of Cambridge in the [Thinking Together project](#) (2018).

For teachers interested in incorporating technology, using a platform like the [Desmos Activity Builder](#) and its Polygraphs activities requires every student to be actively involved in developing mathematical language through electronic communication with classmates. Although these tools and strategies work well for specific discussions, implementing an overall classroom structure that fosters ongoing dialogue is also a good idea. The technique [Talk Moves](#), in which teachers use prompts to ensure that all students speak, listen, and respond to one another, helps move conversations in all class settings (Chapin, O'Conner, and Anderson, 2013).

The Talk Moves technique revolutionized my classroom by establishing an expectation for what communication looks like in math class. To begin, I focused on implementing one prompt at a time so that I didn't overwhelm my students. At first, my students were a bit awkward responding to me when I asked, "Caroline, would you *repeat* or *rephrase* what Abel just said?" or "Lindsey, would you *add on* to what Brad just said?" But as we practiced *revoicing together*, students needed less prompting from me.

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Support the Three Different Types of Talk

Research has identified three categories of talk in classrooms: *disputational talk*, *cumulative talk*, and *exploratory talk* (Mercer, 1995). Disputational talk usually centers on a dispute or has a competitive nature in which students go back and forth on decisions. To keep this type of talk productive, I find it helpful to require students to use sentence frames—a sentence or question with words removed. One of my favorite sentence frames for this is, "I disagree with your [answer/process/strategy] because ..."

Cumulative talk is characterized by students simply agreeing with each other. As a deterrent for blindly agreeing with others, I occasionally plant some "wrong answers" within groups by discreetly asking a student to make mistakes on purpose to see if there is any pushback from the other students. I also find it effective to require groups to provide multiple solution strategies or have a group member explain another's work to me.

The most effective type of discussion is exploratory talk (Mercer, 1995). This involves sharing knowledge, providing reasoning, challenging others' reasoning, providing alternate hypotheses, and joint consideration of all ideas. A study of elementary-age students found that the way language is used during exploratory talk within groups positively affects the way students solve problems independently (Dawes, Littleton, Mercer, Wegerif, and Warwick, n.d.).

[Click here](#) to access the full article.



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2018 LATM/ LSTA Joint Conference

Save the Date for

Full STEAM Ahead

Joint LATM LSTA Conference
October 22-24, 2018
Shreveport Convention Center

For more information, visit one of our websites:

<http://lamath.org/>

<http://www.lsta.info/>






**LOUISIANA ASSOCIATION of
TEACHERS of MATHEMATICS**



Louisiana Science Teachers Association

Conference Hotel Information

Hotel	Address & Contact Information	Conference Rate	Self-Parking Fees
<p style="text-align: center;">Hilton Shreveport</p>  <p style="text-align: center;">0 miles from Convention Center</p>	<p>104 Market Street Shreveport, LA 71101 1-318-698-0900</p> <p>https://book.passkey.com/go/2018JointConference</p>	<p>1-2 people \$105/ night 3 people \$115/ night 4 people \$125/ night</p>	\$8.00
<p style="text-align: center;">Sam's Town Hotel & Casino</p>  <p style="text-align: center;">0.5 miles from Convention Center</p>	<p>315 Clyde Fant Parkway Shreveport, LA 71101 1-877-429-0711</p> <p>http://www.samstowshreveport.com/math-science-conf</p>	<p>1-2 people \$109/ night</p>	Free
<p style="text-align: center;">Holliday Inn Shreveport Downtown</p>  <p style="text-align: center;">0.7 miles from Convention Center</p>	<p>102 Lake Street Shreveport, LA 71101 1-318-222-7717</p> <p>Group Name: Louisiana Math and Science Teachers Association</p>	<p>\$96/ night king or double beds</p>	Free

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2018 LATM/ LSTA Joint Math Science Conference Overview

Monday, Oct. 22nd

Extended Sessions and Field Trips: 8:30 – 3:30
Exhibitor Registration and Set-up: noon – 4:30
Conference Participant Check In: 5:00 – 7:30 PM
Exhibits Showcase: 5:00 – 8:00 PM
Exhibits Reception: 6:00 – 7:30 PM

Tuesday, Oct. 23rd

Conference begins
Conference Participant Check In: 7:00 – 4:00
Exhibit Hall Open: 8:00 AM – 4:00 PM
Concurrent Sessions: 8:00 AM – 4:00 PM
Outstanding Educator Awards: 4:15 PM
Shreveport Aquarium Guided Tour: 6:00 – 8:00 PM

Wednesday, Oct 24th

Conference continues
Conference Participation Check In: 7:00 – 9:00
Exhibit Hall Open: 8:00 AM – noon
Concurrent Sessions: 8:00 – 12:30

Early Bird Registration



Be an Early Bird! Postmark your registration no later than September 22, 2018, and **save \$50 off the full registration rate**. With the conference registration online payment option, it is now easier to get your early bird payment submitted! October 10, 2018 is the deadline for registering if you want to attend an Extended Session/Field Trip.

