

#GMC2023 www.gctm.org

Conference Program October 18 – 20, 2023

KEYNOTE SPEAKERS



Venya Gunjal Former State 4-H President



Kevin Dykema NCTM President



Francis Su Author, Mathematics for Human Flourishing

Additional Featured Speakers



Ron Lancaster

David McMillion

Million Daren Starnes Richard Woods

For information about each of our keynote and featured speakers, please visit www.gctm.org/gmc

IMPORTANT INFORMATION

- If you have any questions, please see a GMC Board member or come by Registration (International Paper Building).
- Lost and found is located at Registration (International Paper Building).
- If you are staying in the cabins, please be sure to remove your belongings by 10:00 AM on Friday.

The Georgia Council of Teachers of Mathematics 64th Annual Georgia Mathematics Conference 2023 Conference Overview

	Wednesday, October 18th	
2:00 – 6:45 PM	Registration and Lodging	International Paper
3:30 – 5:30 PM	Pre-Conference Sessions	Wildlife Ecology &
		Krannert
5:30 – 6:45 PM	Dinner (pre-purchased)	Dining Hall A-B
7:00 PM	Opening Session	Talmadge Auditorium
,	Keynote Speaker: Venya Gunjal,	C
	Former State 4-H President	
7:30 PM	GCTM Business Meeting & Give-Aways	Talmadge Auditorium
8:15 PM	Trivia Night & Refreshments	EMC Senior Pavilion
8:15 – 9:30 PM	Registration and Lodging	International Paper
	Thursday, October 19th	
7:00 – 8:30 AM	Breakfast (pre-purchased)	Dining Hall A-B
8:30 – 9:20 AM	Morning Session	Talmadge Auditorium
	Keynote Speaker: Kevin Dykema	
7:30 AM – 6:00 PM	Registration and Lodging	International Paper
9:00 AM – 4:30 PM	Exhibits	Sutton Hall (2 sides)
9:45 AM – 4:45 PM	Concurrent Sessions A-E	Various Buildings
11:30 AM – 1:00 PM	Lunch	Dining Hall A-B
	(pre-purchased or cash-only grill option)	Outside Sutton Hall
5:00 PM	PE @ GMC (Fun Run, Games, Zumba, etc.)	EMC Senior Pavilion
5:45 – 6:45 PM	Dinner (pre-purchased)	Dining Hall A-B
6:30 PM	Susan Craig Bench Dedication	Chapel
7:30 PM	Evening Session: Awards	Clover (in Dining Hall)
8:30 PM	Dancing, Karaoke, Music, Games &	EMC Senior Pavilion
	Refreshments	
	Building Thinking Classrooms Open Forum	Hastings
8:30 – 9:30 PM	Registration and Lodging	International Paper
	Friday, October 20th	
7:00 – 8:30 AM	Breakfast (pre-purchased)	Dining Hall A-B
7:30 – 9:00 AM	Registration	International Paper
8:30 – 9:20 AM	Morning Session	Talmadge Auditorium
	Keynote Speaker: Dr. Francis Su	
9:00 AM – 1:00 PM	Exhibits	Sutton Hall (2 sides)
9:45 AM – 3:30 PM	Concurrent Sessions F-I	Various Buildings
11:30 AM – 12:45 PM	Lunch	Dining Hall A-B
	(pre-purchased or cash-only grill option)	Outside Sutton Hall

Updates and Feedback

Conference Updates

Do you want to know the latest conference updates when it is "hot off the press" (e.g. session cancellations)? If yes, JOIN the GMC text message notification system, through Remind.

Text the message @gmc2023 to the number 81010. If you're having trouble with 81010, try joining via the url <u>https://www.remind.com/join/gmc2023</u>

Ways to SUBMIT Feedback.	
Conference Evaluation Forms	Session Evaluation Forms
Please use this form to comment on the	Please use this form to comment on individual
overall conference. Place completed	sessions. All speakers have several forms.
forms in the boxes (registration area,	Place completed forms in the boxes
Dining Hall, Auditorium).	(registration area, Dining Hall, Auditorium).
The form is available electronically.	The form is available electronically. Complete
Complete the survey at	the survey at
<u>https://tinyurl.com/2023GMCjoy</u>	<u>https://tinyurl.com/2023GMCsessions</u>
Scan the QR code	Scan the QR code

Extra copies of both forms are available in the registration area.

Are you good at capturing the moment? Take pictures of mathematical activities in a session, of you and friends participating in a session, or of anything else fun that you do at Rock Eagle! Email pictures to Rebecca Gammill at gammillgctm@gmail.com for possible inclusion in *eReflections* or *Connections*.

Share your experience with us on social media at #GMC2023. Don't forget to tag @GCTM.

Thank You!



NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

August 23, 2023

To the Georgia Council of Teachers of Mathematics:

On behalf of the National Council of Teachers of Mathematics (NCTM) I am pleased and honored to welcome you to your 64th annual conference. I look forward to joining you Thursday and presenting a keynote session and meeting many of you. Thanks for taking the time to grow professionally and ultimately to benefit the students you'll teach for years to come.

I hope you take the time during these next few days to make some new friends as well as spend time with old friends—to Rekindle the Joy. Take the new ideas you get from the many sessions offered and spend time talking with those friends about them. Talk about what is working well in your settings and get new ideas for those things that need some improving.

NCTM values its relationship with the Georgia Council of Teachers of Mathematics and appreciates the support it has given in the planning and presentation of NCTM Annual Meetings in 1976 and 2007. We're looking forward to being in Atlanta for the NCTM Annual Meeting & Exposition again in 2025. These joint endeavors have offered valuable professional enrichment to thousands of teachers of mathematics—many of them members of both organizations.

On NCTM's behalf, I thank you for the professional development that you continue to provide to teachers and for the array of resources that you offer to support mathematics education. The Council applauds you for continuing to address your mission of encouraging an active interest in mathematics and acting as an advocate for the improvement of mathematics education at all levels.

Sincerely,

Kevin Dykena

Kevin J. Dykema President

1906 ASSOCIATION DRIVE RESTON, VA 20191-1502 TEL: (703) 620-9840 FAX: (703) 476-2970 WWW.NCTM.ORG

Our Mission Statement

The mission of the Georgia Council of Teachers of Mathematics is to:

- promote a high-quality mathematics education for all students,
- encourage an active interest in mathematics and in mathematics education,
- promote ongoing professional development for mathematics education, and
- promote and reward excellence in the teaching of mathematics in the state of Georgia.

The objectives of the Georgia Council of Teachers of Mathematics are to encourage an active interest in mathematics and to act as an advocate for the improvement of mathematics education at all levels.



Mark Your Calendars!!!

June 17-18, 2024: Tift County June 20-21, 2024: Cherokee County June 24-25, 2024: Morgan County June 27-28, 2024: Chatham County

Past Participant Comments

- "GCTM's academy was one of the best conferences I've ever been to! I would recommend this conference to any educator/admin/parent I know!"
- "This has been by far the most engaging, applicable, useful, and fun training I have ever been to. I am so excited to bring back all of my new math games to my team."
- "The presenter related well to the group and kept our attention. The sessions were grade level specific while also providing insight into learning progressions across grade levels."

Georgia Council of Teachers of Mathematics Annual Awards

Gladys M. Thomason Award for Distinguished Service

Selection for this achievement award is based on distinguished service in the field of mathematics education at the local, regional, and state levels. Nominees should have demonstrated significant rendered services, service beyond normal job requirements, and services primarily for the improvement of mathematics instruction. This is GCTM's most prestigious award.

2022 Kristi Caissie	2005 Christine Thomas	1988 Mildred Sharkey
2021 Denise Huddlestun	2004 Tom Ottinger	1987 Wanda White
2020 Bonnie Angel	2003 Dottie Whitlow	1986 Aurelia Hinson
2019 Nicole Ice	2002 Barbara Ham	1985 Ed Davis
2018 Charles Garner, Jr.	2001 Margaret Faircloth	1984 Bill Bompart
2017 Chris Franklin	2000 David O'Neil	1983 Jo Anne Mayberry
2016 Tammy Donalson	1999 Thomas Cooney	1982 Peggy Neal
2015 Cheryl Hughes	1998 Wanda Oldfield	1981 Doris Dickey
2015 Cheryi Hughes	1998 Walda Oldheld	1981 Doris Dickey
2014 Ellice Martin	1997 Earl Swank	1980 Dora Helen Skypek
2013 Peggy Pool	1996 Cathy Franklin	1979 Lex Buchanan
2012 Debbie Poss	1995 Bill Roughead	1978 Clare Nesmith
2011 Lynn Stallings	1994 Jane Barnard	1977 Randall Hicks
2010 Susan Craig	1993 David Stone	1976 Cherry Clements
2009 Patricia Barrett	1992 John Neff	1975 Dorothy Simmons
2008 James Wilson	1991 Becky King	1974 Gwen Shufelt
2007 Barbara Ferguson	1990 Larry Elbrink	1973 Margaret Edenfield
2006 Dan Funsch	1989 J. Norman Wells	1972 Gladys M. Thomason

Previous Recipients of the Gladys M. Thomason Award

Dwight Love Award

This award is presented to a teacher in Georgia who models excellence in the profession and in life and gives

much to others beyond the classroom as mentor, teacher and leader. The awardee is a master teacher, professionally active, and promotes GCTM and its mission.

John Neff Award

This award is presented to a member of GCTM who demonstrates excellence as a full time postsecondary educator and/or district supervisor. The recipient is someone who is an inspirer, a mentor, and an advocate of mathematics and mathematics education.

Awards for Excellence in the Teaching of Mathematics

Three awards are available, one each for elementary, middle, and secondary levels, and are given to excellent teachers who have strong content foundations in mathematics appropriate for their teaching level, show evidence of growth in the teaching of mathematics, and show evidence of professional involvement in GCTM and NCTM.

Teacher of Promise Award

GCTM recognizes one outstanding new teacher/ member in the state each year who has no more than 3 years of experience at the time of the nomination and who demonstrates qualities of excellence in the teaching of mathematics.

Bill E. Bompart Award

This award is presented to a mathematics support professional in Georgia who is employed by a school system, serves in a role to support mathematics teachers in instruction and student learning, and is professionally active in education. The recipient is someone who is an inspirer, a mentor, and an advocate of mathematics and mathematics education.

Friend of Mathematics Award

Nominated and selected by members of the GCTM Executive Board, the winner of this award is an individual who, while not a mathematics teacher/educator, is dedicated to supporting the missions and goals of GCTM, as well as its members individually and as a whole.



AP Precalculus, AP Calculus, and AP Statistics Teachers

Join us for the GA²PMT Annual Meeting at GCTM's Georgia Math Conference at Rock Eagle* Rooms 1, 2, & 3 of the Gas Building on Friday, October 20, 2023

Meet Our Featured Presenters:

Daren Starnes

Daren Starnes has taught AP Statistics for 25 years and has served for over 20 years as an AP Exam reader and leadership team member. He became a College Board consultant in 1998 and has since led over 100 summer institutes and numerous one- and two-day workshops for statistics teachers. Daren served as lead instructor for the AP Daily video project, and for the past 3 years has partnered with Luke Wilcox to deliver AP Daily exam review sessions for students. He is co-author of two popular high school statistics textbooks—The Practice of Statistics and Statistics and Probability with Applications. Daren and his wife Judy enjoy traveling and spending time with their three sons' families, especially their seven grandkids.

Julie Harrison

Julie Harrison is a gifted-endorsed Math Teacher who has taught high school courses ranging from General Math to AP Calculus BC. For 25 years she taught at Eagle's Landing High School in McDonough, GA with 20 of those years teaching AP Calculus (AB and BC) and Precalculus. Last year, she began working at Spelman College in Atlanta, GA. Julie has been involved in the AP Reading for Calculus exams since 2008 where she has worked on the operational, alternate, and international exams for both AB and BC and served as a Table Leader. She is a member of the AP Precalculus Development Committee as well as an AP Precalculus and AP Calculus workshop consultant. For Georgia's 2020 revision of math standards, she served as Precalculus Team Lead for the Georgia Math Standards Review Teacher Working Committee.

