

Alabama Council of Teachers of Mathematics

presents their annual

FALL FORUM



October 23-October 24, 2014

McWane Science Center • Birmingham, Alabama

www.actm.education www.alabamamath.org



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2014 ACTM Fall Forum Committees

Conference Chair Nydia Powell

Program Chair Jeremy Zelkowski

Conference Membership Chair Michael Hallman

Finance Chair Cathy Jones

ACTM Materials Catherine Sperando

Signs and Printing Michael Hallman

Registration Sandy McCarthy

Hospitality Sandra Walker

Publicity Kitty Morgan

Vendor Exhibits Beverly Kimes

McWane Science Center Lyndsie Garrett

Equipment McWane IT Support

Speaker Support McWane IT Support

Volunteer Organizers Joel White

Ethan Richardson

Reception Chair Sarah Patrick

Susan McSwean

ACTM expresses sincere appreciation to the McWane Science Center Events Staff and Leadership for assisting with the 2014 Fall Forum!

Conference Highlights

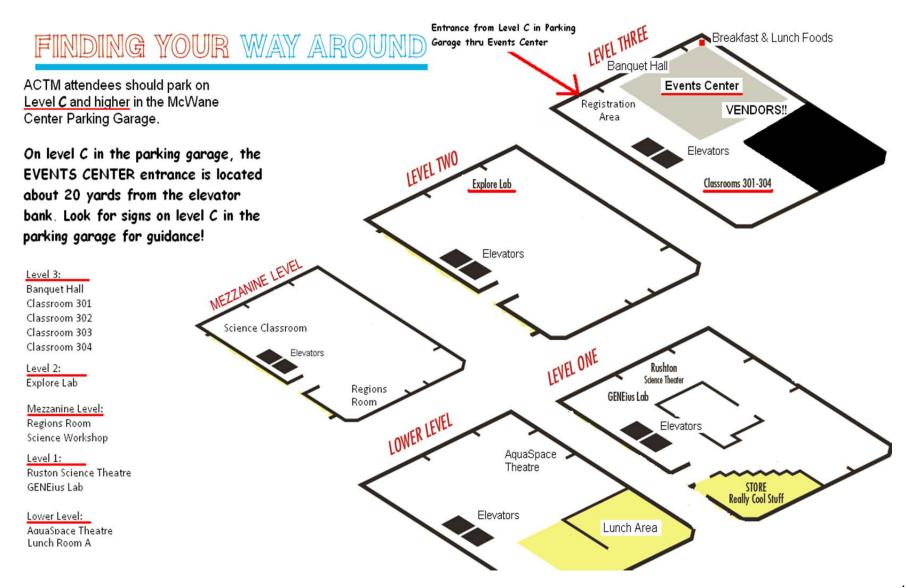
Thursday, October 23, 2014

12:00 noon	Registration Opens – Events Center Entrance Area
1:00p—2:15p	Keynote Speakers—Suzanne Culbreth & Mary Scott Hunter 2012-13 Alabama Teacher of the Year Alabama State Board of Education Member Events Center Banquet Hall
2:30p—3:45p	Power Sessions ACT ASPIRE—Grades 3-10 by Jim Gleason The FLIPPED classroom—Grades K-12 by Wiginton, McCarty, Mayben Ruston Theatre & Events Center Banquet Room, respectively
3:45p—5:30p	Exhibits Open – Events Center Vendor & Exhibit Area
5:00p—6:00p	Praise and Graze Reception Events Center Banquet Room

Friday, October 24, 2014

7:30a	Registration Opens–Events Center Entrance (Level C- Parking)
<u>7:45a—2:30p</u>	Exhibits open – Events Center
9:00a	Regular, 60-minute morning sessions begin
9:00a	Extended, 90-minute morning workshops begin
12:00p—1:00p	Lunch served in Events Center Banquet Room
12:20p—12:50p	ACTM Business Meeting,
	Events Center Banquet Room
1:10p	Extended, 80-minute afternoon workshops begin
1:10p	Regular, 50-minute afternoon sessions begin
2:15p	Vendors & Exhibits Close
2:30—2:45p	Closing Session in Events Center Banquet Hall (Level 3)
	Door Prizes (must be present to win)
2:45—3:45p	Special Interest Sessions, End of Fall 2014 Forum

McWane Science Center Map



McWane Science Center Information

Registration—Enter through glass doors on parking garage level C.