October 13, 2018 is the last date for the pre-registration discount of **\$25 off the full registration rate**.

After the October 13 pre-registration deadline, online registration will continue at the full registration rate. Online credit card payments will continue to be accepted until the morning of October 24, 2018. However, cash, check, or P.O. payments for registration can no longer be mailed in and will only be accepted during check-in at the conference at the On-site Registration desk.

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2018 Conference Registration Rates

<p>Full Conference Early-Bird Registration Save \$50 when compared to Full Conference Registration. Must be postmarked or paid online no later than September 22, 2018.</p>	\$75.00
<p>Full Conference Pre-Registration Save \$25 when compared to Full Conference Registration. Must be postmarked or paid online from September 23 – October 13, 2018.</p>	\$100.00
<p>Full Conference Registration Mail-in payments postmarked after October 13, 2018 will not be accepted. Either pay online at time of registration or hold payment until on-site arrival.</p>	\$125.00
<p>Full-time Non-teaching Undergraduate Student Full Conference Pre-Registration Must be postmarked or paid online no later than October 13, 2018.</p>	\$25.00
<p>Full-time Non-teaching Undergraduate Student Full Conference Registration Mail-in payments postmarked after October 13, 2018 will not be accepted. Either pay online at time of registration or hold payment until on-site arrival.</p>	\$30.00
<p>Wednesday Only Pre-Registration Must be postmarked or paid online no later than October 13, 2018.</p>	\$25.00
<p>Wednesday Only Registration Mail-in payments postmarked after October 13, 2018 will not be accepted. Either pay online at time of registration or hold payment until on-site arrival.</p>	\$50.00
<p>Extended Session – AM Session*</p>	\$15.00
<p>Extended Session – PM Session*</p>	\$15.00
<p>Extended Session – Full Day*</p>	\$30.00
<p>Full Conference Early-Bird Registration required no later than September 22, 2018. Extended Session participants must register for the Full Conference by Wednesday, October 10, 2018.</p> <p>Click here for a complete list of Extended Sessions.</p>	

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LATM Travel Grant Recipients

The Louisiana Association of Teachers of Mathematics is awarding over \$3000 in travel grants this year with each grant awarded worth up to \$300 to offset the expense of attending the 2018 LATM/LSTA Joint Conference in Shreveport on October 22–24, 2018. The money can be used to cover conference registration, short course registration, lodging, meals, parking, and/or travel.

Congratulations to the 2018 Travel Grant Recipients!

Nicolle Biggs
Samantha Bourque

Fan Disher
Emily Flanders
Rose Kebe

Jonel Leger
DesLey Plaisance
Chrystal Portier

Jeffrey Weaver
Esperanza Zenon

Grab and Go Lunch Option

Past evaluations found the offer of Grab-n-Go lunches to be greatly appreciated by conference participants. As a result, we will again provide that opportunity. The Committee understands you do not want to miss anything during the day on Tuesday.



When registering conference goers will have their choice of four box lunches. You will be able to select, pay and have the lunch shown as part of your registration cost. For those who pay in advance for their lunch, the meal will be picked up in the Convention Center and after “grabbing” their lunch teachers can “go on” to the next session on their agenda without missing a beat.

There will be no need to get a car out of the parking garage (and have to repay when returning), no worry about the weather (will it be raining at lunch time), a perfect convenience if you want to have lunch and visit the exhibits, continue attending sessions or sit with one of the colleagues you see each year at conference time.

Grab and Go Lunch Choices

All options are \$13.00 (state rate lunch allowance) and come with choice of water or soft drink.

Option 1: Ham sandwich, lettuce and tomato, pasta salad, and cookie.

Option 2: Turkey sandwich, lettuce and tomato, pasta salad, and cookie.

Option 3: Spring salad – baby spinach, mandarin orange segments, and roll.

Option 4: Signature salad – arugula, boiled egg, asiago cheese, sliced black olives, crispy prosciutto, Italian vinaigrette dressing, and roll.