	Room 1	Room 2	Room 3
9:45-	Using Applets to Explore Statistical Relationships Daren Starnes	IVT, MVT, & EVT and a Nifty Theorem Marshall Ransom	Come get the TEA on technology in AP Precalculus Dennis Wilson, Landmark Christian School
10:45	Use freely available applets to analyze relationships between two categorical variables and between two quantitative variables.	Review and apply IVT, MVT and EVT as scored on AP Calculus Exams. This will lead to another theorem that can be shown to be true using the EVT and results in the IVT property being applicable under one simple condition.	Explore how to use the TI calculator as a Teaching/Exploration/Assessment (TEA) tool in the AP Precalculus classroom.
	Making Sense of Statistical	Visualizing Approximation and	Pacesetter to AP: Precalculus
	Inference	Error in AP Calculus	Through Modeling
44.00	Daren Starnes	Dennis Wilson,	Storie Atkins,
11:00-		Landmark Christian School	Columbus High School
12:00	Explore two simulation activities that help students develop the concepts of margin of error, P-value, and statistical significance.	Explore different ways to help students visualize various methods of approximations such as tangent lines, Riemann Sums, and Taylor polynomials.	Engage in redesigned modeling tasks inspired from College Board's Pacesetter Precalculus Through Modeling curriculum.
12:00-		CA2DMT Dusiness Meeting & Lun	.
1:00		GA-FM1 Business Meeting & Lund	CII
	Report from the	Report from the	Deepening Understanding of
1.15	AP Statistics Reading	AP Calculus Reading	Supporting Students in the
3.30	Daren Starnes	Marshall Ransom	AP Precalculus Course
5.50		Chuck Garner, Rockdale Magnet School	Julie Harrison, Spelman College
		Dennis Wilson, Landmark Christian School	
*Res	gistration for the Georgia Math Confe	rence is required to attend the GA ² PMT and	nual meeting. Visit www.gctm.org

*Registration for the Georgia Math Conference is required to attend the GA²PMT annual meeting. Visit <u>www.gctm.org</u> to register for the conference and see <u>www.GAAPMT.org</u> for more about GA²PMT.

Conference Planner

Time	Wednesday	Thursday	Friday
		Keynote:	Keynote:
8:30 AM -		Kevin Dykema	Francis Su
9:20 AM		Talmadoo	Talmadoo
		Auditorium	Auditorium
9:45 AM – 10:45 AM			
11:00 AM – 12:00 PM			
11:30 AM –		Visit the Sponso	rs in Sutton Hall
1:00 PM			siaes!)
1:15 PM – 2:15 PM	Registration opens		
2:30 PM – 3:30 PM	at 2:00PM!		
3:45 PM – 4:45 PM	3:30PM – 5:30 PM Pre-Conference Sessions		Travel safely!
5:00 PM		PE at the GMC	We will see you
Evening Activities	7:00 PM Keynote: Venya Gunjal	6:30 PM: Dedication of Susan Craig's Bench 7:30 PM: Awards Ceremony	next year.
8:30 PM			

Wednesday, October 18, 2023

Pre-Conference Sessions 3:30 PM - 5:30 PM

Focusing on Families of Functions P1

Platinum Sponsor: Dennis Wilson,

Landmark Christian Academy (TI Instructor)

From preAlgebra to preCalculus, functions play a vital role in our mathematics classroom. Join us as we take a deep dive into functions. We will use TI graphing technology to build and strengthen conceptual understanding through multiple representations of linear, quadratic, exponential, logarithmic, radical, polynomial, rational, and trigonometric functions.

P2 2023 Summer Academy Elementary Sampler

Academu Facilitator

Wildlife Ecology 1 Did you miss the 2023 GCTM Summer Academy? Come to this session to see a few of the activities included in the elementary session.

P3 2023 Summer Academy Middle School Sampler

Academy Facilitator Wildlife Ecology 2 Did you miss the 2023 GCTM Summer Academy? Come to this session to see a few of the activities included in the middle school session.

2023 Summer Academy High School Sampler P4 9-12 Wildlife Ecology 3

Debbie Poss, GCTM Executive Director

Don Slater, GCTM Did you miss the 2023 GCTM Summer Academy? Come to this session to see a few of the activities included in the high school session. Activities from Algebra, Geometry and Precalculus will all be explored.

Experience the Joy of a Thinking Classroom! P5

Stephanie Frey & Lisa Sill, Greenbrier High School

Are your students truly engaged in their learning or are they just mimicking you? Has your teaching strategy become boring for you and for them? Are you ready to shake things up? Join us as we demonstrate a Thinking Classroom in action. This interactive two-hour session will be packed with strategies that you can implement immediately in your math classroom all based on Peter Liljedahl's research found in his book, Building Thinking Classrooms in Mathematics. Prior knowledge of the 14 Teaching Strategies is not required, but we suggest you go ahead and get the book and read the forward and the first 6 chapters. Resources will be shared to help you implement many of the practices as soon as you get back to your school. Topics will range from upper elementary to pre-calculus.

3-5, 6-8, 9-12, HE Wildlife Ecology 4

6-8, 9-12 **Krannert 3**

6-8

K-2, 3-5

7:00 PM Opening Session Talmadge Auditorium **Sum-thing to Smile About: Rekindling the Joy of Mathematics** *Venya Gunjal, Former State 4-H President*

I will be going over my journey in 4-H with a focus on the impact my teachers and STEM classes have had on bringing me where I am today. Georgia 4-H is integrated with public schools in every county in the state, and so the support of teachers goes hand-in-hand with the life lessons 4-H has taught me. I plan on citing personal anecdotes and comments I have heard from individuals during my tenure as president this past year to highlight the importance of teachers in a student's journey through 13 years of schooling.

Key Notes

Special thanks to Deputy Superintendent for Teaching and Learning, **April Aldridge**, for providing greetings from the Georgia Department of Education.

Immediately following the keynote address will be the **GCTM Business Meeting**. The opening session will end with **door prizes!**

Following the meeting, you are invited to the EMC Senior Pavilion for **Refreshments** and **Trivia Night**. Thank you to **Illustrative Mathematics** for sponsoring our evening events.

Thursday, October 19, 2023

8:30 AM Keynote Session

Talmadge Auditorium

Improving Mathematics Education to Increase Opportunities for Students *Kevin Dykema, President of the National Council of Teachers of Mathematics*

We have seen that far too many students are not experiencing success in math. We can't just blame the kids. There are steps we can take to address this. Let's begin by examining the impact of structures, practices, and policies we have in place, and how we can create new structures, and implement effective teaching practices to engage students to succeed in math.

Thursday Keynote Address is sponsored by hand2mind.

Don't forget to stay for the **door prizes** before heading off to a great day of learning!

Key Notes

Concurrent Session A: 9:45-10:45 AM

Welcome First-Time Participants to the **Georgia Mathematics Conference**

Tammy Donalson, GCTM President **International Paper 2** GCTM would like to welcome first time conference attendees with suggestions for how to get the most out of the conference, introduce you to GCTM, and answer questions. This is an optional session, geared for first-time attendees, new teachers, and pre-service teachers.

Let Them Learn Together 2

1

Lorenzo Robinson, Lovejoy High School **Bankers** Let's rediscover the joy of mathematics through the lens of cooperative learning by exploring strategies to solve open-ended, thought-provoking math problems.

Hands-on and Self-Correcting Math Centers 3 K-2, 3-5 **Bronze sponsor:** Rich Stuart, Learning Wrap-Ups Callaway Attendees will play with and KEEP materials that can be used in elementary grades centers.

Shake Up Your Operational Fluency 4

Bronze sponsor: Lori Triplett, Box Cars & One-Eyed Jacks **Clover (in Dining Hall)** Come prepared to play our favorite math games that incorporate the use of regular and multi-sided dice and shakers. Concepts covered include: basic addition and multiplication, doubles, make 10 strategy, commutative and associative properties. Gameboards provided, great for whole-class and small group instruction.

Problem-Solving, Mathematical Modeling and Play 5 Mike Wiernicki, Mathematics Specialist/Consultant

Play is how we all experience learning from birth and should be a part of learning mathematics at all levels. Play and thinking are not mutually exclusive. Play can be a catalyst for problem-solving and mathematical modeling, when working on interesting problems. Participants will experience and discuss the connections between problem-solving, mathematical modeling, and play.

Game On! Infusing Joyful Learning with Math Games 6

Shaina Bryant & Courtney Taylor, The Kindezi School We will explore the benefits of using games as a pedagogical tool to make math more accessible and less intimidating for students and rekindle the joy of learning math!

Modeling Math for Middle School 7

Allison Speece, Darcie Pritchett, & Tracy Crook, Clear Creek Middle School

Math modeling has evolved over the years. This session is to provide teachers with resources that address clarity, success criteria and modeling in the classroom.

13

6-8

General Interest

K-2, 3-5

6-8, 9-12, HE

K-2, 3-5, 6-8 **Dining Hall C**

3-5, 6-8, 9-12 **Dining Hall D**

EMC Senior Pavilion

8 **Creative Insubordination in Support of General Interest Decisions and Culture** Jordan Moreno & Eryn Maher, Georgia Southern University Gas 1 Educators and students apply creative insubordination, making decisions and arguments to build more culturally relevant math tasks together.

Supporting Parents of K-2 Students: 9 **Developing Place Value Understanding**

Heidi Eisenreich, Abigail Wilkerson, Gwen Masch, & Isabella Fairlamb, Georgia Southern University

We are creating free online resources aligned to the new Georgia standards to help parents work with their children on place value concepts. Resources include videos, a link to virtual manipulatives, and worksheets with answer sheets. Links to the resources will be shared with participants so they can share with parents.

10 **Building Your Own Desmos Sketch**

Chris Michael, Brookwood High School

Together we will build Desmos sketches to explore topics in precalculus, calculus, and statistics. Topics may include parametric equations, Riemann sums, Euler's method, and random sampling.

Deepen Student Understanding of Bivariation and 11 **Proportionality with the QCR**

Basil Conway, Columbus State University Students are often introduced to bivariate data in the middle grades and required to describe the strength of linear relationships without any particular pathway to quantitative measure or connection to the correlation coefficient. This session will utilize the Quadrant Count Ratio to deepen understanding of bivariation and proportionality and show evidence of its effect of use in the classroom.

Figuring Out Fractions 12

Jennifer Tukes, Newton County Schools Come learn ways to help your student develop fraction understanding and reasoning. I will share and provide the opportunity to practice strategies, use manipulatives, and play games. You will leave the session with ideas you can use right away in your classroom.

Transforming Your Classroom to Increase Student 13 **Discourse and Engagement**

Julie Schirmer, Oconee County Schools

Looking for ways to increase student engagement and deepen discourse within your classroom? This session will explore how you can transform your classroom using Mathematical Practices. Strategies on developing effective collaboration and mathematical reasoning among students will be explored.

Georgia Power 1

K-2, HE

Gas 2

3-5

K-2, 3-5, 6-8

Georgia Power 3

Georgia Power 2

9-12

Gas 3

6-8, 9-12

Let Learners Learn: Teaching Math Through Problem **General Interest** 14 Solving

Hayley Gilbert, Heard County Middle School

I would like to share the dynamic I have built in my classroom with other educators. My students are given success criteria that they make their way through via self assessments. I utilize randomized grouping and collaboration on a daily basis to force them to get out of their comfort zones and "borrow ideas" from others to solve problems. My key role is facilitator within my classroom.

Quadratics! Functions Formula Factor – 15 **Unique Teaching Ideas**

Tom Reardon, Fitch High School / Youngstown State University **Krannert** 1 Solve quadratic equations 5 different ways. Graph all 3 forms with the "parabola dance." Given a graph, write the equation in 3 forms - creatively!

Mathematical Problem Solving for All Students 16

Platinum Sponsor: Susan Arnette, STEMscopes by Accelerate Learning

Teaching students to reason and problem solve is the cornerstone of quality math instruction. This session will highlight several engaging strategies such as Three Reads, Numberless Word Problems, and more that will provide multiple entry points for all students to engage in the math and ignite a passion for problem solving in your classroom! Session Repeats Friday at 11:00 AM.

Connecting with Polar Curves 17

Platinum Sponsor: Dennis Wilson,

Landmark Christian Schools (TI Instructor)

Polar graphs can present quite a conundrum for students as they try to connect many different concepts and representations. We will explore methods for helping students make connections between their past knowledge and the new concepts of polar curves with visual representations. We will utilize technology to create dynamic links between the Cartesian and Polar coordinate systems.

Classroom Gone Quiet? Build Discourse in the 18 6-8, 9-12 **Secondary Mathematics Classroom!**

Silver Sponsor: Cassie Martin Reynolds, Carnegie Learning, Inc. Wildlife Ecology 1 Interested in building discourse for ALL your learners? Then you've come to the right place! During this session, we will understand how to meaningfully engage students in productive mathematical discourse that surfaces student understandings. You will take home strategies for your toolbox that will help your secondary math learners build discourse in the classroom.

Typesetting Math with Word and LaTeX 19

David Hornbeck & Chuck Garner,

Rockdale Magnet School for Science and Technology

Have you ever wanted to write math like that seen in textbooks? In this session, you'll learn how to get started using LaTeX and Word to write beautiful tests, papers, and even books, and will get many resources for starting your journey.

9-12 **Krannert 3**

6-8, 9-12, HE

Wildlife Ecology 2

Hastings

9-12

K-2, 3-5

Krannert 2

Thursday, October 19, 2023

Collaborative Inquiry to Deepen Equitable 20 **Teaching Practices**

Bronze Sponsor: *Gina Wilson, Knowles Teaching Initiative* Wildlife Ecology 3 Analyze student data and complete a collaborative inquiry cycle to explore how to deepen learning opportunities for all students.

