

7:00 – 8:30 AM	Breakfast	Dining Hall A-B
8:00 – 9:00 AM	Welcome First Timers	Clover (Dining Hall)
7:30 AM – 6:00 PM	Registration and Lodging	International Paper
8:00 AM – 4:30 PM	Conference sessions	Various Buildings
9:00 AM – 4:30 PM	Exhibits	Sutton Hall
11 AM – 12 Noon	<b>State School Superintendent Candidate Forum</b>	Auditorium
11:30 AM – 1:00 PM	Lunch	Dining Hall A-B
4:45 PM	PE at the GMC	Senior Pavilion
5:45 – 6:45 PM	Dinner	Dining Hall A-B
7:15 PM	Evening session	Auditorium
8:45 PM	Music & Dancing	Senior Pavilion
9:00 – 9:30 PM	Registration and Lodging	International Paper

## 8 – 9 AM

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

*Dan Funsch, GCTM President & The Alleluia Community School*

*Kaycie Maddox, GCTM President-elect & Northeast Georgia RESA*

In this session you will gain some tips to help you get the most out of the conference. This session is only for first timers and especially for newer teachers. It is brought to you by the Executive Committee of the Georgia Council of Teachers of Mathematics.

### **Make Math Accessible – The Smart Way (Grades 7 – 12)**

*Connie Cox, Turner County HS*

Strategies that make middle and secondary level mathematics will be the focus of the presentation. Using these strategies can make math easier for the average students. Short-cuts and "tricks" will be shown that can enable even our lowest level students to experience success in math. Strategies will include working with fractions, squaring large numbers, solving systems of equations, factoring trinomials, and multiplying polynomials.

### **Tricks of the Trade (Grades 2 – 5)**

*Marian Dingle, DeKalb County School District*

*Iris Im, Fulton County Schools*

Ok, admit it: Do you sometimes teach your students "tricks" or shortcuts for retaining concepts or students to memorize concepts or steps in algorithms? We have all done it. Did you know that by doing this, we can potentially be harming our students' long-term mathematical development? In this workshop, we will discuss many of these "tricks" we have used and offer alternatives that allow students to connect their learning from year to year.

### **First in Math (Grades 1 – 7)**

*Brett Eaker, Hart Inc.*

First in Math is an online competition style program based on the popular 24 Card Game. The competition aspect gives students the motivation to practice and expand their math skills hence promoting fact fluency and higher order thinking skills. Implementation help and suggestions will be covered along with demos for trials for schools who have never competed. Georgia students solved over 240 million math problems correctly 13/14.  
{ Vendor }

**Fluency, Games, and Award-Winning Ways** (Grades 1 – 8)*Marty Esterman, Fluency Games, LLC*

Many students who begin to have problems from 3rd to 8th grade are simply not fluent in basic computation. Improving computational fluency is critical to student confidence, success, ability, and enjoyment for math! Computational fluency is not only a standard, but a theme throughout the CCGPS. This session will discuss why fluency is important to student success, detractors in building fluency, strategies for creating effective tools, plus activities and games to help build fluency. {Vendor}

**Number Talks in Depth** (Grades K – 5)*Mollie Hall, Locust Grove ES*

Have you tried Number Talks? Do you need more information to be more successful? Come to learn more and have your questions answered about your current practices with Number Talks. Together we can “build bridges” to learning!

**Developing a System for Keeping Track of Student Observations** (Grades K – 12)*Shannon Hart, Atlantic Public Schools*

As teachers walk around the room and question their students, they gather valuable information. How do teachers keep track of that information? During this workshop teachers will learn how to develop a systematic plan for gathering information about students and recording that observational data. Observational data can be used to plan lessons, provide targeted support, conduct parent conferences, and many other uses.

**Exploring Algebraic Concepts Using the Four-Pan Balance** (Grades 7 – 9)*Gary Nelson, Georgia Gwinnett College*

Attendees will work in groups using the balance to explore algebraic concepts such as solving equations and inequalities, investigating equations in two variables and solving simple systems of equations.

**The Tangy Drink - Model Concept-Driven Learning to Address Ratio** (Grades 6 – 8)*Rudy Neufeld, Neufeld Learning Systems and Tisa Spinelli, Centennial Academy*

This presentation addresses ratio tables, double number lines, sampling and scale drawings. Specific lessons using instructional technology will model differentiation through multiple entry points as well as multisensory experiences and seamless integration of content and instruction. {Vendor}

**Problem Solving, Data, and Math – Oh My!** (Grades 3 – 5)*Vinnie Prasad & Nicole Anderson, Cobb County School District*

No more lions, tigers and bears...it's all about rubrics, checklists and reflections for teachers and students. This session will provide third, fourth and fifth grade teachers with examples of word problems, math rubric and a data sheet to use. Teachers will walk away with a better idea of how to efficiently use a math data wall to increase achievement with their students.

**10 Days to Multiplication Mastery** (Grades 3 – 5)*Rich Stuart, Learning Wrap-ups, Inc.*

Teach your students Multiplication Facts in 10 Days by emphasizing the power of Commutative Properties along with fun methods of practice. {Vendor}

**Research and Randomization: Tools for Meaningful Statistics** (Grades 10 – College)*Dianna Spence & Gregg Velatini, University of North Georgia*

We show examples of two strategies that can make statistics meaningful to students, and discuss how these strategies can complement one another. The first strategy is the use of authentic student-directed research projects, in which students are responsible for defining research variables, collecting data, organizing the data, and conducting appropriate analyses. The second strategy is the use of randomization, both to introduce the logic of statistical inference, and as a legitimate alternative to theoretical tests. Both methods help students focus on the underlying concepts of statistics, rather than rote processes.