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Presidential Award for Excellence



In late June **Claudia Suazo** from the Metairie Academy of Advanced Studies in the Jefferson Parish Public School System visited Washington DC to be honored as the 2016 Presidential Awardee for Excellence in Elementary Mathematics Teaching.

While we continue to wait for a White House proclamation for the 2017 Presidential Awardees for Excellence in Mathematics and Science Teaching (PAEMST) our 2018 state efforts were outstanding.

Through the support of local superintendents, building principals, district staff, and teaching colleagues Louisiana had an outstanding cohort of nominees and one of the highest submission rates in the country. As a result, our state selection panel had a difficult task of determining the 2018 State Finalists. The program office reduced the number of nominees Louisiana and other states could submit from five to three.



Congratulations to the 2018 Louisiana State Finalists for the Presidential Award for Excellence in Mathematics Teaching:

Stephanie Gullage	Raymond Smith, St Charles Parish Public Schools
Troy Hobson	Greenlawn Terrace, Jefferson Parish Public Schools
Heather Williams	South Highlands Elementary School, Caddo Parish Public Schools

The State Finalists, their principals and superintendents will be recognized during a luncheon at the Governor's Mansion in September. Additionally, they will be honored during the Louisiana Mathematics and Science Conference in Shreveport during the annual awards ceremony.

The 2018-19 academic year will be a secondary cycle for the Presidential Award program. Teachers of math, science, computer and engineering courses in grades 7-12 are eligible in 2019. The nomination process will open later this school year. Watch for announcements on the LATM website and FB page.

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

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LATM Outstanding Teacher Awards

LATM Outstanding Teacher Awards

One of the goals of our organization is to honor and recognize those individual educators who model and promote standards-based mathematics teaching and learning for their students. Each year LATM honors outstanding elementary, middle, and high school teachers from participating schools. We also honor an outstanding new teacher who is in his/her first three years of teaching.

This year we received many excellent applications for Outstanding Mathematics Teacher of the Year. A panel of exceptional Louisiana educators evaluated the applications to select finalists for each grade level band based on the following criteria: professional experience, professional development activities, professional memberships, reflective essay, and professional references. The panel of judges had a tough time choosing the *most* outstanding teacher for each award level. After careful consideration (and a tie-breaker round in one case), LATM is pleased to announce and congratulate the following awardees for 2018.

2018 Outstanding Teacher Awardees

Elementary Teacher (K-4)
Middle School Teacher (5-8)
High School Teacher (9-12)
New Teacher

Michelle Blanchard, LSU Laboratory School
Jerrilyn Swett, Lancaster Elementary School
Jessica Aguillard, Grand Lake High School
Nakia Graham, Mansfield High School

These teachers will be recognized on October 23rd at an awards ceremony that will take place during the LATM/LSTA joint conference. Look for their pictures in the next edition of [The Numberline](#).

Louisiana Science Technology Engineering & Math

Take some time to explore the Louisiana Science Technology Engineering and Mathematics Advisory Council's (LaSTEM) official website. The site is a tremendous resource for educators, students and parents. It houses a wealth of information ranging from implemented programs, statistics, educator resources and grant opportunities to the latest news and developments in STEM industries. [Click here](#) to visit the site.



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Opportunities for Teachers

Quality Science & Mathematics Grant Program (QSM)

QSM Application Deadline: **September 28, 2018**

The Quality Science & Mathematics Grant Program (QSM) was established by R.S. 17:374 of the Louisiana Legislature in the summer of 1992 for the purpose of providing non-consumable materials and equipment to regular classroom public school teachers of Mathematics and Science. The QSM program has funds to award approximately \$162,000 in grants to eligible classroom teachers for the 2018-2019 school year.



Quality Science and Math

This year requests for grants of up to \$1000 for approved non-consumable instructional materials and manipulatives will be accepted. QSM funds will be awarded on a competitive basis to individual classroom teachers for use in providing standards-based instruction to help meet state

accountability goals. Applicants must show that their proposals will enhance the quality of instruction for regular education students who are enrolled in mathematics or science classes.

[Click here](#) to apply.

Ouachita Parish Educators Win Trainer Award

Tammy Whitlock and **Donna Patten** won the Outstanding Local Trainer Award from the Southern Regional Education Board. These Ouachita Parish, Louisiana, educators were honored at SREB's Sixth Annual College- and Career-Readiness Standards Networking Conference July 9 in Orlando, Florida.