Vendors & Exhibits—Level 3, by registration Thursday Reception—Level 3, Banquet Hall

Highlighted Workshops Thursday: Events Center & Rushton Theatre

Friday Lunch
Events Center Banquet Hall (Level 3)

Parking at McWane will be complimentary in their garage
Park on Level C and higher
Registration & Check-in WILL BE through the "Events Center"
entrance in the parking garage located on Level C.

Announcements

McWane Science Center

All facilities are smoke free.

Registration Dates of Interest

Information is located on the ACTM website. The deadline for early registration is through October 10, 2014. Extended sessions, which require tickets, will be assigned on a first come, first serve basis as registrations are received. All registrations will be conducted online at http://ACTM.education or on-site at McWane.

Parking Locations

Parking will be free in the McWane Science Center lot on Levels C and higher. Attendees will be provided a "token" to exit the garage for free. The tokens will be given to attendees at registration/check-in upon arrival to the ACTM forum.

Registration

Registration and check-in for Thursday, October 23 will be at the end of the entrance hallway to the Events Center on Level 3 in the parking garage. Registration and check-in for Friday October 24 will be the same.

Meal Functions

A complimentary Praise and Graze reception will follow the last session on Thursday in the Events Center Banquet Hall.

The Praise and Graze reception is sponsored by Heinemann Publishing!

Complimentary refreshments and continental breakfast will be served Friday morning in the Exhibit area.

Each participant will receive a lunch ticket at check-in/registration.

Lunch will be served Friday in the Events Center Banquet Hall from 12-1pm.

Vendor Exhibits

Vendor Exhibits will be in Events Center Exhibit Area outside the Banquet Hall.

Lunch, Friday, October 24th.

Lunch will be served Friday in the Events Center.

<u>Ticketed and Non-Ticketed Sessions</u>

Extended Sessions – Ticketed Workshops: The workshops last 80 minutes and usually consist of some type of hands-on experience. Enrollment is limited. Spaces in workshops are reserved on a first come, first serve basis during registration. You will receive a notice confirming your registration and any workshop spaces that have been reserved for you. Those who register on site will participate in workshops on a space available basis only and will be issued tickets for such sessions in the registration area. Remaining tickets for the extended sessions will be available on-site at the registration desk if tickets remain. Un-requested tickets will be available at the registration desk. **Regular Sessions:** The sessions last 50 minutes and are open without tickets or reservations up to room capacity. Space availability is based on room occupancy size and available computers (for computer labs).

Color-Coded Grade Bands (for online program only)

Early Childhood Sessions K-2 are highlighted in ORANGE
Elementary Sessions 3-6 are highlighted RED
Middle Grades Sessions 6-8 are highlighted GREEN
High School Sessions 9-12 are highlighted BLUE
Cross-over grade band and/or General interest sessions are in Bold Black

Special Needs

It is the policy of McWane Science Center to provide reasonable accommodations for environmental and program accessibility for persons with disabilities. Individuals in need of other services should contact McWane Science Center two weeks prior to the conference. Elevators are on site for navigating floor to floor.

Certificate of Attendance

All conference attendees may pick up a certificate of attendance at the registration/check-in location. It is the responsibility of each attendee to register his or her own professional development hours with their school system.

***ACTM is not providing CEU credits ***

Vendors and Exhibitors

Vendors and exhibitors will be located in Events Center Exhibit Area. The exhibit area will be open Thursday after the Featured Power Sessions at 4:15pm Friday from 7:45 a.m. until 2:30 p.m, Exhibits will be open.

ACTM Exhibitors 2014									
Alabama Education Association									
Alabama GRIT									
Graduate Ready, Impact Tomorrow									
Bby Publications at UWA									
Collaborative Partnership to teach mathematical									
Reasoning through Computer Programming (CPR^2)									
Curriculum Associates									
Educational Epiphany									
Heinemann Publishing									
Houghton Mifflin Harcourt Publishing									
McGraw-Hill Education									
McWane Science Center									
Pearson Publishing									
Teachers 'N Tools									
Texas Instruments									
The Silver Trunk									
Triumph Learning									
The University of Alabama									
Math Science Partnership Project IMPACT									
The University of Alabama Gadsden Center									
The University of North Alabama									
Alabama Mathematics Contest INFO!									