**8 – 9:30 AM****CCGPS, Questioning Techniques, Technology, and Rich Tasks** (Grades 6 – College)*Tom Reardon, Youngstown State University*

3 activities that promote active student engagement and are mapped to the practices and standards. Specific instructional strategies that stimulate deeper conceptual understanding. Discover, explore, investigate, analyze with appropriate technology: handheld, iPad, software.

**Dommino Math Games – Connecting the Dots** (Grades K – 5)*John Felling, Box Cars and One-Eyed Jacks*

Come prepared to play games that incorporate the use of standard dominoes that teach: numeration, place value and patterning, operations, graphing, fractions and more. This manipulative is easy to use and integrate into your math program and the games are appealing to all learners. Great gameboards, classroom and resource management tips, and ideas to use Monday in your regular, Title, RTI and afterschool programs. {Vendor}

**Student Engagement: The Unconventional Way** (Grades 4 – 12)*Takiwi Milton, Richmond County School System*

Are your students bored with the same unexciting lessons? Are you looking to add some “spice” to your classroom environment? If you've answered yes, this is the session for YOU! This session is focused on incorporating unconventional, creative, and engaging strategies in math. Come experience the FUN!

**Implementing Interactive Notebooks for High-Stakes Testing** (Grades 6 – 12)*Kalisha Sackey & Tonja Simpson, Stephenson HS*

Learn how to set-up and implement interactive math notebooks into your class to prepare students for high-stakes testing. Attendees will create their own graphic organizers and folder pockets as well as teach their students to chart their data to self-monitor their mastered standards. In the end, attendees will leave with a composition book that has been transformed into a high-stakes test study guide complete with data, notes, tests, quizzes, and examples.

**Outstanding Math Guides OMG – 2** (Grades 6 – 10)*Robert Sheperd, Leslie Hilderbrand, & Darby Jochum, Fairplay MS*

Come make an Outstanding Math Guide (OMG) containing graphic organizers with steps, examples and vocabulary for every key concept taught throughout the year. All graphic organizers are aligned to Common Core. This creative guide offers students a quick reference that will put a year's curriculum at their fingertips! The OMG will transform your classroom and help you introduce or review material in a way that is fun and exciting for students! You must see it to believe it! {Vendor}

**Putting the Standards for Mathematical Practice in Their Place** (Grades 3 – 5)*Paulette Shoupe, Coastal Plains RESA*

The Standards for Mathematical Practice are important because they "describe the varieties of expertise that mathematics educators at all levels should be developing" in our students. While we have specific standards in each domain, we should be embedding the standards for mathematical practice in all that we do. Let's do our part; let's put them in their place.

**8:15 – 9:15 AM****Fraction Part-y!!** (Grades 3 – 5)*Lachandra Thomas-Mole, Wilkinson Gardens ES & Shannon Roberts-Kelly, Lamar Milledge ES*

Who's ready to part-y?? In this session, teachers will use hands-on strategies that will assist students in developing better fraction sense when labeling fractions and decimals on a number line. In addition, common student misunderstandings will be identified and strategies will be given to aid their understanding.

**8:30 – 10:00 AM****Earth by the Numbers** (Grades 6 – 8)*Kenneth Jones, Columbus State University*

In this STEM-based workshop, participants will engage in innovative, hands-on activities to help students use their developing math skills to better understand human impacts on the environment. Presented activities use real-world data to boost understanding of numbers and operations, measurement, probability and more. Receive lesson plans on CD-ROM.

**8:30 – 10:30 AM****2014 GaDOE 3<sup>rd</sup> Grade Summer Mathematics Academy in a Nutshell: Teaching Beyond the Test***Lisa Anglea, Henry County Schools*

Developing an effective instructional practice through the use of the Standards for Mathematical Practices, 3-Act Tasks, and more.

**2014 GaDOE 8<sup>th</sup> Grade Summer Mathematics Academy in a Nutshell: Teaching Beyond the Test***Mike Wiernicki, Henry County Schools*

Developing an effective instructional practice through the use of the Standards for Mathematical Practices, 3-Act Tasks, and more.

**License and Certification Please!***Darryl Felker, Hannah Maharaj, & Andrea Wright, DeKalb County Schools*

As the increased interest in STEM and STEAM certification begin to rise, many educators are beginning to wonder what this will actually look like within their classrooms. This workshop will feature an interactive overview of several of the STEM units of study so teachers and administrators may gain a firsthand experience of the world of STEM and STEAM. Recommendations will also be made for schools wishing to pursue STEM certification in the state of Georgia.

**Visualizing Matrix Multiplication** (Grades 10 – 12)*Dennis Wilson, Landmark Christian School*

Why is the multiplication of square matrices not always commutative? What is the significance of a zero determinant? Why does this matter for the existence of an inverse matrix? Participants will explore the concepts behind these questions using geometric transformations. Explorations will begin pencil and paper but soon move on to use a variety of dynamic geometry software.