The Outstanding Local Trainer Award recognizes local trainers who have supported implementation of SREB's powerful literacy and mathematics practices through observing classrooms, providing effective feedback and assisting teachers and principals with the utilization of research-based literacy and mathematics tools and strategies. Each has served as an outstanding role model for other instructional support staff.



LATM would like to congratulate these two outstanding Louisiana educators! [Click here](#) to read the full article.

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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:

LeAnn Vinson, Vice President for Elementary Schools and
Heather Williams, Parliamentarian.

If you have additional nominations to the Executive Board, please email them to Tricia Miller at triciamiller555@gmail.com no later than Wednesday, October 17, 2018, so that the ballot can be prepared for the annual business meeting that will be held on Wednesday, October 24, 2018 at 7:15am at the 2018 Math and Science Joint Conference in Shreveport. All nominees should have agreed to serve, attend all Executive Council meetings, and be a current member of LATM.

Proposed Constitutional and By-Laws Amendments:

The following proposed amendments and changes to the LATM Constitution and By-Laws have been made by the LATM Board. All proposed additions are underlined and all proposed deletions are marked with a ~~strikethrough~~.

CONSTITUTION, ARTICLE VI: ADDITIONAL EXECUTIVE COUNCIL POSITIONS

Section 2. A LATM newsletter editor, LATM ~~Journal editor~~ Conference Reflections editor, LATM website editor, and a LATM social media reporter(s) will be appointed by the Executive Council. The LATM newsletter editor, LATM ~~Journal editor~~ Conference Reflections editor, LATM website editor, and the LATM social media reporter(s) shall serve two-year terms. The Louisiana Department of Education will appoint a representative to serve in a liaison capacity on the Executive Council. This position will be known as the Louisiana Department of Education Representative.

BYLAWS, ARTICLE I: DUTIES OF THE EXECUTIVE COUNCIL MEMBERS AND POSITIONS

Section 11. The duties of the communications coordinator as they relate to the organization's newsletter, ~~journal~~ conference reflections, website, and social media formats:

1. To coordinate with the above named positions to assure the publication and dissemination of information;
2. To oversee the publication and dissemination of necessary notices as directed by the president or the Executive Council;
3. To oversee the publication and dissemination of proposed amendments to the Constitution and Bylaws of this Association; and
4. To fulfill any additional duties as written in the Bylaws and/or Standard Operating Procedures for the Executive Council and for this office.

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BYLAWS, ARTICLE I: DUTIES OF THE EXECUTIVE COUNCIL MEMBERS AND POSITIONS

Section 13: The duties of the LATM ~~Journal editor~~ Conference Reflections editor are:

1. To publish and disseminate at least one edition of the LATM ~~Journal~~ Conference Reflections each year;
2. To gather and request information for the LATM ~~Journal~~ Conference Reflections; and
3. To fulfill any additional duties as written in the Bylaws and/or Standard Operating Procedures for the Executive Council and for this office.

If you have questions about any of these proposed changes, please contact Tricia Miller. Any suggested changes/revisions with detailed justification must be submitted in writing (email) to Tricia at triciamiller555@gmail.com no later than Wednesday, October 17, 2018. The membership will consider these proposed changes at the annual business meeting that will be held on Wednesday, October 24, 2018 at 7:15am at the 2018 Math and Science Joint Conference in Shreveport.

Open Up Resources 6-8 Math Tier 1 Curriculum & PD Webinar

The *Open Up Resources 6-8 Math* curriculum, authored by Illustrative Mathematics, is a top-rated middle school math curriculum on *EdReports* and is available for free. The curriculum has also been approved as a Tier 1 curriculum in Louisiana and is being implemented around the state with great success. Join representatives from *Open Up Resources* and *BetterLesson* to learn what makes this curriculum so engaging, coherent, and rigorous for all students, as well as how you can support your teachers with tailored professional development. This webinar will be offered twice:

Thursday, September 20, 4:00 - 5:00p.m. - [Register here](#)

Friday, September 21, 9:00 - 10:00a.m. - [Register here](#)

Louisiana Department of Education (LDE) UPDATE

A new version of ***A Teacher's Guide to LEAP 360*** is posted on the LDE website each Friday. This guide lists math EAGLE items that have been added to the EAGLE system. Of particular interest to teachers in Grades 3, 5, 6, 7, 8, and the high school courses Algebra I and Geometry is the addition of Reasoning (Type II) and Modeling (Type III) tasks. These are aligned to the LEAP.II and LEAP.III item types in the LDE Summative Assessment Guides posted [here](#).