ACTM 2014 Fall Forum

Program for Thursday, October 23, 2014

10:00 a.m.—11:00 a.m.

Pre-session Association of Mathematics Teacher Educators

of Alabama (AMTEA)

Grades K-16, Teacher Education

Events Center Banquet Hall Level 3

Join us as we work together to improve the teacher education and professional development in Alabama. This is a diverse group of individuals including master teachers, professional development leaders, college and university math faculty, and education faculty. We encourage all those who help educate future K-12 mathematics teachers and improve existing teachers' knowledge and practices to join AMTEA and participate.

This will be just an informal gathering for which folks can collaborate and discuss future meetings across the state.

Tommy Smith

President, AMTEA
The University of Alabama @ Birmingham

Topics worthy of discussion

- 1. Elementary Mathematics Specialist advanced degree programs & certification
- 2. AMSTI certification for preservice secondary (6-12) mathematics teachers
- 3. Mathematics Education Teacher Partnership, update
- 4. Mathematics Praxis Tests (Secondary & Elementary)

Thursday Registration is from 12:00 noon - 5:00 PM Event Center Entrance (Level C from Parking Garage)

*** All Forum Attendees Must Register ***

Thursday, October 23, Featured Sessions

1:00—2:15 PM

Featured Session

F1 Keynote Speakers Events Center Banquet Room
Level 3

Suzanne Culbreth

Alabama Teacher of the Year 2012-13 Staff Development Specialist, Mountain Brook Jr. Hi.

Mary Scott Hunter

Alabama State Board of Education District 8

Putting Alabama's Plan 2020 to Work in a Positive Manner with Positive Results: Integrating Teachers & Politics

See how Alabama's Plan 2020 has given us a clear vision for the future of education in our state. What does "Every Child a Graduate – Every Graduate Prepared" look like in our math classrooms as we implement the College and Career Ready Standards? Mathematics instruction is evolving and changing as we face the challenge of preparing our students for their future. In this session, we will discuss the origins, development, adoption and defense of our standards from an educational and political perspective. Resources for successful implementation will be shared.

Thursday, October 23, Featured Sessions

2:30-3:45 PM

Featured Power Sessions

Session F2 ACT ASPIRE—General Session

Jim Gleason—The University of Alabama Project IMPACT—Improving Mathematical Practices for Alabama Classroom Teachers Rushton Theatre (Level 1)

The implementation of the ACT Aspire is a major step in the transformation of mathematics teaching and learning in Alabama. With the Aspire replacing the ARMT, Explore, and Plan assessments, math teachers and students from grades 3-10 have a new way of assessing college and career readiness of their students. In this session we will discuss how the ACT Aspire aligns with the Alabama Course of Study, how the ACT Aspire fits within the larger assessment framework, how to read and interpret the individual and classroom reports, and how the information can be used to transform teaching and learning in your classroom and school.

Session F3 The FLIPPED Classroom—General Session

Barry Wiginton—University of North Alabama Tera McCarty—Demopolis High School Robert Mayben—Alabama Technology in Motion **Events Center Banquet Room (Level 3)**

This session will provide classroom teachers and other education professionals with a global perspective of a popular form of active learning call Flipped Instruction. Evidence will be provided from a mixed methods research study comparing the effectiveness of Flipped Instruction (Flipped and Flipped Mastery) on student achievement and providing valuable insight from students' perception of Flipped Instruction. The principal investigator, Flipped classroom teacher, and members of the dissertation committee will answer questions regarding the impact of Flipped Instruction on students' experiences in the mathematics classroom. Mathematics teachers (K-12), interested in the practical aspects of Flipped Instruction, will benefit from the discussion topics and shared resources.

Vendor exhibits will be open from 3:45 until 5:30.

Graze the Vendors at 3:45 & then...