**9:15 – 10:15 AM****From Conjectures to Number Talks...Making the Connection** (Grades K – 3)*Nicole Anderson & Vinnie Prasad, Cobb County School District*

This session focuses on exploring conjectures in an elementary classroom. As students explore conjectures much mathematical discussion takes place and the standards for mathematical practices are targeted. The new learning is then connected to number talks. Participants will start thinking deeper in challenging their students to explore mathematical ideas.

**Do You Pecha Kucha?** (Grades 3 – College)*Cheryl Hughes, Landmark Christian School*

Use your own technology to create a Pecha Kucha and explore the many ways we can use them in our classrooms. Let's FLIP this workshop. Check out some great YouTube videos before you attend!

**Math Mania** (Grades 5 – 8)*Jennifer Peek, A.S. Staley MS*

Do you want to hold a parent night and need activities? Has your principal approached you about having a Math Day for your school? Whether it's something new for you or you just need new ideas; this session you are sure to take back something you can use to build bridges for math for all learners in your school. Activities and scheduling templates will be shared. Join us for ideas (and your ideas are also welcome) and planning strategies to create MATH MANIA at your school.

**9:15 – 10:45 AM****They Can Do It!****Creating Successful Students by Changing Beliefs and Building Bridges** (Grades 6 – College)*Claire Pierce, Pierce Consulting*

Want a classroom filled with successful students who love math? This session will explore the latest research on changing students' beliefs about their abilities to be successful in mathematics. Participants will examine interventions developed to effect changes in attitude, engage in tasks that push students to achieve, and probe strategies that encourage perseverance.

**Focusing and Connecting to What Matters Most** (Grades 6 – 8)*Jan Scott, Scholastic*

Do your middle school students look puzzled when you talk about multiplication? Do they tremble when you mention fractions? Is it difficult for you to motivate them? Focus on best practices to get your middle schoolers ready for algebra by connecting what they've learned in arithmetic with what they need to learn to build a firm foundation for proportional reasoning, algebraic thinking, and higher-level mathematics.

**Mathematics Through the Eyes of a Traveler** (Grades K – College)*Jane Barnard, Professor Emerita – Armstrong State University*

Taking an archeology/history course in May 2014 in Turkey and England opened my eyes to the role mathematics (particularly geometry) has played from ancient times to the present via archeology and history in both countries. Get prepared to be overwhelmed as you experience the visual overload of mathematical/geometric gems through photographs from Istanbul, Turkey, and nearby places as well as in the history of London, Bath, and Stonehenge. [Yes, there will be manhole covers!] Students can enhance their productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile) through seeing connections of mathematics to the world around them: past, present, and future.

**Fractional-ly Speaking** (Grades 3 – 5)*Sherry Martin, Cobb County School District*

This session will focus on the progression of fraction standards in grades 3-5. Participants will look at the language of the standards and use various models to demonstrate understanding of these standards.

**Be Precise: Link Addition and Subtraction** (Grades K – 2)*Debi DePaul, ORIGO Education*

Addition and subtraction are closely linked. What strategies are used to strengthen this connection that can develop flexible thinking and competent students? 'Attend to Precision' using strategies and rich mathematical language. {Vendor}

**What Makes a Learning Task Worthwhile?** (Grades 6 – 12)*Lorenzo Robinson, Renaissance MS*

We will explore the components of worthwhile learning tasks and will work cooperatively to solve several of our own. The topics in these tasks will cover several of the CCGPS concepts taught in both Middle and High School Math. Participants will walk away with a healthy understanding of how Learning Tasks can help enhance their lessons and how they can help students to develop critical thinking skills needed to be successful with CCGPS Mathematics.

**Close Reading in Mathematics** (Grades 3 – 8)*David Thacker & Marrene Gentry, Whitfield County Schools*

This session focuses on applying close reading literacy strategies to mathematics, especially word problems. Close reading promotes multiple readings of the text (word problem) with a different purpose or focus during each reading. This presentation demonstrates principles behind close reading, how they apply to math word problems, and walks participants through a student anchor chart. Math problems from OAS unique to each grade level (3-8) will be used as samples, along with manipulatives relevant to each problem.

**9:30 – 10:30 AM****Round and Round We Go: Using Stations to Reinforce Learning** (Grades 6 – 8)*Nicole Carpenter & Kimberly White, Tutt MS*

In this session, teachers will be given the opportunity to explore teaching by utilizing stations. They will deepen their understanding of stations and ways to incorporate hands-on activities and writing in mathematics. Attendees will also solve, discuss, and evaluate mathematical activities to determine if it would be useful in a station setting. Through the investigation of different mathematical activities, the participants will perform station activities and explore opportunities for remediation and acceleration. Attendees will also review strategies for data collection to support student learning.

**Interactively Teaching Students with Interactive Notebooks** (Grades K – 5)*Bethany Ray, Heritage ES*

Elementary teachers will explore strategies and tips for incorporating interactive notebooks in their math content areas. A “make and take” instruction will be used to help teachers implement this process in their own classrooms.

**SMART Board – How to Use it With the Common Core Standards** (Grades 9 – 12)*Allen Wolmer, Technology Based Educational Support*

The Common Core Standards for high school math describe the skills and understanding necessary to succeed in math in high school and beyond. In this session, you will see how the SMART Board can be used to reinforce those standards in Algebra and Precalculus and the impact on Calculus. {Vendor}

**9:45 – 10:45 AM****Using iPads Effectively with One or a Class Set** (Grades 7 – College)*Tom Reardon, Youngstown State University*

See how to incorporate the TI-Nspire app for iPads in your math classroom from grades 7 to 12, as a demo tool or in a 1-1 situation. See how to integrate graphing, geometry, spreadsheets, data, statistics – all communicating together in one cool app! Also see how to control your desktop with your iPad and how to easily and cheaply project what is on your iPad.