LDE has a group of wonderful Teacher Leader Advisors who have worked diligently and collaboratively to produce these tasks and to add more Type I item (multiple-choice, multiple-select, short answer, etc.). The number of items will increase each month. Tasks for Grade 4 will be added during September. Be sure to look for new items/tasks in [A Teacher's Guide to LEAP 360](#) each week.

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AFFILIATE NEWS

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

BRAC TM along with LSTA Region 2 Representative, Bianca Deliberto, is hosting a Quality Science and Math (QSM) Grant-Writing Workshop on **Saturday, September 15** at Louisiana Art & Science Museum (100 River Road South, Downtown Baton Rouge, Louisiana 70802) from 8:00-10:00 AM. Sign-in will begin at 7:30 AM. This workshop is FREE to educators. Please [click here](#) to register. If you have any questions, please contact Trisha Fos @ tfos1@lsu.edu.

Louisiana Council of Supervisors of Mathematics (LCSM)

LCSM will hold its fall meeting in conjunction with the **LATM-LSTA Joint Math and Science Conference** in **Shreveport** on **Oct. 22, 2018**. Our meeting will be held after extended sessions have ended. Of special interest to LCSM members is the leadership session with Dr. Debbie Silver, *Supporting Teacher Efficacy: Empowering teachers is key to improving student outcomes* (Extended Session #10). Debbie will discuss the importance of mastery, competence, and the ability to reframe life's circumstances. Dr. Silver will provide valuable research information along with practical examples of putting theory into practice. LCSM invites our members to select Dr. Silver's Supporting Teacher Efficacy extended session from the Monday Extended Session schedule of the Joint Conference this year.

North East Louisiana Association of Teachers of Mathematics (NELATM)

NELATM will be hosting a QSM Grant Writing Workshop - Region 8 Area (Ouachita Parish and surrounding areas) **Tuesday, September 25, 2018** at Monroe City Schools Media Center, [2009 Auburn Avenue, Monroe, LA](#) 4:00-6:00. Sign-in will begin at 3:30pm. This workshop is FREE to educators. With the deadline, Friday, September 28, 2018, this workshop will help you with writing your QSM grant! Please [click here](#) to register. If you have any questions, please contact Beth Smith bethsmith1124@gmail.com.

Northwest Louisiana Mathematics Association (NLMA)

NLMA would like to follow up on its contribution to the last issue of *The Numberline* by reminding you about the power of Thinking Aloud in Mathematics.

Today's classrooms are unplugged, student-centered, energetic and bursting with rigorous collaboration from students and teachers. The 'Thinking Aloud' strategy is designed to encourage collaborative discourse, depth of knowledge, and encourage inquiry. Presenting a 'think aloud' requires teachers to explicitly model a mathematics concept/skill to clearly demonstrate his or her performance expectations. Using a 'think aloud' in your classroom can bring math to life and make it relevant to your students while training them to think. Thinking aloud provides a platform to highlight key concepts and ideas and use them as a bases to connect other powerful ideas.

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Students must be provided a clear, relevant, and accurate visual representation and tangible model during the conceptual understanding phase of learning. Presenting instructional content using a 'think aloud' to model the metacognitive process provides students with an opportunity to eavesdrop on your thoughts and your decision making process. Training students to think analytically and practically when solving mathematics is paramount. A 'think aloud' must use a segmented approach to chunk the learning and possibly include differentiated problem solving methods to support learners with varied capacities. The 'think aloud' helps struggling students understand the problem-solving process because it gives them time to focus on the highlighted aspects of the concept/skill in a manageable chunk. Your think aloud should be designed to introduce or clarify mathematical concepts and provide a framework for the development of understanding. Teachers also use this time to provide a balanced mix of examples and non-examples to further clarify student understanding. Try incorporating a think aloud in your mathematics instruction to maximize student understanding and learning efficiency.