Help us Praise ACTM members who put forth a lot of service to make ACTM serve mathematics teachers across Alabama!



All attendees are invited to the *Praise* Reception in the Events Center Banquet Room at 5:00.

Program for Friday, October 24, 2014

Please join us for a wonderful LUNCH on FRIDAY!

12:00 PM - 12:50 PM

Events Center Banquet Room

Level-3 by the VENDORS!

Included in your Friday registration!

The ACTM Executive Board will hold its business meeting during lunch Candidates for offices will be presented and voted upon Nominations for positions will be accepted from the floor

**** Executive Committee Members Required****

ACTM Annual Business Meeting

All ACTM Members Are Invited!

Election of officers for 2014-2016

Announcement of Scholarship and Teacher Grant Winners

Find out how YOU can be involved in ACTM!

Events Center Banquet Room Level-3 by the VENDORS!

Vendor Exhibits will be closing at 2:15 PM

Don't forget to visit the VENDORS & Exhibits before the closing session begins at 2:30!

Level-3 Events Center

	TITLE OF PROPOSED SESSION		Gra	de Ba	nd Fo	cus		Chowk	Session	
Lead Speaker	FRIDAY, OCT 23		3-5	8-9	9-10	11-12	13+	Start Time	length (mins)	Room & Level
Tina Rye Sloan	Writing to Learn: Using Math Journals to Understand, Clarify, Reflect, and Articulate		Х					9am	50	302 Level 3
Rudy Neufeld	Share a Tangy Drink Model Concept-Driven Learning Environments to Address Ratio and Proportion			Х				9am	50	301 Level 3
Kitty Morgan	Binomial Probability for PreCalculus					Х		9am	50	AquaSpace Lower Level LL
Andrea Shane	Getting READY for Alabama College and Career Readiness standards	х	Х	Х				9am	50	Rushton Theatre Level 1
Stefanie D. Livers	Without the Algorithms: Solving Fraction Problems Conceptually		Х				Х	9am	50	Explore Lab Level 2
Sandy Ledwell	A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas	х	Х	Х	х	Х		9am	80	Lunch Area Room A Lower Level LL
Mary Jo Pollman	Blocks and Beyond: Strengthening Early Math through Spatial and Geometric Development	х						9am	80	GENEious Lab Level 1
Gary Kubina	Math Magic: Secrets Revealed		Х	Х	Х	Х		9am	80	303 Level 3
Shelia McGee Ingram	Problem-based Learning (PBL) in the Geometry Classroom			Х	Х			9am	80	304 Level 3

	TITLE OF PROPOSED SESSION		Gra	de Ba	nd Fo	ocus		C++	Session	Room & Level
Lead Speaker	FRIDAY, OCT 23	K-2	3-5	8-9	9-10	11-12	13+	Start Time	length (mins)	
Meg Rankin	What in the World is Mean Absolute Deviation???			х				9am	80	Regions Room Mezzanine Level
Bradley Bearden	Developing Statistical Inference: Practice Standards in Action				х	х	х	9am	80	Science Classroom Mezzanine Level
Kay Johnson	Number Sense and Counting Collections	х	х					10am	50	Explore Lab Level 2
Rudy Neufeld	Built It, Draw it, Talk it, Write it OWN Multiplication and Division of Fractions		х					10am	50	301 Level 3
Chad Sorrells	Math with a Blender - Using Blended Learning Resources in Math			х				10am	50	302 Level 3
W. Gary Martin	Principles to Actions: Implications for High School				х	Х		10am	50	Rushton Theatre Level 1
Lisa Lishak	Grant Writing				Х			10am	50	AquaSpace Lower Level LL
Janet T. Jenkins	Using Computer Programming to Teach Mathematical Reasoning in Middle and High School Math Classrooms			Х	Х	Х	Х	1030am	80	Science Classroom Mezzanine Level
Charlene Ruble	What's all the buzz about number lines? What am I missing?	х						1030am	80	Regions Room Mezzanine Level
Denise Peppers	Why does $x^0 = 1$?		Х	Х	Х			1030am	80	304 Level 3
Ji Ji Lawley Davis	Real-World Math for Earth's Sake		Х					1030am	80	303 Level 3