**Incorporating Literature in Math and Science** (Grades 6 – 8)*Gladys Hamilton, Glenn Hills MS*

Come and see how using current events and real world scenarios can create self to text experiences for your students in Math and Science. Strategies in reference to creating effective questions will be discussed. Discuss how the CCGPS already has evidence of Literacy in them, but how literacy opportunities have to be created so that students can maximize their learning experience through self to text connections.

**Differentiated Implementation of Problem Based Tasks** (Grades 9 – 12)*Rebecca Johnson, Walch Education*

Explore the use of formative assessments to plan differentiated implementation of Problem Based Tasks (PBT). The session will model Independent, Supported, and Guided approaches to solving PBT. Participants will also identify opportunities to develop and promote the Eight Mathematical Practices in sample PBTs. Receive sample materials to try in your classroom. {Vendor}

**Increasing Student Engagement in the Middle School Class Using Popular Culture** (Grades 4 – 8)*Jovan Miles & Paula Webb, Your Personal Teacher*

The focus of the session is on how to use various sources of popular culture to make the middle school mathematics classroom more engaging and relevant for students. Emphasis will be placed on using song lyrics, video clips, and other forms of multimedia to frame questions, to help students remember concepts and skills, and as attention grabbing transition between different aspects of the typical lesson. {Vendor}

**What are Residuals, and Why Do I Need Them?** (Grade 9)*Kathleen Mittag**Sharon Taylor, Georgia Southern University*

The topic of residuals is in the Coordinate Algebra standards. But what are residuals? Why is it important to understand and use them? What information do residuals provide that other statistical data do not? Come to this session and find out.

**Surviving Math Policy Chaos!** (Grades K – 12)*Dottie Whitlow, Retired & DotMath LLC*

QCC, GPS, CCSS-M, CCGPS and Politics! What's going on? What's next? What does it take survive & still love my profession? How do I still love teaching in the midst of the political chaos that is making us all crazy? During the session be inspired to return to inspirational teaching and reigniting the fun in student learning.

**11 AM – 12 Noon** (Auditorium)**State School Superintendent Candidate Forum**

featuring

**Valarie Wilson and Richard Woods****1:00 – 2:00 PM****Finding Funds for Programs Encouraging Girls to Study Mathematics** (Grades 5 – College)*Florence Fasanelli, Mathematical Association of America – Tensor Foundation*

Successful out-of-school programs to encourage girls of all ages to persist in studying mathematics and science will be described in detail. Methods to gain funding for these programs will be shared. Contacting the speaker after the conference is expected to help in writing a competitive proposal.

**(Please note: This session will be repeated on Friday, 9:15-10:15 AM)****Google Around the Classroom** (Grades 6 – 8)*Laura Blair, Bryan County MS*

Are you ready to escape school at the end of the day, with nothing but your iPad, Chromebook, or laptop in your hand, instead of mounds of papers? Determining which platform to use to flip your classroom can be a challenging decision. Come join us as we explore the features of Google Classroom and how it can be used to assess, analyze data, facilitate classroom discussion, and organize both you and your students.

**Cars – Culminating Task** (Grades 8 – 9)*Dora Brown, Palmer MS, Karen Kline, Kennesaw Mountain HS, & Ashley Clody, Awtrey MS*

Using the theme of cars, some from the movie and some from real life, review the 8th grade CCGPS. This task can be used prior to the CRCT, or use pieces of the task at the end of each unit. Skills include transformations, similarity, angles, scientific notation, systems of equations and others. The task would also be a good way to review skills at the beginning of the coordinate algebra class.

**Building Math Vocabulary with Picture Books** (Grades K – 5)*Julie Carbaugh, County Line ES*

This presentation includes a variety of strategies and games using picture books that are designed to teach and motivate students to expand their academic vocabulary in a fun and engaging way! Participants will engage in new strategies and games to add to their "bag of tricks" to reach all levels of learners in their classroom including handouts, make and take manipulatives, graphic organizers, and a list of picture books that will build vocabulary!

**Critical Components of a Powerful Unit** (Grades K – 8)*Amanda Foiles, Hannan Elementary Magnet Academy & Dottie Whitlow*

Particular attention and focus on critical components of a great math unit yield deeper learning and mastery of concepts, skills & problem solving! What are those components and do they fit together for ease in planning & delivery in the classroom? This session will answer those questions & discuss the results of using such a model in the classroom!

**Math Resource Livebinders For All** (Grades K – 12)*Jennifer Greer, Floyd County Schools*

In this session, participants will learn how to access and use FREE math resources compiled from multiple sources in a convenient "Livebinder". This Livebinder is a virtual notebook tabbed (and sub tabbed) full of interesting and HELPFUL math resources for math courses from Pre-Kindergarten to AP Calculus.

**Digital Assessment Tools for Mathematics Education** (Grades 4 – College)*Jeffrey Hall, Mercer University**Gregory Chamblee, Georgia Southern University*

Learn how to incorporate digital assessment tools in your mathematics classroom. Topics will include formative assessment tools such as Poll Everywhere and NearPod, problem solving tools such as Alcumus, summative assessment tools such as Socrative, and flipped classroom/remediation tools such as TenMarks and Khan Academy. Attendees are encouraged to bring a smart phone, tablet, and/or laptop computer to download and practice with these tools during the presentation. Visit <http://tinyurl.com/mathedtech> for links to these tools.