A Roadmap to Interdisciplinary Teaching 21

Michelle Bateman & Lenisera Barnes-Bodison, DeKalb County Schools

Experience a journey of endless possibilities for students to gain a love of learning math through interdisciplinary challenges found in the GaDOE Mathematics Learning Plans.

Concurrent Session B: 11:00 AM - 12:00 PM

Family Math Night 22

Vinnie Prasad & Heather Mullins, Cobb County Public Schools **Bankers** Stress-free parent math night? How is that possible? This session will explore the K-5 critical math standards and incorporate them into math night games. We will learn how to encourage parents to help support their child at home. Participants will walk away with all resources needed for a successful math night.

Invigorating Joy When Learning Systems of Equations 6-8, 9-12 23 Shelli Casler-Failina. Georaia Southern Universitu Callawav Attendees will learn how the TI-Innovator Rover can be used to support student understanding of systems of equations.

24 Q&A with State Superintendent	General Interest
Featured Speaker: <i>Richard Woods, State School Superintendent</i> Come join us for remarks and a question-and-answer session with the G Schools.	Clover (in Dining Hall) Beorgia Superintendent of

Developing Fraction Sense with 25 **Hands-On Instruction**

Bronze Sponsor: Anaie Meredith. hand2mind Most students don't have a conceptual understanding of fractions. Physical manipulatives can empower students to develop fraction sense.

Hands-On Manipulatives Matter in Middle Grades 26 **Bronze Sponsor:** Jane Hannon, hand2mind **Dining Hall D**

Participants will be actively engaged using hands-on manipulatives to deepen student understanding of abstract middle school math concepts.

General Interest

K-2, 3-5 Wildlife Ecology 4

K-2, 3-5

3-5

6-8

Dining Hall C

27 From Paper Folding to Proportional Reasoning

Seyoung Holte, NEGA RESA EMC Senior Pavilion In this session, we will explore the wonder of mathematical connections between the whole number reasoning and fractional reasoning and walk through the progression of fractional/proportional reasoning as we "DO" mathematics through unitizing, partitioning, and iterating.

28Equitable Math Instruction through Cultural RelevanceGeneral InterestBronze Sponsor:India White,Gas 1

Big Ideas Learning / National Geographic

Scores from the National Assessment of Educational Progress suggest that if current educational practices in math classrooms remain the same, the achievement gap between Caucasians and African descent learners will be eliminated by around 217 years. To close the academic achievement gap for all students, teachers must be equipped with methods to conduct equitable instruction that is culturally relevant. *Session repeats today at 2:30 PM*.

29 Unleashing the Power of Feedback: Transforming Math Teaching and Learning

Lateisha Andrews & Tiffany Dillard, DeKalb County School District Gas 2 Drawing from the research of John Hattie and Helen Timperley, we will delve into their groundbreaking work on the three types of feedback approaches: feed-up, feedback, and feedforward. Participants will be able to experiment with various feedback approaches, trying them out using real-world scenarios from the four grade bands. Participants will discuss these strategies' benefits, limitations, and adaptability to suit their diverse teaching needs.

30 Supporting English Learners in the Mathematics Classroom

Brandi Worsham, Brenau University

The purpose of this session is to explore ideas and strategies for supporting English learners in the mathematics classroom. We will synthesize key ideas to consider when working with ELs in the mathematics classroom and highlight instructional strategies that develop the speaking, listening, reading, and writing skills of ELs as they engage with content and mathematics practice standards.

31 Fraction Subtraction is Out of this World!

Isabella Fairlamb, Gwen Masch, Abigail Wilkerson, & Heidi

Eisenreich, Georgia Southern University

We will make sense of fraction subtraction using word problems and fraction tiles to promote a deeper understanding.

32 Let's Play Function of the Day!

Debra Richardson, Osceola County School District **Georgia Power 2** Function of the Day is an engaging method for teaching math vocabulary and concepts related to functions that is creative and fun. Function of the Day fosters verbalization and collaboration. Learn how to use Function of the Day interactive daily bell work with your students. It can be used with various levels of High School Math courses. *Session repeats Friday at 2:30 PM*.

3-5, 6-8

General Interest

3-5, 6-8

Gas 3

3-5

Georgia Power 1

6-8, 9-12, HE

33	Mathematical Modeling Matters: Resources for Real-Life Math	6-8, 9-12
Tynisha Ro This session critical thin mathematic Mathematic Session R	<i>a will explore RESA</i> a will explore why mathematical modeling matters to students an king, problem solving, and collaborative skills. We will explore the cs relevant to students. Participants will use available resources a cs Standards to apply mathematics to real-life situations. epeats Friday at 9:45 AM.	Georgia Power 3 ad how it helps to build he resources that keep and Georgia's K-12
34	How to Code a Desmos Activity Without Knowing	6-8, 9-12
Hannah Bla Zach Thom Learn to cu templates t	alock, Wilbanks Middle School & aswick, Habersham Ninth Grade Academy stomize your own Desmos activities by utilizing existing coding f hat have been shared by others.	Hastings
35	Alternative 3rd and 4th Year Courses for	9-12
Robert Ger Some stude Advanced A	Struggling Students ver, North Shore High School I ents who need 3-4 years of math to graduate find Alg. 2 and Preca Algebra with Finance, and Hands-On Stat, are 2 alternatives.	nternational Paper 2 alc daunting options.
36 Angela Lea	Mathematical Modeling is as Simple as a 3-Act Task	3-5 Krannert 1
Robbi Brou In this sess scenario to	<i>vn, Rock Chapel Elementary School</i> ion participants will learn how to analyze a mathematical represe make a prediction through completing 3-Act Tasks.	entation of a real-world
37	Productive + Struggle = Student Success	K-2, 3-5
Platinum	Sponsor: Susan Arnette,	Krannert 2
Are your m rescue then component Session re	ath students hesitant when presented with challenging tasks? Do n at the first signs of struggle? Discover the value of productive st s essential to building a classroom that fosters grit and persevera epeats Thursday at 3:45 PM.	o they wait for you to cruggle and explore key unce.
38	Use TI-84 and TI-Nspire Graphing Technology	9-12
Platinum	Sponsor: Tom Reardon, Fitch High School /	Krannert 3

Youngstown State University (TI Instructor)

Focus on conceptual understanding of "big ideas": linear equations, quadratics, multiple representations, thinking graphically, words to symbols, use structure, solve systems using creative technology integration. Obtain activities, strategies, exam questions that augment what you do for test prep. Address how differently ACT/SAT ask questions.

Set Your Students Up for Success in Algebra 39 6-8, 9-12

Bronze Sponsor: *Rita Linnemann & Paul King, Riverside Insights* Wildlife Ecology 1 How prepared are your students for Algebra I? Come learn about an algebra readiness assessment, best practices to identify the specific skills needed, and strategies to address foundational skill gaps.

40 **Fast Formatives to Inform Teacher-Led** 6-8, 9-12 **Small Group Instruction**

Jalencia Turner, Iesha Clarke, Erin Roberts, & Heather Stechly, Wildlife Ecology 2 Gwinnett County Public Schools

Do you need a quick strategy to gather information on student thinking and learning? Fast formative assessment strategies allow teachers to make data-informed instructional decisions to be responsive in the moment. We will share how we use fast formatives to inform teacher-led small groups in middle and high school.

Joyful Noise: Building Classroom Community and 41 **Collaboration through Equitable Math Conversations**

Lisa Brown, Susan Kuehn, & Taylor Thomas, **Gwinnett County Public Schools**

In this session, teachers will engage in establishing norms that will promote classroom community, building positive relationships among students, and encouraging effective student collaboration and math conversations. Teachers will also experience total participation protocols they can use in their classroom to promote voice equity and increase engagement. Come join us to learn how to increase the level of joyful noise in your mathematics classroom!

More Choice More Voice 42

Bronze Sponsor: Savvas

Wildlife Ecology 4 Helping students find their voice is a fundamental habit that needs to be promoted and established in the classroom. This workshop will leverage the research on how giving students choice in the classrooms empowers them to find their voice and become active, engaged members of the classroom community. Walk away with resources to make this happen in your room.

Please don't forget to check out the Sponsors in Sutton Hall. We could not put on this conference without their support.

Note: There are two sides to Sutton Hall.

3-5

Wildlife Ecology 3

20

Concurrent Session C: 1:15 PM - 2:15 PM

Building Coherence across High School Courses 43

Ashley Garner, Lindell Coker, & Joseph Marutollo,

Atlanta Public Schools

Explore one task each from AGA highlighting coherence for students to strengthen sense-making, conceptual understanding, and enhance decision-making skills.

Algebraic Thinking is Accessible with Manipulatives 44

Bronze Sponsor: *Kimberly Conley, hand2mind*

Callaway Join us as we explore how to develop a strong understanding of algebraic concepts through the use of manipulatives.

Building Fluency through Number Strings, Math Talks, 45 and Student Centers

Bronze Sponsor: *Lisa Lindsey, hand2mind* **Clover (in Dining Hall)** Learn how Number Strings and Math Talks connect strategies to increase fluency. Experience student centers that reinforce and support new strategies through application and practice.

STEM U LATING Gifted Minds 46

Darcie Pritchett & Angela Samples, Clear Creek Middle School **Dining Hall C** Let's get Math in Motion! Gifted learners thrive in a challenging environment that allows them to explore their interests while expanding their knowledge base. Join us as we share some exciting ways to engage your gifted learners on a level that motivates them to explore the world of mathematics from a new perspective.

Modeling with Fractions 47

Bronze Sponsor: Ryan Dougherty, Brainingcamp Explore the world of fractions and see how fraction models can build deep conceptual understanding for all students. We will be using virtual manipulatives, so please bring a computer or tablet.

The Joy of Discovering Geometry **48** with Everyday Items

Gaule Herrinaton & Christian Kendrick. Woodland High School **EMC Senior Pavilion** Geometry can appear overwhelming to students with all of the terms, formulas and relationships. Join us as we unlock some key geometric patterns using everyday items from your closet.

49 10 Days to Multiplication Mastery

Bronze Sponsor: *Rich Stuart, Learning Wrap-Ups* Gas 1 Imagine how easy it would be to teach students who had automatic recall of simple Multiplication facts. Learn about Hands-On and Self-Correcting materials and strategies that help students master basic math facts.

3-5, 6-8

3-5 **Dining Hall D**

9-12

3-5

9-12

6-8

K-2

Bankers

Is Percent a Problem? Let's Talk Money 50 3-5, 6-8 Gas 2 Dana Enriquez-Vontoure, Houston Area Schools Join us to explore engaging and effective intervention strategies to help students from all backgrounds progress from decimals, fractions benchmarks to percent. Learn how to develop students' percent fluency through numeracy routines and strategies that capitalize on their previous math experiences to promote depth and conceptual understanding. **Opening the Middle: Diverse Solution Paths to** 3-5

51 **Enhance Mathematical Meaning** Bronze Sponsor: Janelle Duckett, Great Minds / Eureka Math &

Brian Lack. Forsuth County Schools

Students may use their burgeoning number sense, familiar tools, and new strategies to crack open an unfamiliar problem. In this session, explore a framework to share, compare, and connect strategies that can lift and support divergent thinking, address common misconceptions, and make visible the efficiency of various problem-solving methods.

Enhancing Learning Through Thinking Tasks 52 Silver Sponsor: Sherri Abel, Derivata Inc. **Georgia Power 1** The data is staggering! In a typical one-hour lesson, 75%-85% of the students are non-thinking 100% of the time, and the rest are non-thinking for all but 8-12 minutes of that time. It's time we change that! Participants will be engaged in the when, where, what, and how of increasing thinking in their classrooms.

Word Problems on Fire: Igniting Student Engagement 53

Karen Hensen & Carlie Oelke, Columbus Regional Mathematics Collaborative & Columbus State University Informational text reading will be related to teaching mathematics by weaving the strategies of 3

Read Protocol and Numberless Word Problems. See how students will be successful problem solvers when math is presented in context via word problems.

Bet You Haven't Solved Equations this Way! 6-8, 9-12 54

Hope Phillips & Peter Anderson, Columbus State University **Georgia Power 3** Promote sensemaking! No tools! Just draw a line! Connect number lines and algorithms to deepen students' quantitative and spatial reasoning.

Building Mathematical Mindsets & 55 **Revitalizing Reasoning**

Danielle Lanigan, Cobb County School District We all want our students to reason through problems and actually enjoy mathematics, but how do we get there? In this session, we'll explore methods to develop a positive mathematical mindset for ourselves and our students based on ideas from Jo Boaler and also dive into instructional practices and classroom-ready activities that use positive math mindsets to foster reasoning skills. Session repeats Friday at 11:00 AM.