	TITLE OF PROPOSED SESSION		Gra	de Ba	nd Fo	ocus		Chart	Session	
Lead Speaker	FRIDAY, OCT 23		3-5	8-9	9-10	11-12	13+	Start Time	length (mins)	Room & Level
Dorothy Bell	Experiencing Probability & Statistics with Teddy Bears!			х	D	f	f	1030am	80	GENEious Lab Level 1
Jim Wilder	How Children Quantify Area: Research and Implications		х	Х				11am	50	301 Level 3
Joanne Wells	Presto Change-o and independent thinker!		х	х				11am	50	302 Level 3
Lesley Ray	Creating Learning Stations for Middle School Math			х	х	х		11am	50	AquaSpace Lower Level LL
Marilyn Strutchens	Fostering Reasoning and Sense Making for All Students: Supporting the Goals of the Standards for Mathematical Practice			х				11am	50	Explore Lab Level 2
Basil Conway IV	Understanding Sampling and Sampling Distributions Using the Gettysburg Address			х	х	х	х	11am	50	Lunch Area, Room A Lower Level LL
Darlene Bones	Next-Generation Tools for Teaching and Assessing the Common Core	х	х	х	х	х		11am	50	Rushton Theatre Level 1
Lunch 12-1 Level 3 Banquet Room, ACTM business meeting										
Wes Gordon	Fluency and Automaticity: Differences that Make a Difference	х	х					110pm	50	GENEious Lab Level 1
Loria A. Allen	Number Sense = Success	Х						110pm	50	AquaSpace Lower Level LL
Amber Trantham	A Year's Growth: Math Differentiation for the Gifted		х					110pm	50	301 Level 3

	TITLE OF PROPOSED SESSION		Gra	de Ba	nd Fo	ocus		Chart	Session	
Lead Speaker	FRIDAY, OCT 23		3-5	8-9	9-10	11-12	13+	Start Time	length (mins)	Room & Level
Johanna Roberts	Using The World of Gaming to Increase Learning and Motivation in Middle School Math Class			х	х	х		110pm	50	302 Level 3
Ashley Johnson	Incorporating Free and Inexpensive Technologies in the Mathematics Classroom				х	х	х	110pm	50	Rushton Theatre Level 1
Leslie Hilderbrand	Outstanding Math Guides (OMG)		х	х	х			110pm	80	303 Level 3
Beverly Kubina	Paper With A Purpose		Х	Х				110pm	80	Science Classroom Mezzanine Level
Karen Courtney	Using Games for Formative Assessment		х					110pm	80	Explore Lab Level 2
Justin Boyle	Questioning Students' Thinking: A Case in Ratio and Proportion			х				110pm	80	304 Level 3
Linda Bridges	Making Predictions: Exploring Probability in High School Mathematics					х		110pm	80	Regions Room Mezzanine Level
	CLOSING SESSION, P	RIZE	S, 2:3	80-2:4	15 Le	vel 3	Band	quet Rooi	m	
Tommy Smith	Association of Mathematics Teacher Educators of Alabama (AMTEA) Business Meeting						х	300pm	50	302 Level 3

Major Grade Band Focus, General Interest Sessions

9:00-9:50a Getting READY for Alabama College and Career Rushton Theatre Readiness standards Level 1

Address the Common Core's focus on conceptual understanding by using READY instruction. Teach your students to think like mathematicians. The Ready® Mathematics program helps address the emphasis on conceptual understanding through reasoning, modeling, and discussion that explores the structure of mathematics, while also developing students' procedural fluency. Teach students the more rigorous mathematics standards in a highly supportive way. Build conceptual understanding while balancing procedural fluency—strengthening your students' ability to use higher-order thinking to solve complex problems. Provide rigorous instruction on the mathematics standards using a proven-effective, gradual-release approach that builds student confidence, and prepare students for more complex assessment.