**Pieces, Parts, Points Oh My!** (Grades 3 – 5)*Shannon Roberts-Kelly, Lamar-Milledge ES**LaChandra Thomas-Mole, Wilkinson Gardens ES*

This session will offer different strategies to help students to better understand fractions. In this session games, songs, visuals, and explicit procedures will be used to support the understanding of fractions. Standards as well as STEM activities will be used to further explore the idea of understanding fractions.

**Visual Matrix Multiplication** (Grades 9 – College)*Bill Shillito, Atlanta Jewish Academy*

Does multiplying matrices feel like rubbing your head and patting your stomach at the same time? (Or was it patting your head and rubbing your stomach?) In this session, we'll see a different, more visual approach to matrix multiplication that makes the whole process more natural and intuitive... and perhaps even see where some of the "rules" come from!

**1:00 – 2:30 PM****Deepening Understanding of Functions** (Grades 9 – 12)*Kenneth Jones & Tim Howard, Columbus State University*

Functions form the core of much of the high school and college mathematics curriculum but do students really understand them? In this session you will dig deeper into your understanding of the function concept as you engage in problems and activities that will challenge your thinking. Learn how the vertical line test can lead to student misconceptions. Find out that we can actually see those complex roots of quadratic functions.

Experience lab activities that have been used to engage and challenge student thinking about a variety of functions.



**Developing Numerical Fluency Through Number Talks** (Grades 3 – 6)*Sherry Parrish, The University of Alabama at Birmingham*

This interactive session will explore the use of Number Talks as a vehicle to support and expand students' numerical reasoning and computational fluency with whole numbers and fractions. Number Talks will be examined through the lens of the CCGPS and Standards of Mathematical Practice. Classroom video will be used to analyze students' reasoning and examine the benefits of using Number Talks in classrooms.

**The Great Applied Problem & Other Individualized Activities** (Grades 8 – College)*Tom Reardon, Youngstown State University*

This problem has more mathematics interwoven in its solution than any other mathematics problem I have encountered – an actual, real-life problem! I have successfully used it in my geometry, precalculus and calculus classes. Students work collaboratively, then individually on their own problem with unique data. Walk away with all the information, including how to easily assess each student's individual problem.

**It's Not About Me: Student-centered Learning in AP Statistics** (Grades 10 – 12)*Lisa Brock, West Forsyth HS**Carol Sikes, South Forsyth HS*

Participants will engage in student-centered learning tasks designed for the AP Statistics classroom. After spending time completing the task, there will be discussion of the conceptual understandings that the task is intended to highlight for students. The tasks will focus on linear regression and confidence intervals.

**Multiplication, Multiplication and MORE Multiplication!** (Grades 3 – 4)*Jimmie Salinas, Cobb County School District*

We will explore the vertical alignment of multiplication for third and fourth grade. Participants will move from concrete (using manipulatives) to abstract strategies when representing multiplication. Participants will walk away with multiple activities that they can use in their classroom tomorrow.

**Would You Teach Writing without Word Processing?****So Why are You Teaching Math without Calculators?** (Grades 6 – College)*Kathy Traylor, Shiloh MS*

Just as word processing encourages students to explore ideas and literary structure, mathematics technology like the TI-Nspire encourages mathematical exploration, creativity and understanding. When you combine the NSpire student technology with a TI-Navigator networking system, you can easily share and present your students' problem-solving results and explanations. See how technology goes way beyond quotients, cosines and cube roots! Beginners welcome!

**1:00 – 3:00 PM****ALL Students Can Practice the Common Core Standards for Mathematical Practice**

(Grades K – College)

*Susie Hakansson, TODOS*

Become familiar with the Standards for Mathematics Practice (SMP) through the introduction of this online course that supports teachers becoming proficient in the SMP through engaging discussions, videos, and problems. Grade level specific examples will be provided as well as strategies for English learners to access the SMP. Come and engage in the SMP. The purpose is support students, particularly English learners, to develop the habits of mind necessary to become proficient in mathematical thinkers.

**2014 GaDOE Analytic Geometry Summer Mathematics Academy in a Nutshell:****Teaching Beyond the Test***Darrell Skogman, Hall County Schools*

Developing an effective instructional practice through the use of the Standards for Mathematical Practices, 3-Act Tasks, and more.

**SMART Board – Related Rates** (Grades 11 – College)*Allen Wolmer, Technology Based Educational Support*

In this hands-on session, calculus teacher attendees will learn how to build a truly effective Related Rates lesson using SMART Notebook and Calculus in Motion. {Vendor}

**1:15 – 2:15 PM****They Built a City** (Grades K – 12)*Denise Peppers, Columbus Regional Mathematics Collaborative*

Come see how students at New Mountain Elementary School mixed art with mathematics by building an "Exponential City." Inspired by a mathematics professional development session, art teacher Ms. Virginia McCullough helped students build sculptures in different bases from the zero power to the fifth power. You'll see the Exponent State Building Power Tower complete with King Kong terrorizing the city.