Georgia Power 2

Hastings

K-2, 3-5

6-8, 9-12

3-5

Gas 3

Teaching Advanced Finite Mathematics 56 Chuck Garner, Rockdale Magnet School for Science and Technology **International Paper 2** Dive into the curriculum of the 4th-year high school option Advanced Finite Mathematics from the original author!

Engagement with Exciting 3 Act Tasks 57

Abby Hughes, Kittredge Magnet School 3 Act Tasks get kids excited about doing mathematics through authentic situations. For new teachers or teachers who haven't tried 3 Act Tasks who want strategies for implementation.

58 **Using Manipulatives and Models**

Platinum Sponsor: Susan Arnette,

STEMscopes by Accelerate Learning

In this session, teachers will engage with a variety of manipulatives and models from middle school and high school. Teachers will receive instruction on how to use the manipulatives and have a multi-targeted practice opportunity with each of the manipulatives. The facilitator and participants will discuss how the use of these manipulatives and models in their grade level both builds from elementary and prior grade level knowledge, as well as into future grade level spiraling. Session repeats Friday at 9:45 AM.

59 Soft Skills for Success on the AP Calculus Exam

Platinum Sponsor: Dennis Wilson,

Landmark Christian Schools (TI Instructor)

A strong understanding of the concepts of calculus is essential for success on the AP Calculus exam, but unfortunately this is not enough to ensure it. In this session, we will explore the "soft skills" that should be emphasized throughout the course. This includes the mathematical practice of good communication and notation as well as a strong understanding of when and how to use the calculator. Join us as we explore these skills through the lens of sample Free Response Questions.

60 **Teaching Inverses of Functions: Ideas You Have Not Used YET**

Tom Reardon, Fitch High School / Youngstown State University

Come explore and develop conceptual understanding of forming inverses of functions, with and without graphing technology. Leave with ideas for teaching inverses in your classroom, including inverses of trigonometric functions.

61 Working Towards Getting All Students on Grade Level

Christine King, Cking Education

This session focuses on how to use formative assessment data and prerequisite standards to target instruction and accelerate learning. We will explore how to use math manipulatives along with pedagogical structures that can be used to support all students in becoming proficient at grade-level standards. Participants will leave with an understanding and framework for accelerating learning.

9-12 **Krannert 3**

3-5, 6-8 **Krannert** 1

6-8, 9-12 **Krannert 2**

Wildlife Ecology 1

9-12

3-5, 6-8 Wildlife Ecology 2



Maintaining Your Balance by Rekindling Your Joy 62

Veronica Walton, Aaron Cohn Middle School

Wildlife Ecology 3 This is a follow up to last year's "Reclaiming Your Balance" session. In this session, we will focus more on ways to maintain those necessary boundaries needed to keep balance in your life. We will use our joy for teaching mathematics to lead the way!

63 Math Made Fun with Chexagon

3-5, 6-8, 9-12

General Interest

George Lanier, Foster-Johnson, LLC Wildlife Ecology 4 This session will demonstrate the use of the Math Checkerboard Game, Chexagon. This STEM math resource works in the classroom, afterschool programs, math clubs as well as for school competitions and district tournaments. Chexagon makes math a contact sport. Create the excitement for your Math Club and Mathletes to compete in mental math challenges.

Don't Forget! PE at GMC starts at 5:00 down at the EMC Senior Pavilion. There is something for everyone!

Concurrent Session D: 2:30 PM - 3:30 PM

64	Mathematical Moments that Leave Us Breathless and Wanting to Learn More	6-8, 9-12
Feat Onta	ured Speaker : Ron Lancaster, Associate Professor Emeritus rio Institute for Studies in Education of the gristic of Toronto	Bankers
Imag heard with be lik discu math	ine a moment of joy when something took your breath away. It might have d, a play or movie you saw, a poem or book you read, a meal, a sunrise or su nature, an invention, a piece of technology, or a magic show. Can you imagi a without such moments to remember that leave us breathless? Join Ron L ssion of what teachers can to do to ensure that students have similar encour ematics that leave them wanting to learn more.	been a song you nset, an encounter ne what life would ancaster for a nters with
·~+		^
65	The Danger of Math "Tricks"	6-8, 9-12

The Danger of Math "Tricks" 65 David Hornbeck, Rockdale Magnet School for Science and Technology

We have all likely used a variety of "tricks" and short-hands in our careers, from "Keep-Change-Flip" and "canceling" to "absolute value just makes everything positive." Some of these tricks involve changing vocabulary, while others turn more complex processes into easier ones. The question is: what ramifications might these "tricks" have on student understanding in the long term?

Callaway

Experience the Joy of a Thinking Classroom! 66

Stephanie Frey & Lisa Sill, Greenbrier High School

Experience strategies to engage your students using BTC methods from Dr. Liljedahl and hear how it brought JOY back into teaching for us!

General Interest 67 Joyful Math through the Arts, Games, and Movement Jamey Smith, Heritage High School & Evans Harrell, Georgia Tech **Dining Hall C**

Over several years we have produced artistic activities in which math is embedded and successfully demonstrated them in classrooms, school STEAM events, the Fulton County Teaching Museum, the Atlanta Science Festival, and elsewhere. We will talk about the lessons learned and share (free) resources teachers can use to rekindle their own students' mathematical curiosity and joy. Some activities are plug and play for use in the classroom. We will close with a creative discussion about novel ways to use games, art, music, and dance to enhance students' appreciation of math.

68 **Building Number Sense: Strategies for Understanding Relationships, Reasoning and Estimation**

Angela Summerford & Brooke Armesto, Bryan County Elementary **Dining Hall D** We will explore practical classroom strategies to address the common challenge of students lacking number sense in 5th grade. We will focus on developing students' understanding of numbers and their relationships through activities such as Number Talks and Estimating Jars. Our goal is to empower teachers to foster a deeper understanding of numbers, promote critical thinking, and encourage students to ask, "Does my answer make sense?"

69 Using the Dash Robot to Rekindle the K-2, 3-5, 6-8 Joy of Mathematics **EMC Senior Pavilion**

Alesia Moldavan & Shelli Casler-Failing, Georgia Southern University

This session introduces participants to the Dash robot and shares experiences from K-8 teachers about how to use Dash in the classroom.

70 **Connecting Spatial and Measurement Reasoning** 3-5 Bronze Sponsor: Jane Hannon, hand2mind

Come explore engaging tasks that will connect measurement reasoning to geometric thinking creating deep understanding of those ideas.

Effective Engagement 101 71

Lachandra Thomas-Mole, Grovetown Elementary School & Shannon Roberts-Kelly, Monte-Sano Elementary School

When your students describe math, do they say things like 'boring,' 'stressful,' and 'frustrating'? Do you wish they would say things like 'exciting,' 'interesting,' and 'fun"? Well, if that's the case, join us as we explore and discover how ideas such as mistakes, challenges, and reasoning can transform your math classroom and create an engaging atmosphere for thoughts, responses, and practice!

3-5, 6-8, 9-12, HE **Clover (in Dining Hall)**

3-5

Gas 1

3-5

Gas 2

Connections between Equation-Solving and Functions 6-8, 9-12, HE 72 Gas 3

J. Vince Kirwan, Kennesaw State University

Come explore connections between equation-solving algorithms, equivalent equations, and function transformations through technology.

73 **Algebra Tiles: Factoring and Completing the Square**

Bronze Sponsor: Ashley Boyd & Gerry Long,

CPM Educational Program

Build on students' understanding of an area model by using algebra tiles to multiply polynomials, factor, and complete the square.

74 Mathematics for Real World: Understanding the Statistical Problem Solving Process in K-5 Standards

Seyoung Holte, NEGA RESA

In this session, we will engage in a series of activities to understand the Framework for Statistical Reasoning, the progression of K-5 statistical reasoning standards, and how Statistical Problem Solving Process relates to Mathematical Modeling and Mathematical Practices.

Building True K-5 Problem Solvers 75

Bronze Sponsor: Angie Meredith. hand2mind

Come experience how using various problem types in a quick daily routine will help build true problem solvers.

Crash Course: STEM/STEAM Camp 76

Julie Matthews, Rockdale Magnet School for

Science and Technology

One of my passion projects as a teacher at a STEM high school has been to lead a STEAM camp for 4th-8th grade students. This camp has given my students and me so many rewarding experiences and I would like to help others start their own camps! Session repeats Friday at 2:30 PM.

Making Math Matter for Every Student

77 Making Math Matter for Every Student Tonya Clarke, Charlene Matthew, Marsha Lee, & Naketa Winfrey, Clauton County Public Schools

This session will provide strategies for reasoning and sense-making through tasks that promote mathematical modeling while developing conceptual understanding and computational skills. Participants will engage in the moves that make the math matter. True equity exists when all students are empowered to reason in ways that work for them.

Math is Everywhere! 78

Kiawana Kennedy, Georgia Public Broadcasting

Join GPB Education for a journey through our digital resources for elementary school math, including our content that supports foundational building blocks, interdisciplinary connections, computer science, and math in everyday life. Participants will also learn about teaching strategies that they can use in their classrooms to meaningfully engage students with the thousands of free digital resources available through PBS LearningMedia.

General Interest Hastings

General Interest

International Paper 2

K-2, 3-5 **Krannert** 1

Georgia Power 2

K-2, 3-5

Georgia Power 1

9-12

K-2, 3-5 **Georgia Power 3**

26

Math Talks: Promoting Dialogue in the Math Classroom 79

Platinum Sponsor: Susan Arnette,

STEMscopes by Accelerate Learning

Effective teaching of mathematics involves encouraging students to construct meaning through mathematical discourse. Students learn how to communicate and articulate mathematical ideas and use their reasoning skills to analyze perspectives shared by their peers in order to deepen their own mathematical understanding.

80 The 3 R's of Linear Regression: 6-8, 9-12 Correlation. Residuals. R² Platinum Sponsor/Featured Speaker Session: Daren Starnes **Krannert 3** Let's use TI technology to analyze a linear relationship, unpacking relevant standards with a focus on Statistical Reasoning. Participants will use the TI-84 to make a scatterplot, calculate correlation, determine a linear model, and analyze how well the model fits the data using residuals and r². Then, participants will use the TI-Nspire to investigate the idea of least-squares, explore connections between correlation and linear regression, visualize the meaning of r², and simulate a P-value.

Using Virtual Resources to Support Student Learning 81 6-8, 9-12 Alan Clark & Erin Macke, Georgia Connections Academu Wildlife Ecology 1 Witness how students are engaged synchronously and asynchronously with Zoom, Desmos Classroom, and Lesson Guides using Google Slides.

Incorporating Literacy in the Math Classroom 82

Sallie Lunzmann, Amy Jackson, & Brittany Oliver, Johnson County High School

Reading and writing belong in all disciplines. Using discipline-appropriate strategies will allow our students to think, speak, and write like mathematicians in the real world.

Engage Your Student with Mathematical Puzzles 83

Bobby Stecher, Stratford Academy & Abby Noble,

Middle Georgia State University

Mathematical Puzzles Program (MaPP) at Middle Georgia State organizes events that engage students in learning mathematics through collaboration and puzzle solving. Students move around campus, solve puzzles as a team, and most importantly have fun with math! At this session, you will get to experience the fun as a participant.

84 **Equitable Math Instruction through Cultural Relevance General Interest**

Bronze Sponsor: India White,

Big Ideas Learning / National Geographic

Scores from the National Assessment of Educational Progress suggest that if current educational practices in math classrooms remain the same, the achievement gap between Caucasians and African descent learners will be eliminated by around 217 years. To close the academic achievement gap for all students, teachers must be equipped with methods to conduct equitable instruction that is culturally relevant.

9-12 Wildlife Ecology 3

General Interest

Wildlife Ecology 2

K-2, 3-5

Krannert 2

Wildlife Ecology 4

Concurrent Session E: 3:45 PM - 4:45 PM

85Teacher Bag of Tricks: Escaping Common Formatives
Ebony Haskins, Savannah Christian Preparatory School3-5, 6-8, 9-12
BankersFind engaging ways to be intentional with your teaching practices. Let's create a gamified formative
review through digital escape rooms. Teachers will leave with ideas and strategies to capture
engagement for all students. Session repeats Friday at 2:30 PM.

86 Featured Speaker: David McMillion, Emory University	Callaway
See program supplement for information!	
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87Counting Craze: Engaging and Exciting Ways To
Facilitate Counting for Grades K-5K-2, 3-5Jocelyn Robbins, Fayette County Public Schools & Julie Fowler,Clover (in Dining Hall)

Jocelyn Robbins, Fayette County Public Schools & Julie Fowler, Retired Fayette County Elementary Instructional Coach

This session will focus on the counting strand in the new standards. We will take a deep dive into Choral Counting, Count Circles, and Counting Collections to show how these two instructional practices and routines support the foundations of math across grades K-5. Educators will have time to plan and collaborate and leave with new ideas to engage learners.