Andrea Shane Mychelle Williamson

Curriculum Associates Professional Development Specialist

Fairhope, AL Curriculum Associates

9:00-10:20a A Framework for K-12 Science Education: Lunch Area, Room A Ticketed Practices, Crosscutting Concepts, & Core Ideas Lower Level LL

Participants will be presented with an overview of the new framework for K—12 Science education, and will be provided a chance to ask questions about its implications in the classroom. The session will support educators in acquiring a better understanding how mathematics is an integral part of the science and engineering practices for curriculum and instruction. A hands-on lesson will be used to demonstrate mathematics as a language for science.

Michal Robinson Brenda Terry
ALSDE ALSDE

9:00-10:20a Math Magic: Secrets Revealed 303 Classroom Level 3

Abracadabra! You're in the Magic City, so why not watch the Amazing Kubina do some magic tricks? Try to figure out how they're done . . . then all of the secrets will be revealed! Convince yourself (and your students) that there is a rational, logical reason why the magic really works. Some of these tricks are pure fun and some are mathematical in nature. You'll even learn how to do some of these tricks so that you can dazzle your students and friends. After completing this session, you will become a mathemagician, too!

Gary Kubina Beverly Kubina

Retired Teacher/Math Consultant Retired Teacher/Math Consultant

Major Grade Band Focus, General Interest Sessions

10:30-11:50a V Ticketed

Why does $x^0 = 1$?

304 Classroom Level 3

Most people remember the rule from Algebra I or Algebra II that "anything to the zero power is one." Why is that? Join us as we explore bases and exponents using a hands-on model. You will develop a conceptual understanding of bases and exponents as you use multi-link cubes to build models of bases up to the the fifth power. You will develop a deeper understanding of placement of commas in numbers, the rules for multiplying and dividing like bases, and the power-to-a-power rule. Regardless of the grade level you teach, you will have a learning experience you will not soon forget.

Denise Peppers

Columbus (GA) Regional Mathematics Collaborative

11:00-11:50a Next-Generation Tools for Teaching and Assessing the Common Core

Rushton Theatre Level 1

The Common Core State Standards outline what students should know and be able to do; however, in order to promote significant student achievement, the complexity of the standards require that teachers have expert knowledge of the nuances of each standard and a new generation of instructional materials to ensure targeted instruction. This workshop will prepare teachers and school leaders to plan & provide explicit instruction perfectly aligned with the demands of each standard for a wide range of ability levels. The instructional materials will save teachers & school leaders' enormous amounts of time and angst around selecting appropriate activities and texts to teach each standard.

Darlene BonesDarrell LutzKevin MohornEducational EpiphanyEducational EpiphanyEducational Epiphany

1:10-2:30p Outstanding Math Guides (OMG) 303 Classroom Level 3

Come make a sample 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!

Leslie HilderbrandTeacher

Darby Jochum
Teacher

Fairplay Middle School Fairplay Middle School

Early Childhood K-2 Focused Sessions

9:00-10:20a Blocks and Beyond: Strengthening Early Math GENEious Lab Ticketed through Spatial and Geometric Development Level 1

High quality research studies and reports conducted over the past 50 years indicate that spatial and geometric thinking is central to STEM success. It is the intent of this presentation to provide administrators, classroom teachers and policy makers with current research and theory on spatial literacy as well as new approaches to the teaching of spatial and geometric development in the K-2 mathematics. This presentation will look at gender differences, research on the development of spatial abilities, research on blocks, etc. It will provide hands on activities based on Common Core Standards. Exemplars of curriculum models which emphasized spatial development will be utilized.

Mary Jo Pollman

Metropolitan State University of Denver Center for Urban Education

10:30-11:50a What's all the buzz about number lines? Regions Room Ticketed What am I missing? Mezzanine Level

Why do the standards keep specifying the number line as a model to explore, over and over? Let's explore more than just adding and subtracting whole numbers on a number line. What steps are necessary to a child's development when making this model their own? Take a trip into a child's mathematical journey from labeling and placing numbers on a number line to comparing fractions and finding equivalent fractions with this versatile model. You will leave with a reservoir of examples to help you lead your children in number line explorations with success.

Charlene Ruble

Bby Publications University of West Alabama

1:10-2:00p Number Sense = Success

AquaSpace Theatre Lower Level LL

K-2 teachers have the monumental responsibility of providing tasks and instruction to develop number sense in their very young students. Participants will glimpse inside K-2 classrooms and observe formative assessment tasks being used to develop number sense and mathematical reasoning. Video clips, student work samples, and teacher interviews will be used to highlight the impact that collaborative planning and coaching cycles have on instruction and student learning. K-2 task packets will be made available.