**Connecting the SMPs and Teacher Keys in the Classroom** (Grades 1 – 3)*Christy Sutton, Lee County Primary School & Robyn Ovrick, UGA – Griffin Campus*

Participants will complete a task(s) followed by a discussion of Teacher Keys and SMPs involved within the task(s).

**1:15 – 3:15 PM****A Vertical View of Horizontal Line Plots** (Grades 3 – 5)*Michelle Parker, Fairmount ES*

Teachers will explore how the line plot standards (3.MD.4, 4.MD.4, & 5.MD.2) are connected and what is missing in the standards. They will also be introduced to a variety of strategies using line plots to address all forms of line plot problems/questions. Line plot misconceptions will be addressed and we will explore how these misconceptions cause confusion when students try to redistribute equally in 5th grade.

**1:30 – 2:30 PM****OH NO! Who Moved My Standards?** (Grades K – 12)*Gary Miller, Curriculum Associates*

How do I identify my student's splintered skills across grade levels and what am I going to do about it? Come see a proven CCGPS solution with strategies to answer the questions "Why?" and "What comes next?"

{Vendor}

**Show – Tell – Prove** (Grades K – 8)*Autumn Vavoso & Melinda Apanay, Growing Strong Teachers, Inc.*

Are you frustrated that your students struggle when asked to "show their work", "explain their thinking" or "prove their answer is correct"? Come learn how to SHOW-TELL-PROVE in math. We'll explore how to easily integrate the Standards for Mathematical Practice into your daily Math Framework instruction so kids develop deep conceptual understanding that sticks. You will leave feeling empowered, not overwhelmed!

{Vendor}

**2:15 – 3:15 PM****Q: What Vital Component is Missing in your Math Curriculum?** (Grades 2 – 8)*Pam Berry, ExploreLearning*

A. Math fact fluency! What is math fact fluency? Why is it critical in secondary as well as elementary education? Which methods promote automaticity across a broad range of students? What if we could solve the problem of mathematical fact fluency in 10 minutes per day? Come and get a 14 day free trial for the world's most effective math fact system...and the most fun! {Vendor}

**Increasing Math Talk During Calendar Time** (Grades K – 2)*Lori Bonn & Julie Nelson, Gwinnett Public Schools and Nelson Bonn LLC*

Increase students' math vocabulary and conceptual understanding of CCGPS skills by adding depth to your calendar pieces and depth to students' responses. Join us for a fun, interactive session using the Nelson Bonn calendar pieces to spiral multiple concepts throughout the month and provide planned opportunities for Number Talks. Also, learn how to add accountability for all students by incorporating a calendar notebook so that evidence of learning can be tracked and evaluated. {Vendor}

**No Math Resources? No Problem!** (Grades K – 5)*Julie Carbaugh, County Line ES*

Are you trying to teach the CCGPS without resources? No problem! This session will give you information on how to get math resources for free or at little to no cost to you. Participants should bring personal tablets or laptops to access sites shared. Everyone will leave with the information needed to get free or little to no cost resources for their classrooms. Door prizes will be given!

**Making Math Class Fun!** (Grades 6 – 12)*Zach Butler, Rockdale Magnet School for Science and Technology*

Have you struggled finding ways to motivate your students? Do you feel like your classroom or instruction needs a face-lift? Experience some techniques to make your classroom fun and interactive, while still making sure you get the job done.

**Extra, Extra: Read All About Math** (Grades 3 – 5)*Jenny Lockwood, Springdale Park ES & Debra Muse, Carrollton MS*

Extra, Extra: Read All About Math will focus on how to incorporate children's literature with Common Core standards for mathematics. During the session, we will look at various children's books, how to tie in Common Core standards, and activities that relate to them. Participants will walk away with ideas to use in their classrooms when they return to school. Come join us as we read about math!

**Hold Infinity in the Palm of your Hand** (Grades 6 – College)*Bill Shillito, Atlanta Jewish Academy*

Infinity isn't a number ... or is it? The concept of infinity is as fascinating as it is mysterious. But in that mystery is the potential for real understanding of mathematics! Come explore the strange and beautiful world of the infinitely large and infinitely small... but be prepared to extend your definition of what a "number" is!

**Can't Get to Calculus without Kindergarten** (Grades K – 9)*Dottie Whitlow, Retired & DotMath LLC*

Join in a simple, straightforward discussion of some basic ideas that begin in the critical Primary (K – 2) years, add a few more in the intermediate years and we see the foundation for Calculus. This is a great feel-good session for elementary teachers who will see that students can't get to calculus without them!

**2:15 – 4:15 PM****2014 GaDOE Coordinate Algebra Summer Mathematics Academy in a Nutshell:****Teaching Beyond the Test***Irina Keith, Calhoun City Schools*

Developing an effective instructional practice through the use of the Standards for Mathematical Practices, 3-Act Tasks, and more.

**2:30 – 4:00 PM****Putting the Sizzle in STEM** (Grades 5 – 10)*Cindy Moss, Discovery Education*

This session will provide participants with the opportunity to experience digital resources they can use in their classrooms to engage more students in rigorous science and math learning. Bring a digital device and leave with access to great free resources and competitions!