88 Building Numerical Fluency with Visual Number Talk Bars

Bronze Sponsor: Pamela Smith, EAI Education

The purpose of this session is to provide educators with an overview of strategies as they pertain to fluency with Addition and Subtraction Operations and automaticity with basic facts within Kindergarten through Grade 5. Come join the excitement of the Visual Number Talks Bars and how they are helping students develop fluency!

89 Building Fluency through Number Talks, Math Strings, and Student Centers

Bronze Sponsor: *Lisa Lindsey, hand2mind*

Learn how Number Strings and Math Talks connect strategies to increase fluency. Experience student centers that reinforce and support new strategies through application and practice.

K-2, 3-5

Dining Hall C

Dining Hall D

3-5

9-12

Undoing "I do we do you do": 90 **Centering Student Thinking**

Brittany Castanheira, Mercer University & Susan Cannon, University of Georgia

This session will focus on dismantling the heavily implemented gradual release model for teaching mathematics, otherwise known as the "I do, we do, you do" sequence. Presenters will guide attendees through alternative research-informed practices for sequencing mathematics lessons with the intention of centering student ideas and problem-solving strategies to enhance learning for all (including the teacher).

Strategies to Promote Discourse in Math Classrooms 91 6-8, 9-12 Gas 1

Bronze Sponsor: Gerry Long & Ashley Boyd, CPM Educational Program

Participants will actively engage in strategies that particularly deal with discourse while working through a rich math task.

Finding Joy in Group Work 92

Bronze Sponsor: *Joshua Thurbee, Knowles Teacher Initiative* Gas 2 Equalize learning experiences and inject joy for all students during group work by improving collaboration and increasing participation

Collaborative Planning Made Simple with 93 **Google Classroom**

Christian Kendrick & Gayle Herrington, Woodland High School Did you miss the planning meeting? Is your inbox full of emails about resources? Did you misplace the link you need for tomorrow's lesson? Join us to learn how to simplify your collaborative planning using Google Classroom.

Talk Mathy to Me: Using Mathematical Discourse to 94 6-8, 9-12 **Engage Students**

Silver Sponsor: Sherri Abel. Derivita Inc. **Georgia Power 1** Issues getting students to talk....mathematically? This session will focus on implementing low floor, high ceiling tasks designed to engage all students, as well as implementing the 5 Practices for Orchestrating Mathematical Discussions (Smith & Stein). You will leave armed to deploy these strategies the very next day. Come prepared to participate!

Teaching History of Mathematics 95

Chuck Garner, Rockdale School for Science and Technology **Georgia Power 2** Dive into the curriculum of the 4th-year high school option History of Mathematics from the original author!

General Interest

6-8, 9-12

General Interest

EMC Senior Pavilion

Gas 3

96 Investigating Sinusoidal Functions through Modeling

David Hornbeck, Rockdale School for Science and Technology Georgia Power 3 We will work through a modeling task that introduces both the concept of regression and transformations of sinusoidal functions using dynamic features in the TI-84 calculator. Teachers will also be provided with a few more TI-84- and Geogebra-oriented tasks for Precalculus: Concepts and Connections.

97 Keeping YOU in the NEW

Mandy Kelly & Kayley Sanders ,

Carrollton Upper Elementary School

The new standards have challenged us to change how we teach math. How can we embrace that challenge, while also continuing to do what we know works in our classrooms? Join us for a practical way to merge the new standards with best practices already in place to maximize student growth.

98A Bold Vision for Teaching and Learning MathematicsK-2, 3-5

Brian Lack, Forsyth County School District International Paper 2 Learn about how one school district developed a bold vision for teaching and learning elementary mathematics that has resulted in substantial positive changes in teachers' beliefs and practices.

99 Model Real-World Data

Tom Reardon, Fitch High School / Youngstown State University **Krannert 1** Obtain current data about hot car temperatures, opioid use, and gun violence. Then, use high school math to model this relevant data. Participants will walk away with handouts for students and with teacher solutions for these problems.

100	Productive + Struggle = Student Success in Mathematics	

Platinum Sponsor: Susan Arnette, STEMscopes by Accelerate Learning

Are your math students hesitant when presented with challenging tasks? Do they wait for you to rescue them at the first signs of struggle? Discover the value of productive struggle and explore key components essential to building a classroom that fosters grit and perseverance.

101 Understanding Inference for Random Sampling via Simulation 6-8, 9-12 Platinum Sponsor/Featured Speaker Session: Daren Starnes Krannert 3 Let's use TI technology to simulate sampling variability, estimate margin of error, and perform inference about a population parameter. Participants will use the Prob Sim APP on the TI-84 to simulate random sampling from a population and record their results on a poster dotplot to perform informal inference about a population proportion. Then, participants will use the TI-Nspire to visualize the simulated sampling distribution of a sample proportion, estimate a P-value, and determine the margin of error.

K-2, 3-5 Hastings

9-12

K-2, 3-5

Krannert 2

6-8, 9-12

STEM-ifying Quadratic Functions 102

Curtis Martin, Thomson Middle School &

Amanda Merritt, Southern Regional Education Board

Come experience a hands-on STEM project that engages students in developing their mathematical and scientific reasoning skills. As you explore quadratic functions, you will broaden your skillset as a teacher to enact exciting STEM lessons that connect math to science and also deepen students' literacy skills. You will walk away with a lesson you can implement in your classroom as well as strategies that you can infuse into other lessons throughout the school year.

Eureka! Unlocking Word Problems in the 103 K-3 Classroom

Tena Fulghum, Making Math Matter Wildlife Ecology 2 This session is designed to assist teachers of grades K-3 with using schema-based problem types to unlock additive word problems. Focus is on building mathematical comprehension through the use of graphic representations and language which allows scholars to take control of mathematical problem-solving. These problem types are found as the "Early Numeracy Math Problems Types" in the GADOE website. Session repeats Friday at 9:45 AM.

Building Number Sense: The Power of the 104 Number Line

Robbi Brown. Rock Chapel Elementary School & Angela Leach, DeKalb County School District

In this session, the participants engage in a variety of hands-on activities to develop fluency and numerical reasoning using the number line.

What's Your Angle? 105

Emily Brett & Jennifer Townsend, Arthur Williams Middle School Wildlife Ecology 4 Participants will use a candy activity to prove the Pythagorean theorem based on their sizes and areas. We will focus on exploring relevant digital examples to bolster understanding of Pythagorean triples and their converses. Geoboards will be used to help build a conceptual understanding of the Pythagorean Theorem by comparing their legs and hypotenuse. Finally, participants will demonstrate what they learned by finding diagonal distance on a map.

What great idea will YOU present next year?

Call for GMC 2024 Speaker Proposals

- The Speaker Proposal system will open **April 1**, **2024**.
- Speaker Proposals are due by **July 15, 2024**.
- All submitters will be notified of their speaker proposal status via email in August 2024.

Please ensure your email address is up to date on your submission.

6-8, 9-12

K-2, 3-5

Wildlife Ecology 1

Wildlife Ecology 3

6-8

K-2

5:00 PM PE at the GMC EMC Senior Pavilion

You've been sitting all day, so it's time for some movement!

Come join us for the famous Fun Run, Cornhole, Basketball, Zumba, and Games.



Thank you to **Carnegie Learning** for sponsoring PE at the GMC and providing t-shirts for participants.

6:30 PM Celebrating Susan Craig

Chapel

For those of us who have been around GCTM for a while, Susan Craig was someone you would count on seeing each year at the conference. She retired after 41 years in education in Richmond County. During her career, she was named 1986 Richmond County Teacher of the Year

and was awarded the Georgia 1985 Presidential Award for Excellence in Mathematics Education and the 2010 GCTM

Gladys M. Thomason Distinguished Service Award. Susan passed away on December 29, 2021. The membership of GCTM collected donations for a bench to be placed at Rock Eagle in her memory. This year, we celebrate Susan and dedicate the bench to her memory.



7:30 GCTM Awards Ceremony Clover (in Dining Hall)



Join us to celebrate our colleagues who have earned the 2023 GCTM Awards. Thank you to **ST Math** for sponsoring our Awards Ceremony.

8:30 Karaoke, Dancing, and Refreshments EMC Senior Pavilion

Following the awards ceremony, you are invited to the EMC Senior Pavilion for refreshments, music, and dancing! Thank you to **Derivata** for sponsoring this event.

Also: Building Thinking Classrooms open forum / follow-up in Hastings.

Key Takeaways – Take a deliberate pause to REFLECT!

Whether you are attending as a team, a small group or an individual, prioritize time **today** to reflect on **one** key takeaway from each of the sessions.

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Point to Ponder: How will you incorporate any of the NEW ideas and/or strategies in your school, class, and life?

Friday, October 20, 2023

8:30 AM Keynote Session

Talmadge Auditorium

Points of View: Building Space for Wonder, Joy, and Deeper Understanding *Francis Su, Harvey Mudd College, Author of* Mathematics for Human Flourishing

Beyond teaching math skills, we have a role as teachers of mathematics to open students up to joy and wonder to be found in thinking well. One of the best ways that happens in mathematics are the mental connections made when grasping an idea from multiple perspectives. These aha! moments provide opportunities for delight. They also point to larger lessons in teaching equitably. The virtue of taking up multiple points of view will serve our students well far beyond their math courses.

Friday Keynote Address is sponsored by American Book Company.

Don't forget to stay for the **door prizes** before heading off to a great day of learning!

Key Notes

Concurrent Session F: 9:45-10:45 AM

106 Connecting the Dots: Domino Math Games

Bronze Sponsor: Lori Triplett, Box Cars and One-Eyed Jacks

K-2, 3-5 Bankers

General Interest

Callaway

Come prepared to play our favorite games that cover the following concepts: operational fluency, place value, graphing, multiplication, fractions and more. Ideas for integrating into either whole class or small group instruction, differentiation and gameboards will be provided. Games would also be great for a family math games night.

. . ___ . ___ . ___ . ___ . ___ . ___ . ___ . ___ . ___

107Experiencing Mathematical Joy with a Remarkable
Children's Book Whose Pages Change in Size

Featured Speaker: Ron Lancaster, Associate Professor Emeritus Ontario Institute for Studies in Education of the

University of Toronto

Come and experience the joy and swell of emotions as we read a remarkable children's book whose pages get smaller and smaller and then larger and larger! When half-opened, the pages form a set of nested rectangles filled with beautiful artwork. We will explore these nested rectangles, along with others found in paintings and furniture, using content from the 6-12 mathematics curriculum. This book is a page-turner; teachers can use it to deepen students' learning one page at a time.

NOTE: Although the mathematical content will be from grades 6 - 12, elementary teachers will find ways of using the book, its design, the story and the artwork

• · ___ · ___ · ___ · ___ · ___ · ___ · ___ · ___

108Building Communities with Reasoning Routines and
DiscourseK-2, 3-5, 6-8, 9-12Skip Tyler, Collaborative Teaching and LearningClover (in Dining Hall)

Skip Tyler, Collaborative Teaching and Learning Group Consulting

Reasoning routines build community, increase discourse, enhance instruction, develop concepts, and set the stage for learning! Participants will engage in a variety of reasoning routines and leave with resources that can be used immediately in your classroom.

109 Building Numerical Fluency with Visual Number Talks Dot Models

Bronze Sponsor: Pamela Smith, EAI Education

The purpose of this session is to provide educators with an overview of a new tool and strategies as they pertain to fluency in Multiplication and Division Operations and automaticity of the basic facts within Grades 3-5. Come join this hour of learning and leave with the tool and strategies needed to immediately implement back in your classroom!

110 Developing Understanding of Area

Rachel Tuck, Spring Hill Elementary School &

Robyn Ovrick, University of Georgia

Participants will experience hands-on activities to help 3rd-4th grade students develop understanding of area. Bring laptop or tablet.

3-5

Dining Hall C

Dining Hall D

3-5

Using Desmos to Create Models 6-8, 9-12, HE 111 Ryan Hoffpauir, Dalton State College **EMC Senior Pavilion** In this session, we will explore features of Desmos that allow users to create graphs and equations that relate to real-life data. - · ___ · ___ · ___ · ___ · ___ · ___ · __

Using Applets to Explore Statistical Relationships 112 Featured Speaker: Daren Starnes, Independent Consultant

We'll use freely available applets to analyze relationships between two categorical variables and between two quantitative variables.

IVT, EVT, MVT and a Nifty Theorem 113

Marshall Ransom, Georgia Southern University Gas 2 The sometimes called "value theorems" are basic to elementary calculus. These will be reviewed and the way in which they appear and are scored on the AP Calculus Exam will be discussed. A theorem resulting from these will be described and proved. This is a theorem accessible to AP Calculus teachers, but one with which many teachers are not very familiar.