Key Elements of Thinking Aloud in Mathematics		
<ul style="list-style-type: none"> • The teacher identifies a skill/ concept • Use illustrations, examples, analogies and other visuals to present the content • Provide examples and non-examples of the mathematical concept/ skill 	<ul style="list-style-type: none"> • Identify and embed instructional strategies to assist struggling learners • Highlight the key aspects of the skill during your "think aloud" • Scaffold, chunk, and present the content in a logically sequenced manner to maximize student understanding and learning efficiency 	<ul style="list-style-type: none"> • Clearly express the expectations of your "think aloud" • Embed questions and answers that explain your cognitive process and clarify understanding • Debrief and have students reflect on your "think aloud"

South West Louisiana Teachers of Mathematics (SWLTM)

The South West Louisiana Teachers of Mathematics (SWLTM) serves the parishes of Allen, Beauregard, Calcasieu, Cameron, and Jefferson Davis. SWLTM is excited to participate in the joint conference this year with LATM and LSTA. The opportunity to collaborate with other educators around the state is priceless. Here in Southwest Louisiana, we offer 2 meetings per year, a mini conference, grant writing seminars, and present at the local in-services throughout our area. Math teachers in the five parish area would greatly benefit from joining SWLTM.

Membership dues are \$10 for professionals and \$5 for students per year. For more information or to join SWLTM contact Kisha Guillory at kisha.guillory@cpsb.org or visit our webpage <https://sites.google.com/site/swlrm2015/home>

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NCTM UPDATE



LATM Representatives Attend NCTM Affiliate Leaders Conference



LATM sent two representatives to the NCTM Affiliate Leaders Conference in Indianapolis, Indiana on July 9 -11, 2018. The representatives were LATM Secretary Sommer Anderson-Picou (right) and Communications Coordinator Vickie Flanders (left). They participated in the leadership conference along with NCTM President Robert Q. Berry (middle) and many other affiliate representatives from across the United States and Canada.

Grant Opportunities

NCTM encourages you to apply for a grant that will advance your professional development and help you increase your effectiveness as an educator. Below are just a few grants offered by NCTM that are due November 2, 2018. Be sure to visit <https://www.nctm.org/Grants/> for a full listing and details on how to apply.

[Teacher-Leader Professional Learning Grant \(Pre-K-12\)](#)

(Supported by NCSM and NCTM) A grant of up to \$4,000 will be awarded to a Pre-K-12 school to support professional learning for mathematics teachers and mathematics teacher-leaders. Plan must focus on formative assessment, digital learning, or access-equity-empowerment

[Future Leader Initial NCTM Annual Meeting Attendance Awards](#)

Grants of up to \$1,500 + meeting registration are provided for travel, subsistence expenses, and substitute teacher costs of NCTM members who are classroom mathematics teachers in grades Pre-K-12 and have never attended an NCTM annual meeting.

[Designing Innovative Lessons and Activities for Mathematics Teaching \(K-8\)](#)

(Supported by the Mary P. Dolciani Halloran Foundation and NCTM) Grants of \$5,000 each will be awarded to support educator teams to create, develop, and disseminate K-8 mathematics enrichment activities for teachers and students. Successful grants can be renewed.

[7-12 Classroom Research Grants](#)

Grants of up to \$6,000 are provided to support collaborative classroom-based action research in precollege mathematics education involving college or university mathematics educators.

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[Connecting Mathematics to Other Subject Areas Grants \(9-12\)](#)

Grants of up to \$4,000 are provided to develop classroom materials or lessons connecting mathematics to other disciplines or careers.

[Engaging Students in Learning Mathematics Grant \(6-8\)](#)

Grants of up to \$3,000 are provided to classroom teachers to incorporate creative use of materials to actively engage students in tasks and Grades: PreK-5

[Teacher Professional Development Grants \(Pre-K-5\)](#)

Grants of up to \$3,000 are provided to classroom teachers to improve their own professional competence as classroom teachers of mathematics.

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. Take some time to read the selected articles below from the March & April issues of the NCTM journals.

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

Free Preview: [Coaches Engage with Principals to Actions](#)

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

Free Preview: [Promoting a Conceptual Understanding of Mathematics](#)

[Mathematics Teacher \(MT\)](#) (8 – 14)

Free Preview: [Making Imaginary Roots Real](#)

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Renew your Membership

Are you still an LATM member? Have you renewed your membership lately? To check your status and renew your membership visit <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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Social media has become a preferred means of communication in this tech-savvy digital age. If you have not liked LATM's Facebook page, you should do so now! Teacher opportunities, upcoming LATM events, mathematical articles, educational research, and much more are posted daily on the LATM Facebook page. LATM has much to offer and share with not only math teachers, but with parents, students, and the general public. When you like an LATM post, go a step further and share the post. By sharing a post, the post is distributed to a new group of people who can also share the post. You can even invite your friends to like the LATM Facebook page and become followers. Help us reach more people, so we can help more people!



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