**The Road Less Traveled** (Grades K – College)*Leslie Howe, Retired – Knox County Schools & Howe-Two Software*

The computer is the most important human invention since the printing press. For years now it has been used to test students and analyze both student and teacher data. I want to use it to teach. Come and see my twenty years of work. Catch the vision and join me on the road less traveled. It may make all the difference. Free Windows® compatible software sample for all. {Vendor}

**2:30 – 4:00 PM****Making Sense of Number Sense** (Grades K – 6)*Darryl Felker, DeKalb County Schools**Ulysses Smallwood, Fulton County Schools*

In this hands-on workshop, participants will have an opportunity to watch Math come to life as they engage in activities that are designed to reinforce their basic and advanced level understanding of mathematical concepts. Participants will become familiar with the Standards of Mathematical Practice and learn a variety of ways to integrate math across various content areas. There will also be a strong focus on product driven activities that embrace the philosophy of STEM.

**2:45 – 4:15 PM****Why is a ‘Statistical Reasoning’ course Important for ALL Students?** (Grades 10 – 12)*Christine Franklin, University of Georgia*

In our data-centric society, ‘Statistical Reasoning’ is a needed new course option for Georgia high school students. This course is designed for all students – both college bound and students planning to enter the workforce. The standards for this course are concept oriented with heavy emphasis on exploring data, study design, and using simulation for developing sampling distributions, P-values, and margins of errors. An activity will be utilized illustrating the standards clusters for this exciting course.

**Changing Their Minds: Reshaping Students’ Identities as Mathematical Learners** (Grades K – 12)*Brian Newsome, Dana Center – University of Texas at Austin*

This session will provide participants a rare opportunity to think differently about how to shape student learning and academic success in Mathematics. Participants will be equipped with tools that can be used in the classroom immediately.

**The Ratios of Areas and Perimeters of Midpoint Polygons** (Grades 8 – College)*Tom Reardon, Youngstown State University*

I will demonstrate how to use technology to construct regular polygons, calculate their perimeter and area. Then construct the midpoint of each side and create a similar polygon. Calculate its perimeter and area. Then calculate the ratio of the perimeter and area of the inside polygon to that of the outside polygon. It turns out that this is something special. Attend this talk to see what is so special.

**Middle Years Catch Up – Math Games** (Grades 5 – 9)*John Felling, Box Cars and One-Eyed Jacks*

Come prepared to play a variety of games using cards and all kinds of dice that help students learn and master basic math skills. Activities to help fill in gaps for the following CC concepts will be taught: basic facts, basic operations with multi-digit work, place value concepts. The games are engaging and motivating and are easily differentiated to address the individual needs of all students in your classroom. Gameboards and student samples will be shared. Great for RTI, ELL, after school and regular programs. {Vendor}

**Let's Get Moving!** (Grades 6 – 8)*Jamie Kennedy, Turner MS*

Bring movement to math! Learn how to engage students through kinesthetic and tactile learning activities for the 6th grade Common Core including the Standards for Mathematical Practice (Modifications for 7th & 8th grade will be discussed). Participants will experience the activities first-hand, learn about challenges with successful implementation and receive ready to use materials (directions and templates) for immediate personal use. As an added bonus, Higher Order Thinking (HOT Topics) writing prompts will be shared.

**There's Something About Simulations** (Grades 9 – College)*Diana Swanagan, Shorter University**Brian Swanagan, College and Career Academy*

Teachers will use concrete materials and technology (graphing calculators and Microsoft Excel) to explore several interesting activities that make use of simulations to demonstrate various concepts of probability and statistics. Simulations include the birthday problem, guessing on multiple choice exams, and bias in the workplace. Teachers will leave with several lessons ready for classroom use.

**Number Talks for Addition and Subtraction** (Grades K – 3)*Autumn Vavoso & Malinda Apanay, Growing Strong Teachers, Inc.*

Learn how to use Number Talks within a Math Framework to teach students to effectively, efficiently and flexibly add and subtract mentally. This session focuses on addition and subtraction strategies based on number sense, place value, and properties of operations. We will explore strategies, connect to current research and watch some video clips. You will leave EXCITED about computation!!! {Vendor}

**3:00 – 4:00 PM****Number Line to 10,000,000 and Other Math Manipulatives that Address the Common Core**

(Grades 2 – 12)

*Jim Franklin, Elm Street ES & Slide-A-Round Math Manipulatives*

Participants will use manipulatives that address decimals, elapsed time, weight, money, and fractions. With the Fractions manipulative, participants will be able to add and subtract mixed numbers with different denominators without paper and pencil. Low vision and braille manipulatives will also be available; VI manipulatives are recommended by the American Printing House for the Blind. Differentiation strategies and hybrid math games of Sorry! and Bingo to improve students' achievement on standardized tests. {Vendor}

**3:00 – 4:30 PM****How Did They Get There? Uncovering Student Thinking Through Math Journaling** (Grades K – 8)*Kerri-Ann Williams, Cobb County School District*

The National Council for Teachers of Mathematics says that students need to “think, question, solve problems, and discuss their ideas.” One way to emphasize all of these mathematical habits of mind is through the use of Math Journaling. This session provides guidance on implementing and maintaining math journaling in your classroom as well as utilizing journals to build mathematical habits of mind.

**3:15 – 4:15 PM****Examining the Fraction Focus in the Common Core** (Grades 3 – 8)*Eric Milou, Rowan University*

This session will examine the steps that teachers must take to ensure high quality mathematics instruction in the era of the Common Core Standards with a focus on the mathematical practices and the teaching of rational numbers. Participants will examine how to engage, motivate, and use technology that can lead to building better number sense and facility with rational numbers.