Come Get the TEA on Technology in AP Precalculus 9-12, HE 114

Dennis Wilson, Landmark Christian School

The description for AP Precalculus states that "Technology should be used throughout the course as a tool to explore concepts." In a rigorous college level precalculus course, how do we make time for such exploration? We will examine the handheld calculator and computer emulator as a tool for Teaching, Exploring, and Assessing mathematical concepts in the class. We will look at activities that focus the lesson on these mathematical concepts while allowing students to learn important calculator skills.

Problem-Solving Skills for the Modern Student 115 K-2, 3-5

Roger Studdard, Retired **Georgia Power 1** Problem-solving is important for students because it helps them develop critical thinking, creativity, and metacognitive skills. It allows them to approach complex problems systematically and logically, leading to better solutions. This session will highlight tips and strategies the educator may use to foster a more problem-solving environment.

Teach the Way You Were Taught or Try Change 116

Silver Sponsor: Reggie Revere, Carnegie Learning, Inc. **Georgia Power 2** Participants will experience a classroom setting, as we dive into strategies and essential ideas to reengage students.

Closing the Gap with the Thinking 117 **Classroom Practices**

Lisa Arnholt & Ezra Gonzales, Calvary Christian School Build a thinking classroom that supports equitable teaching practices and fosters engagement and critical thinking in students.

General Interest

General Interest

Georgia Power 3

Gas 3

Gas 1

9-12, HE

9-12, HE

Mathematical Modeling Matters: 118 **Resources for Real-Life Math**

Tynisha Robinson, Metro RESA

This session will explore why mathematical modeling matters to students and how it helps to build critical thinking, problem solving, and collaborative skills. We will explore the resources that keep mathematics relevant to students. Participants will use available resources and Georgia's K-12 Mathematics Standards to apply mathematics to real-life situations.

What Does Listening Have to Do With It? 119

Bronze Sponsor: Ashley Boud, CPM Educational Program

International Paper 2 This session is designed to be a practice space that is ideal for coaches, administrators, and teacher leaders. Participants will practice listening, thinking and responding-skills that are essential for developing professional relationships. In addition, participants will delve into the various types and purposes of paraphrasing. Practice active listening, critical thinking, and effective responses to better support teachers in the classroom.

This session is part of a special coach / leader strand.

Computation Fluency: Using Area Models to Make 120 Sense of Fraction Multiplication and Division

Chuchu Wu & Kathryn Early,

Georgia Southwestern State University

Participants will explore using area models to help students develop an understanding of fraction multiplication and division. Fraction manipulatives and area model drawing will be utilized for participants to explore and make connections between the structure of area models in fractions and the whole number multiplication and division.

Using Manipulatives and Models 121

Platinum Sponsor: Susan Arnette,

STEMscopes by Accelerate Learning

In this session, teachers will engage with a variety of manipulatives and models from middle school and high school. Teachers will receive instruction on how to use the manipulatives and have a multi-targeted practice opportunity with each of the manipulatives. The facilitator and participants will discuss how the use of these manipulatives and models in their grade level both builds from elementary and prior grade level knowledge, as well as into future grade level spiraling.

Focusing on Families of Functions 122

Platinum Sponsor: Beth Smith, Texas Instruments

From preAlgebra to preCalculus, functions play a vital role in our mathematics classroom. In this session we will use TI-84 Plus technology to build and strengthen conceptual understanding of functions through multiple representations. We will explore linear, quadratic, exponential, logarithmic, radical, polynomial, rational, and trigonometric functions.

Hastings

General Interest

6-8, 9-12

6-8, 9-12 **Krannert 2**

6-8, 9-12 **Krannert 3**

Krannert 1

3-5, 6-8

General Interest

Using Base 10 Blocks to Make Sense of 123 Whole Number Addition

Amira Alomran, Isabella Fairlamb, & Heidi Eisenreich,

Georgia Southern University

Participants will use base 10 blocks to solve whole number addition problems and connect base 10 block pieces to the word problem.

The Joy of Mathematics and Teaching 124

Lindsey Boozer, The Lovett School

Staying on brand with the conference's theme, this session will give space for us to remember what we love about teaching and mathematics.

Eureka! Unlocking Word Problems in the 125 K-3 Classroom

Tena Fulghum, Making Math Matter Wildlife Ecology 3 This session is designed to assist teachers of grades K-3 with using schema-based problem types to unlock additive word problems. Focus is on building mathematical comprehension through the use of graphic representations and language which allows scholars to take control of mathematical problem-solving. These problem types are found as the "Early Numeracy Math Problems Types" in the GADOE website.

126 **Reimagining Academic Discourse**

Karonda Foster-Mitchell, DeKalb County School District Wildlife Ecology 4 This professional learning presentation seeks to engage participants in situated learning experiences focusing on mathematics academic discourse. The participants will learn about a daily discourse protocol designed by educators at High Tech High School. The goal of this session is to aid teachers in facilitating engaging, robust, and enriching discourse.

Have you checked out our Sponsors in **Sutton Hall?**

Concurrent Session G: 11:00 AM - 12:00 PM

127 The Greatest Hits of Updating the **Traditional Math Classroom**

Michelle Mikes, Cobb County Board of Education **Bankers** Join this session to review some of the "greatest hits" over the past 30 years of effective strategies, alternate instructional structures, classroom environment, and the act of taking a risk in an effort to rekindle the joy in your classroom. Let's explore, engage, apply, and reflect on practices.

General Interest

Wildlife Ecology 1

K-2

Wildlife Ecology 2

General Interest

K-2, 3-5

Math Play, Fun, and Festivals (Part I) 128

Mary Garner & Virginia Watson, Gateway Community Math Center Callaway As directors of the Gateway Community Math Center, we've assembled a variety of resources to engage students with the kind of mathematical play described in Francis Su's book Mathematics for *Human Flourishing*. In this session you'll engage with games, puzzles, and activities suitable for different age groups. We'll be sharing our experiences running summer math camps, math festivals, and math circles, with low-floor high-ceiling math activities that can accommodate students who have a variety of math skills and confidence.

Teaching Mathematics with Problem-Based Learning 129 9-12

Jaymon Glaze, Gregory Chamblee, Tuyin An. & Denise Carroll. **Clover (in Dining Hall)** Georgia Southern University

Problem-based learning activities will be shared that teach the Georgia Algebra and Geometry curriculum.

130 **Art Integration in Mathematics**

Joshua Nelson, Woodland Elementary School

Dining Hall C Creativity is often deemed one of the most complex and cognitively demanding skills to promote, especially in mathematics. However, with the help of manipulatives we can create works of art that lead to curiosity and perhaps some mathematical conjectures. Come be creative and see what curiosity we can spark, and learn how to integrate art and expression into the mathematics classroom.

Using the Building Thinking Classroom to 131 Ignite the Joy

Miranda Hull, Marietta High School

I taught Geometry Support, On-level Geometry, and Honors Geometry using Building Thinking Classrooms. It was a dream to teach. We also just had our Marietta MathCon, and I am excited to share a year's worth of preparation with others.

Multiplicative Reasoning in Action 132

Bronze Sponsor: Mary Abele-Austin, BW Walsh / OGAP **EMC Senior Pavilion** Increase teacher content knowledge and provide instructional strategies! Solve a multi-digit multiplication task using the open area model, partial products, & traditional algorithm. Connect the three strategies and consider the use of this activity to support teachers to see these relationships. Encourage teachers to build flexible, fluent multiplicative reasoners.

_ . __ . __ . __ . __ . __ . _ _ . __ _ . _ 1₁₃₃ Making Sense of Statistical Inference 9-12 **Featured Speaker:** *Daren Starnes, Independent Consultant* Gas 1 We'll explore 2 simulation activities that help students develop the concepts of margin of error, Pvalue, and statistical significance. _ . __ . __ . __ . __ . __ . __ . __ . __ .

General Interest

Dining Hall D

3-5, 6-8

K-2, 3-5, 6-8

General Interest

Visualizing Approximation and Error in AP Calculus 134

Dennis Wilson, Landmark Christian School

From tangent lines to Riemann sums, Calculus gives access to quick approximations through many methods. But why do these methods provide an accurate approximation and how accurate are they? This session will explore different ways to help students visualize various methods of approximations such as tangent lines, Riemann Sums, and Taylor polynomials. The methods allow students to understand the errors produced by these approximations as well as convergence to an exact value.

Pacesetter to AP: Precalculus Through Modeling 135 9-12 Gas 3

Storie Atkins, Columbus High School Participants will engage in redesigned modeling tasks inspired from College Board's Pacesetter Precalculus Through Modeling curriculum.

136 **Empower & Rekindle:** Spiraled Math, Auto-Assessments, & Success Mia Allen & Lee Allen, Oconee County Schools / **Georgia Power 1**

Endless Feedback LLC

Spiraled teaching and auto-generated assessments unite for student success & teacher ease. Boost efficiency, reduce burnout, and rekindle joy in math!

Chess is Kinda Cool! 137

Daniel Holte, Statham Elementary School

In this session, we will explore how chess can be used in the gifted mathematics classroom to promote mathematical reasoning, mathematical practices, critical thinking and excitement. Participants will engage in example activities that connect mathematics to chess and how to bring the joy back to their classrooms.

Purposeful Learning Driven by Data 138

Bronze Sponsor: Keith Brown & Amanda Willis, McGraw Hill Education

Formative assessment can take the guessing out of planning meaningful differentiation. Teachers will see how exit tickets can decide on differentiated assignments.

Building Mathematical Mindsets and 139 **Revitalizing Reasoning**

Danielle Lanigan, Cobb County School District

We all want our students to reason through problems and actually enjoy mathematics, but how do we get there? In this session, we'll explore methods to develop a positive mathematical mindset for ourselves and our students based on ideas from Jo Boaler and also dive into instructional practices and classroom-ready activities that use positive math mindsets to foster reasoning skills.

General Interest Georgia Power 2

Georgia Power 3

K-2, 3-5

K-2, 3-5

Hastings

9-12, HE Gas 2

6-8, 9-12

Building Teacher Leader Capacity with 140 **Bite Size 20-Minute PD**

Heather Stechly, Jalencia Turner, Iesha Clarke, & Erin Roberts, Gwinnett County Public Schools

Coaches or leaders, learn how we implement a "Bite Size PD" coaching model to maximize our district-wide learning in less time. Explore strategies we use to deliver quick, impactful cycles of learning and check-ins to cultivate a culture of continuous growth and collaboration.

This session is part of a special coach / leader strand.

I Got To Do This With My Kids! 141 27 Clever Activities on TI-84

Tom Reardon, Fitch High School / Youngstown State University Krannert 1 Come learn about some engaging activities I've done with my students. I will share a website that contains student and teacher PDFs, and a 2-minute video of each activity. We will address topics from Algebra 1 to Calculus.

Mathematical Problem Solving for All Students 142

Platinum Sponsor: Susan Arnette, STEMscopes by Accelerate Learning

Teaching students to reason and problem solve is the cornerstone of quality math instruction. This session will highlight several engaging strategies such as Three Reads, Numberless Word Problems, and more that will provide multiple entry points for all students to engage in the math and ignite a passion for problem solving in your classroom!

The Joy of the TI-36X Pro 143

Platinum Sponsor: Debbie Poss & Don Slater, Texas Instruments Instructors

The TI-36X Pro is a relatively inexpensive scientific calculator that has some really neat features! Come and play with this one and see if it could find a place in your classroom.

From Doubt to Discovery: 144 **Cultivating Mathematical Confidence**

Brooke Armesto & Angela Summerford,

Bryan County Elementary School

Some kids feel they are 'just not math kids.' Explore transformative strategies to reignite their mathematical confidence and empower them as resilient problem solvers.

Enhancing Social Justice Math Lessons with 145 K-2, 3-5 **Diverse Texts**

Montana Smithey & Alesia Moldavan, Georgia Southern University Wildlife Ecology 2 This session introduces participants to interdisciplinary social justice math lessons referencing diverse picture books for use in elementary classrooms.

3-5, 6-8, 9-12, HE **Krannert 3**

General Interest

International Paper 2

6-8, 9-12

General Interest

Wildlife Ecology 1

K-2, 3-5

Krannert 2

CRA Is The Way To Teach Fractions 146 3-5 Sandra Scroggins, Scroggins Math Service Wildlife Ecology 3 In this session, participants will show CRA strategies that provide multiple opportunities for students to practice and demonstrate mastery of mathematical concepts.

Supporting Culturally Responsive Pedagogy with 147 IM K−5 Math[™]

Silver Sponsor: *LaToya Byrd, Illustrative Mathematics* Wildlife Ecology 4 Districts across the country are addressing inequities in math education by implementing culturally relevant and responsive pedagogy. In this session, we will highlight the design features of IM K-5Math[™] that support this effort.

Make it a goal to meet someone new today at lunch. Perhaps you will find a colleague who will partner with you to implement what you have learned this week.

Concurrent Session H: 1:15 PM - 2:15 PM

148 Solving Equations: A Unique Way of Storytelling Andrel Sims & Evonnie Jones, Valdosta High School **Bankers** Through the use of storytelling, learn an effective way to teach students how to solve algebraic equations. Participants will also be given a sample pixel art activity that can be utilized as student practice.

149 Math Play, Fun, and Festivals (Part II)

Mary Garner & Virginia Watson, Gateway Community Math Center Callaway As directors of the Gateway Community Math Center, we've assembled a variety of resources to engage students with the kind of mathematical play described in Francis Su's book Mathematics for Human Flourishing. In this session you'll engage with games, puzzles, and activities suitable for different age groups. We'll be sharing our experiences running summer math camps, math festivals, and math circles, with low-floor high-ceiling math activities that can accommodate students who have a variety of math skills and confidence.

Taking the Variation out of Teaching Variables 6-8 150 Gwen Masch & Heidi Eisenreich, Georgia Southern University **Clover (in Dining Hall)** Participants will use algebra tiles to make sense of solving linear equations to deepen student understanding of algebra.

6-8, 9-12

K-2, 3-5

6-8, 9-12

Power Play: Games & Strategies for 151 **Teaching Place Value**

Bronze Sponsor: Lori Triplett, Box Cars and One-Eyed Jacks **Dining Hall C** Come prepared to play games that incorporate the use of cards, dice, place value dice and number lines that teach the following concepts: composing/decomposing numbers, comparing numbers, identifying place value holders and its corresponding value, rounding and expanding numbers. Whole numbers - decimals will be explored, gameboards provided.

152 Using Manipulatives to Model Linear and **Quadratic Functions**

Angel Abney, Doris Santarone, & Brandon Samples, Georgia College and State University

The goal of this session is to use manipulatives, such as tiles, to generate visual, graphical and algebraic representations of linear and quadratic functions.

Math Is Play: Developing Mathematical Mindsets 153

Seyoung Holte, NEGA RESA &

Daniel Holte, Statham Elementary School

Our brain lights up when we play games. Playfulness is essential to bring joy, curiosity, and deeper reasoning & understanding. In this session, we will explore the characteristics and benefits of good games, connections between spatial, visual, temporal reasoning and mathematical reasoning & problem solving, and ways to foster playful minds as we play various interactive, hands-on games.

_ . __ . __ . __ . __ . __ . __ . __ . 154 AP Statistics 2023 Exam Debrief 9-12 Featured Speaker: Daren Starnes, Independent Consultant Gas 1 Exam readers will discuss the 2023 AP exam questions and how they were scored. Session runs from 1:15 PM - 3:30 PM. . . ___ . ___ . ___ . ___ . ___ . ___ . ___ . ___ . ___ . ___ .

The 2023 AP Calculus Exam 155 Marshall Ransom, Georgia Southern University Chuck Garner, Rockdale Magnet School for Science and Technology Dennis Wilson. Landmark Christian School The questions from the 2023 AP Calculus Exam will be discussed. This will include how these questions were scored by readers, concerns about student work, and suggestions for teachers. Session runs from 1:15 PM - 3:30 PM.

· --- · --- · --- · --- · --- · ---**Deepening Understanding of Supporting** 156 9-12 Students in the AP Precalculus Course Julie Harrison, Spelman College Gas 3 Engage in discussion on increasing student access to success in AP Precalculus by examining course content, the three Mathematical Practices, Free Response Ouestion components, and selected activities. All teachers interested in learning more are welcome to the conversations in this growing

• mathematical community. Session runs from 1:15 PM - 3:30 PM. . . ___ . ___ . ___ . ___ . ___ . ___ . ___ . ___ . ___ . ___ . _ . _

_ . _

6-8, 9-12

Dining Hall D

General Interest

EMC Senior Pavilion

9-12, HE Gas 2

9-12, HE

A Strategy to Engage All Learners that Gets 157 **Results Fast**

Silver Sponsor: Sherri Abel, Derivita, Inc.

What makes a strong assessment? Rigorous questions aligned to the standards! Attend this session to learn how to Level-Up your questions to more fully align to the standards, engage students, and yield higher outcomes on all assessments.

158 "Hands-on" Activities for Preservice Teachers using Virtual Manipulatives

Nikita Patterson. Georgia State Universitu **Georgia Power 2** This presentation will give examples of virtual manipulatives used for an undergraduate mathematics course for preservice elementary school teachers. The audience will be able to experience using these virtual manipulatives and discuss the benefits and disadvantages of their use.

Ah-Ha! Games for the Brain 159

Honora Wall, EduCalc Learning **Georgia Power 3** Elevate your math games beyond multiplication facts and speed trials! Learn how art and languagebased games promote math confidence and competence in this hands-on session.

160 **Playing with Your Math**

6-8, 9-12 Peter Anderson & Hope Phillips, Mathematics Collaborative at Hastings Columbus State University Rekindle your joy for math and teaching by experiencing a BTC lesson (and then ask the teacher questions)! Come experience Building Thinking Classrooms through a student's eyes.

Finding and Building a Professional Community 161 for Teaching

Shaffiq Welji, University of Georgia **International Paper 2** Learn about different models of PLCs. Take away best practices from research on starting and strengthening PLCs, and discuss challenges and ideas for overcoming them. This session is part of a special coach / leader strand.

162 12 Analog Clock Activities: Arc Lengths, Sectors, & Segments

Tom Reardon, Fitch High School / Youngstown State University **Krannert** 1 These 12 activities contain a great deal of applied geometry that can all be illustrated on the face of a clock. Calculate the distance traveled by the hands of a clock and the areas of sectors/segments at certain times. When do minute and hour hands coincide? There are several interesting patterns in the answers. And the solutions are not trivial!

General Interest

3-5, HE

General Interest

General Interest

Georgia Power 1

How to Teach Effectively in a Hybrid 163 Synchronous Classroom

Russell Lawless, Greater Atlanta Christian School

This presentation will focus on positive ways to teach effectively in a hybrid synchronous model considering strategies such as defronting a classroom, creating visibly random groups, developing a positive learning environment, implementing non-curricular tasks, assessing the role of homework, and intentional questioning.

164 Fall in Love with Rover

Debbie Poss & Don Slater. GCTM

Krannert 3 Learn how to use and program the robotic vehicle Rover to enhance student engagement and understanding of topics from Algebra I to Precalculus.

165 **Creating a Thinking Classroom**

3-5, 6-8 Allison Speece & Darcie Pritchett, Clear Creek Middle School Wildlife Ecology 1 This session is designed to help provide teachers with strategies and activities to build thinking classrooms. Participants will have a chance to participate in activities they can use in the classroom to help students think their way through challenging questions.

166 Art and Symmetry

Ryan Hoffpauir, Dalton State College In this session, we will explore how art can be used to teach symmetry. We will explore mandalas and tessellations.

Making Sense of Decimal Operations: 167 Let's Talk Money!

Dana Enriquez-Vontoure, Houston Area Schools Wildlife Ecology 3 Join us to explore engaging and effective intervention strategies to help students from all backgrounds progress from whole numbers to decimal operations. Learn how to develop students' decimal fluency through numeracy routines and strategies that capitalize on their previous experiences with money and promote depth and conceptual understanding.

168 **Mathematics of Industry and Government**

Brian Swanagan, Floyd County College and Career Academy & Andrew Smith, Adairsville High School

Interested in teaching a mathematics course that models real world situations with engaging tasks that demonstrate application? Teachers will review some tasks created for the 4th year course, Mathematics of Industry and Government. Teachers will also have an opportunity to ask questions of presenters who designed and organized the tasks for this course.

General Interest Wildlife Ecology 2

3-5, 6-8

9-12

Wildlife Ecology 4

Krannert 2

6-8, 9-12

9-12

Concurrent Session I: 2:30 PM - 3:30 PM

Friday, October 20, 2023

GaDOE Update: Elementary 169

Jenise Sexton & Denise Castleberry,

Georgia Department of Education

Come explore and engage with resources to support the implementation of our newly adopted Georgia K-12 Mathematics Standards for Grades K-5. Engage with the Essential Instructional Guidance and learn evidence-based strategies to support the implementation of Georgia's K-12 Mathematics Standards for Grades K-5. The Georgia Early Numeracy Project, Georgia Inspire, new instructional units, interdisciplinary tasks and activities, and mathematical modeling experiences will be explored. Additionally, strategies to support learner variability will be shared.

Crash Course: STEM/STEAM Camp 170

Julie Matthews, Rockdale Magnet School for Science and Technology

One of my passion projects as a teacher at a STEM high school has been to lead a STEAM camp for 4th-8th grade students. This camp has given my students and me so many rewarding experiences and I would like to help others start their own camps!

Change The Story: Redefining Mathematics Instruction General Interest 171 **Clover (in Dining Hall)** Skip Tyler, Collaborative Teaching and Learning Group Consulting Use Math Workshop and Building Thinking Classrooms to "change the story" about Tier 1 math instruction to meet the needs of ALL students.

172 **GaDOE Update: Middle School**

Kenneth Golden, Georgia Department of Education

Dining Hall C Come explore and engage with resources to support the implementation of our newly adopted Georgia K-12 Mathematics Standards for Grades 6-8. Engage with the Essential Instructional Guidance and learn evidence-based strategies to support the implementation of Georgia's K-12 Mathematics Standards for Grades K-5. The Georgia Early Numeracy Project, Georgia Inspire, new instructional units, interdisciplinary tasks and activities, and mathematical modeling experiences will be explored. Additionally, strategies to support learner variability will be shared.

Learn to Teach the Hands-On Way 173

Bronze Sponsor: Jane Hannon, hand2mind The new standards will impact Georgia math instruction. Come see how to guide current and prospective teachers in using manipulatives.

Teacher Bag of Tricks: Escaping Common Formatives 3-5, 6-8, 9-12 174

Ebony Haskins, Savannah Christian Preparatory School **EMC Senior Pavilion** Find engaging ways to be intentional with your teaching practices. Let's create a gamified formative review through digital escape rooms. Teachers will leave with ideas and strategies to capture engagement for all students.

General Interest

Callaway

6-8

K-2, 3-5, 6-8, HE **Dining Hall D**

GaDOE Update: High School 175

Karla Cwetna & Jacqueline Hennings,

Georgia Department of Education

Come explore and engage with resources to support the implementation of our newly adopted Georgia K-12 Mathematics Standards for Grades 6-8. Engage with the Essential Instructional Guidance and learn evidence-based strategies to support the implementation of Georgia's K-12 Mathematics Standards for High School. The Georgia Early Numeracy Project, Georgia Inspire, new instructional units, interdisciplinary tasks and activities, and mathematical modeling experiences will be explored. Additionally, strategies to support learner variability will be shared.

Picture Perfect PLC 176

Tevin Smith, Paul D. West Middle School & Crystal Billingslea, Sandtown Middle School

Leaders will learn how to implement effective mathematical PLCs that support teacher and student learning in an engaging environment that fosters, promotes, and supports school improvement. This session is part of a special coach / leader strand.

Exploring Connections Between Forms of 177 **Linear Equations**

Bronze Sponsor: Gina Wilson, Knowles Teacher Initiative **Krannert** 1 Derive forms of linear equations from the slope equation & explore connections between those and absolute value and quadratic equations.

Let's Play Function of the Day! 178

Debra Richardson, Osceola County School District Function of the Day is an engaging method for teaching math vocabulary and concepts related to functions that is creative and fun. Function of the Day fosters verbalization and collaboration. Learn how to use Function of the Day interactive daily bell work with your students. It can be used with various levels of High School Math courses.

179 **Roving through Geometry**

Suzette Hermann, Texas Instruments Instructor Looking for a way to engage students in learning basic geometric properties? Use the Rover and TI technology to investigate and discover fundamental properties of triangles and quadrilaterals.

Thank you for attending! We look forward to seeing you next year at the 65th Annual **Georgia Mathematics Conference** October 16-18, 2024

9-12 Hastings

International Paper 2

General Interest

6-8, 9-12, HE **Krannert 2**

6-8, 9-12

Krannert 3

6-8, 9-12, HE

Key Takeaways – Take a deliberate pause to REFLECT!

Whether you are attending as a team, a small group or an individual, prioritize time **today** to reflect on **one** key takeaway from each of the sessions.

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Point to Ponder: How will you incorporate any of the NEW ideas and/or strategies in your school, class, and life?

2023 Georgia Mathematics Conference Board

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Both Sides of Sutton Hall *Thursday 9 AM – 4:30 PM*

Friday 9 AM – 1 PM

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- Mastery Education
- National Council of Teachers of Mathematics
- National Geographic / Cengage
- Riverside Insights
- Savvas
- Georgia Teacher Retirement System (TRS)
- University of Georgia Mathematics Education

Thursday Session Grid

Lead speakers for each session are listed.