**(Please note: This session will be repeated Friday, 9:15-10:15 AM)**

**The Map to Success – Math Rotation** (Grades K – 5)*Suhela Ghanie, New Prospect ES*

In this session you will learn how to successfully manage and teach multiple levels/grades at the same time while incorporating: number talk, differentiation, student data binder, meaningful fact fluency, flexible grouping, technology, and hands on games correlated with CCGPS. Teachers, this session is your ticket to move up from "Proficient" to "Exemplary".

**Geometric Models for Algebraic Concepts** (Grades 7 – 12)*Gregg Velatini & Dianna Spence, University of North Georgia*

This session will demonstrate the use of physical and geometric models to illuminate various types of arithmetic and algebraic problems. Examples include the use of algebra tiles for binomial multiplication and completing the square; the use of pattern blocks for combined work-rate problems; Singapore Math-style bar models for mixture problems; and base 10 blocks for percentages and decimal multiplication.

**3:30 – 4:30 PM****Teaching Flippin' Math** (Grades 5 – 12)*Robert Barrett & Sherri Thurman, Awtrey MS*

I have heard of flipping the classroom, now what? We will show why, and how, to flip a classroom.

**If a Picture is Worth a Thousand Words, a Simulation is Worth a Million!** (Grades 3 – 12)*Pam Berry, ExploreLearning*

Research shows the use of online simulations by students and by teachers improves student achievement. Gizmos are all about the "Ah-Hah!" moment, that miraculous instant when something inside your brain clicks and suddenly whatever was puzzling you now makes perfect sense. In this session, participants will learn how to create "Ah-Hah!" moments using Gizmos. These online simulations provide students with the opportunity to build lasting knowledge of math concepts through hands-on exploration. Attendees will receive a 60-day free trial. {Vendor}

**Coordinate Planes, Movement, and High School Mathematics** (Grades 8 – 12)*Gregory Chamblee, Georgia Southern University**Micheline Harris, Tattnall County HS*

We will look at using student movement on the coordinate plane to demonstrate high school mathematics topics. Come prepared to move and solve CCGPS problems.

**So You Have Decided to Start a Math Team – What's the Next Step?** (Grades 9 – 12)*Chuck Garner, Rockdale Magnet School for Science and Technology*

You have decided to start a high school Math Team, and you need help! Maybe you have some of these questions: Where can I get resources? What contests and tournaments are good? What math should my students know? How can I get my team to the State Math Tournament? If you are a new Math Team sponsor, this session is for you! The presenter is GCTM's Vice-President for Competitions and runs the State Math Tournament.

**Taking Time for Three-Act Tasks** (Grades 7 – 9)*Karen Kline, Kennesaw Mountain HS**Ashley Clody, Awtrey MS**Dora Brown, Palmer MS*

Pinterest and Math Blogs are full of three-act tasks. What are they? How can you find these great resources? This session will give practical tips on finding and using these tasks in the classroom. Discover how these tasks cover a variety of mathematical topics and address the Standards of Mathematical Practice. You'll want to bring your laptop and/or tablet to this session to investigate online resources!

**Advocacy – Communicating with Your Legislators** (Grades K – College)*Debbie Kohler, Kennesaw State University*

This session will focus on how to find your legislators as well as how to effectively communicate with them. During the last legislative session, I visited the Capitol twice and personally spoke with at least half a dozen legislators. I also made contact via email and I will share with you tips that help in communication as well as tips that get the legislators' attention!

**Becoming a STEM Certified School** (Grades K – 12)*Gilda Lyon, Georgia Department of Education*

Learn the process for becoming a STEM Certified Program/School in Georgia. The expectations and criteria for certification will be outlined with examples of exemplary programs as models. Determine what criteria your school already has in place that moves you towards STEM Certification.

**Are Math Centers Making You Crazy?** (Grades 3 – 5)*Julie Nelson & Lori Bonn, Gwinnett County Public Schools & Nelson Bonn LLC*

Join us for a fun, interactive session and walk away with a new plan for guided math and independent work. We will incorporate Math Talks and other independent activities that spiral the CCGPS throughout the year, providing your students with preview and maintenance of multiple skills on a daily basis. We will provide a structure so that all students are engaged during independent work time. Relieve the stress of planning for math centers. {Vendor}

**4:45 PM****PE at the GMC** (EMC Senior Pavilion – down at the lake!)

Now that you have exercised your brain all day, come exercise your body too!

- Fun Run/Walk (t-shirts for folks who start & finish the course!)
- Math Moves (t-shirts for folks who participate in the entire “ZOOM-ba” class!)
  - Cornhole, Horseshoes, 3-on-3 Basketball

**7:15 PM – Evening Session** (Auditorium)**Ignite Student Learning with a Growth Mindset***Janna Peskett, Mindset Works*

Why is it that some students work doggedly at a difficult task while others crumble and give up at the first sign of struggle? Student motivation and resilience are essential elements of math success, but all too frequently our students decide they are not “math people” and simply give up. New research shows that our students’ implicit beliefs about intelligence determine their educational outcomes. Janna Peskett, a math educator and motivation expert, will discuss how to bridge the gap between research and practice to help students develop self-efficacy and resilience through the growth mindset—a fundamental idea that underlies all motivation, achievement, and success in school and in life.

Immediately following the keynote address will be the GCTM Awards Ceremony.

*It will conclude with door prizes.*

Following the ceremony, you are invited to the Senior Pavilion for refreshments, music, and dancing!