	9:45 - 10:45	11:00 - 12:00	1:15 - 2:15	2:30 - 3:30	3:45 - 4:45
Bankers	Lorenzo Robinson	Vinnie Prasad	Ashley Garner Ron Lancas		Ebony Haskins
Callaway	Rich Stuart	Shelli Casler- Failing	Kimberly Conley	David Hornbeck	David McMillon
Clover (Dining Hall)	Lori Tripplett	Richard Woods	Lisa Lindsey	Stefanie Frey	Jocelyn Robbins
Dining Hall C	Michael Wiernicki	Angie Meredith	Darcie Pritchett	Jamey Smith	Pamela Smith
Dining Hall D	Shaina Bryant	Jane Hannon	Ryan Doughterty	Angela Summerford	Lisa Lindsey
EMC Sen. Pavilion	Allison Speece	Seyoung Holte	Gayle Herrington	Alesia Moldavan	Brittney Castanheira
Gas 1	Jordan Moreno	India White	Kevin Dykema	Jane Hannon	Gerry Long
Gas 2	Heidi Eisenreich	Lateisha Andrews	Dana Enriquez- Vontoure	Lachandra Thomas-Mole	Joshua Thurbee
Gas 3	Chris Michael	Brandi Worsham	Janelle Duckett	Vince Kirwan	Christian Kendrick
GA Power 1	Basil Conway	Isabella Fairlamb	Sherri Abel	Ashley Boyd	Sherri Abel
GA Power 2	Jennifer Tukes	Debra Richardson	Karen Hensen	Seyoung Holte	Chuck Garner
GA Power 3	Julie Schirmer	Tynisha Robinson	Hope Phillips	Angie Meredith	David Hornbeck
Hastings	Hayley Gilbert	Hannah Blalock	Danielle Lanigan	Julie Matthews	Mandy Kelly
International Paper 2	Tammy Donalson	Robert Gerver	Chuck Garner	Tonya Clarke	Brian Lack
Krannert 1	Tom Reardon	Angela Leach	Abby Hughes	Kiawana Kennedy	Tom Reardon
Krannert 2	Susan Arnette	Susan Arntte	Susan Arnette	Susan Arnette	Susan Arnette

	9:45 - 10:45	11:00 - 12:00	1:15 - 2:15	2:30 - 3:30	3:45 - 4:45
Krannert 3	Dennis Wilson	Tom Reardon	Dennis Wilson	Daren Starnes	Daren Starnes
Wildlife Ecology 1	Cassie Martin Reynolds	Rita Linnemann	Tom Reardon	Alan Clark	Curtis Martin
Wildlife Ecology 2	David Hornbeck	Jalencia Turner	Christine King	Sallie Lunzmann	Tena Fulghum
Wildlife Ecology 3	Gina Wilson	Lisa Brown	Veronica Walton	Bobby Stecher	Robbi Brown
Wildlife Ecology 4	Michelle Bateman	Savvas	George Lanier	India White	Emily Brett

Friday Session Grid

Lead speakers for each session are listed.	
1 5	

	9:45 - 10:45	11:00AM - 12:00	1:15 - 2:15	2:30 - 3:30
Bankers	Lori Triplett	Michelle Mikes	Andrel Sims Jenise Sexton	
Callaway	Ron Lancaster	Mary Garner	Mary Garner	Julie Matthews
Clover (Dining Hall)	Skip Tyler	Jaymon Glaze	Gwen Masch	Skip Tyler
Dining Hall C	Pamela Smith	Joshua Nelson	Lori Triplett	Kenneth Golden
Dining Hall D	Rachel Tuck	Miranda Hull	Angel Abney	Jane Hannon
EMC Senior Pavilion	Ryan Hoffpauir	Mary Abele-Austin	Seyoung Holte	Ebony Haskins
Gas 1	Daren Starnes	Daren Starnes	Daren	Starnes
Gas 2	Marshall Ransom	Dennis Wilson	Marshall Ransom	
Gas 3	Dennis Wilson	Storie Atkins	Julie Harrison	
GA Power 1	Roger Studdard	Mia Allen	Sherri Abel	
GA Power 2	Reggie Revere	Daniel Holte	Nikita Patterson	

	9:45 - 10:45	11:00AM - 12:00	1:15 - 2:15	2:30 - 3:30
GA Power 3	Lisa Arnholt	Keith Brown	Honora Wall	
Hastings	Tynisha Robinson	Danielle Lanigan	Peter Anderson	Karla Cwetna
International Paper 2	Ashley Boyd	Heather Stechly	Shaffiq Welji	Tevin Smith
Krannert 1	Chuchu Wu	Tom Reardon	Tom Reardon	Gina Wilson
Krannert 2	Susan Arnette	Susan Arnette	Russell Lawless	Debra Richardson
Krannert 3	Beth Smith	Debbie Poss	Debbie Poss	Suzette Hermann
Wildlife Ecology 1	Amira Alomran	Brooke Armesto	Allison Speece	
Wildlife Ecology 2	Lindsey Boozer	Montana Smithey	Ryan Hoffpauir	
Wildlife Ecology 3	Tena Fulghum	Sandra Scroggins	Dana Enrique- Vontoure	
Wildlife Ecology 4	Karonda Foster Mitchell	Latoya Byrd	Brian Swanagan	



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We are 100% positive you do!

Wouldn't it be great if that person could be publicly recognized for their work?

Please consider nominating a colleague, mentor, or former student for one of the Georgia Council of Teachers of Mathematics Awards.

For more information, see <u>www.gctm.org/awards</u> and page 7 of this program book.

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ATTENDANCE CONFIRMATION FORM 2023

Participant's Name: _____School System: _____

Session #	Session Title and Presenter	Presenter Initials
1.		
2.		
3		
4.		
5.		
6.		
7.		
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9.		
10.		
11.		
12.		
13.		
14.		

I have attended the sessions as indicated.

Signature

EMERGENCY INFORMATION

In case of a medical emergency, notify Rock Eagle staff to activate the facility emergency plan:

- During office hours (8 AM 5 PM), use a cell phone to call the administrative office at 706-484-2899 or use a building phone and dial **2899**.
- Outside office hours, use a cell phone to call 706-484-2821 to reach the person on duty in the guard house (front gate) or use a building phone to dial 2821.
- When the dining hall building is open, request the serving staff to notify the manager on duty. If outside of serving hours, walk into the back of the serving area to reach the dining hall office.
- AEDs are located in these buildings:
 - Administrative Office
 - Dining Hall
 - Georgia Power

 - Guard House (front gate)





Program Corrections and Changes

Sponsors

Silver Sponsor: Derivita, Inc.

Correction: Dreambox Learning (not Dreamworks)

Bronze Sponsor Additions:

- 3P Learning
- Amplify
- First in Math
- McGraw Hill Education



Pre-Conference Presenters:

- K-5 Jennifer Donalson & Caitlin Donalson
- 6-8 Wes Cooper

Omissions from Speaker Index (in addition to changes noted on back):

- George Lanier, Session 38
- Joshua Nelson, Session 130
- Robyn Ovrick, Session 110

Featured Session	Thursday 3:45pm
Session 86	The Mathematics of Justice

Callaway

David McMillon, Emory University

Euclid famously asserted that *two things which are equal to the same thing, are equal to each other*. He viewed this as axiomatic, as "self-evident." Over 2000 years later, we find ourselves unable to rationalize the self-evident truth that all are created equal, with the long-term effects of historical and contemporary injustice. In Georgia, we have chosen to respond to this inequality of opportunity by imposing restrictions on the very people responsible for teaching children how to plant a just society from the ashes of our past. Not only will our response impact equitable access to mathematics-it turns out that mathematics can be harnessed to optimize our response.

In this session we will explore the mathematics of justice in three ways. First, we will examine how historical injustices impact inequitable access to mathematics education. Second, we will investigate how mathematics can be concretely harnessed to fight against injustices in public policy, education, economics, and law. Third (a call to action), we will draw on what mathematicians call the *axiom* to illustrate that joy is not something that must be rekindled-it is something that must be *believed*. Accepting joy as an axiomatic, spiritual gift affords us the perseverance we need to bend the moral arc of the universe towards justice, against seemingly insurmountable odds.

Changes and Additions

Session 39 will be presented by Anna Houseman, Head of Group Marketing at Riverside Insights.

Session 97 Keeping YOU in the NEW with Mandy Kelly and Kayley Sanders is being replaced by

(NEW) Session 180 Empowering High School Minds Through Engaging Strategies & Mathematical Modeling (Grades 9-12)

Kenneth Golden, Georgia Department of Education

In this interactive session, participants will explore engaging teaching strategies for high school math. Learn to incorporate mathematical modeling, effective mathematical teaching practices, and the standard for mathematical practice for more impactful classroom sessions. Leave inspired to transform your classroom and create a dynamic and stimulating learning environment that captures students' attention and fosters their active participation.

Session 158 "Hands-on" Activities for Preservice Teachers using Virtual Manipulatives with Nikita Patterson is being replaced by

(NEW) Session 184 The Beauty of the Double Number Line (Grades 6-8)

Kelly Edenfield, University of Georgia

The double number line is a powerful tool in middle school to help students develop and use number sense to solve ratio problems, graph equivalent ratios on a coordinate plane (leading to the study of proportionality and eventually slope), make sense of algebraic expressions, and solve multi-step problems. Let's double down with the double number line!

Session 159 Ah-HA! Games for the Brain with Honoria Wall is being replaced by

(NEW) Session 181 What's the Big Idea? (Grades 6-8)

Katie Laskasky, Tatiana Mirzaian, & Cyndia Acker-Ramirez, CORE Learning Prioritize and tell your grade level math story with the Big Ideas. Identify key concepts and representations that will strengthen student understanding and build mathematical thinking. Explore translating between representations.

Session 169 GaDOE Update: Elementary has been moved to Thursday at 9:45 am in the Auditorium. The session will be facilitated by Jenise Sexton of the GaDOE.

Sessions 172 & 175 GaDOE Update: Middle School and GaDOE Update: Middle School have been combined to Middle and High School (grades 6-12) and moved to Thursday at 1:15pm in the Auditorium. The session will be presented by Karla Cwetna and Lya Snell of the GaDOE.

(NEW) Session 182 Interdisciplinary Tasks and Activities

Jacqueline Hennings & Denise Castleberry, Georgia Department of Education Come and join this interactive, hands-on session led by the GaDOE Math Team to learn more about how to best implement the standards to support student learning at high levels.

(NEW) Session 183 The ABCs and 123s of CRA (Grades 3-5) Friday 2:30pm GA Power 3 Tatiana Mirzaian, Katie Laskasky, & Cyndia Acker-Ramirez, CORE Learning

Interested in leveraging Concrete Representational Abstract (CRA) with your curriculum? Learn how to apply and connect the CRA structure to build an understanding of big math ideas. Analyze math tasks that allow students to connect representations.

Friday 2:30pm Bankers

Program Corrections and Changes

(Note: Any changes or corrections **submitted by Friday**, **October 13** can be found on the **Program Addendum on our website**, which is also available at registration on green paper.)

Sponsor Name Correction: Horace Smith, listed in the program, is **CSePub**. **Additional Bronze Sponsor:** CKing Education

Featured Speaker Spelling Clarification: Dr. David McMillon's name (Session 86) was mistakenly spelled McMillion in the program. We sincerely apologize for the error.

Omissions from Speaker Index:

- Byrd, 147
- Kendrick, 93
- Scroggins, 146

SCROLL DOWN

FRIDAY

Cancellations:

• 2:30 PM - Session 174 **Teacher Bag of Tricks: Escaping Common Formatives** with Ebony Haskins - The session is being offered on Thursday at 3:45 PM

Program Corrections and Changes

THURSDAY

Additions:

• 1:15 PM - Session 185 Family Math Festival with Brian Lack Grades K-8 will be held in Gas 3

Learn how to strengthen community engagement around joyful and rigorous math play that builds logical/critical thinking skills and perseverance. In this session, you will get to experience several interesting low-floor, high-ceiling tasks and puzzles that can be used for family math events, or even as enrichment options in your classroom. You'll also get a blueprint for how to coordinate your own family math festivals on a shoestring budget.

Cancellations:

- 1:15 PM Session 51 **Opening the Middle: Diverse Solution Paths to Enhance Mathematical Meaning** with Janelle Duckett & Brian Lack (due to illness)
- 1:15 PM- Session 62 **Maintaining Your Balance by Rekindling Your Joy** with Veronica Walton (due to a family emergency)
- 3:45 PM- Session 103 **Eureka! Unlocking Word Problems in the K-3 Classroom** with Tena Fulghum (due to family emergency) Session will be held on Friday at 9:45 AM

No Shows:

• 11:00 AM - Session 28 Equitable Math Instruction through Cultural Relevance with India White, Big Ideas Learning / National Geographic

AWARDS CEREMONY has been moved to EMC Pavillion!

Program Corrections and Changes

As of 10:19am on 10/19, Cynthia Brantley is in the lead for our Scavenger Hunt!

Join in the fun: bit.ly/GMC23SH

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