Loria Allen

AMSTI Math Specialist University of Alabama—Huntsville

Elementary K-5 Focused Sessions

10:00-10:50a Number Sense and Counting Collections

Explore Lab Level 2

In this session, we will take a look at the importance of counting collections in the elementary classroom and how counting connects to number sense. We will examine the practicality of putting counting collections into place and how to get started in your classroom. We will delve into a math workshop approach as we EXPERIENCE counting collections.

Kay Johnson

AMSTI Math Specialist Jacksonville State University

1:10-2:00p Fluency and Automaticity:
Differences that Make a Difference

GENEious Lab Level 1

Fluency and automaticity have very distinct meanings and applications for both reading and mathematics. Often, the words are used interchangeably when instructional goals actually lean towards one word over the other. This workshop session examines the definitions of fluency and automaticity in both a reading and mathematics context and looks at the practical applications of each so that a more intentional instructional plan can be made for students based on math standards.

Wes Gordon

Director of Curriculum & Professional Development Auburn City Schools



Elementary 3-6 Focused Sessions

9:00-9:50a

Without the Algorithms: Solving Fraction Problems Conceptually

Explore Lab Level 2

You can't do that! Teacher candidates enter elementary mathematics methods with beliefs and procedural content knowledge. Many lack a conceptual lens. This session will focus on teaching teacher candidates to approach fraction problems conceptually. Their performance final from Elementary Mathematics Methods will be the highlight of the session. Participants will 1.) Learn about the careful design of an elementary mathematics methods course with a deliberate focus on teaching conceptually, especially fractions. 2.) Experience the three types of models. 3.) Engage in discussion and practice of teaching fractions that will include productive struggle.

Stefanie Livers

Elementary Mathematics Education, NPBCT University of Alabama

Nicolette Nalu

AMSTI Math Specialist University of Alabama

9:00-9:50a

Writing to Learn: Using Math Journals to Understand, Clarify, Reflect, and Articulate

302 Classroom

Level 3

This session will provide participants with opportunities to write solutions to mathematical problems utilizing sample prompts. Myriad ideas for implementing math journals into the intermediate grades will be addressed. Math prompts will be based on selected objectives from the Curriculum Guide to the Alabama Course of Study: Mathematics K-12.

Tina Rye Sloan

Athens State University

10:00-10:50a

Built It, Draw it, Talk it, Write it ... OWN Multiplication and Division of Fractions

301 Classroom Level 3

This session will change the mindset to "understand why" from "remember how". We will model and participants will receive 3 part lessons and access to software that involves a variety of environments to stimulate learning with various approaches which are adaptable to the regular classroom as well as intervention. We will address specific Common Core standards in grades 3 to 5 listed below with multiple entry points and seamless integration to support both content and instruction.

Rudy Neufeld

Thames Valley Schools London, Ontario Canada

Jacki Beck Teachers n Tools Mobile. AL

Elementary 3-6 Focused Sessions

10:30-11:50a Real-World Math for Earth's Sake Ticketed

303 Classroom Level 3

Engage students in memorable, hands-on activities that integrate math with age-appropriate geography and ecology. Build students' understand of fractions, ratios, large numbers and growth patterns using examples from the environment and global community. Presented games and simulations also enhance students' abilities in measurement, data analysis and graphing representation. By the end of the workshop, participants will be able to facilitate hands-on activities that put elementary mathematics in a real-world context. They will also learn how to use simple manipulatives in cooperative learning groups to illustrate math concepts such as working with large numbers and doubling. At the same time, they will come away with innovative ways to introduce environmental issues in the classroom.

Ji Ji Davis
University of Montevallo

Jenifer Williams
University of Montevallo

University of Montevallo

University of Montevallo

1:10-2:30p Using Games for Formative Assessment Explore Lab Level 2

Playing games has long been an established means of getting students excited about doing mathematics. Using this strategy in a form that enables the teacher to easily assess their students' knowledge and ability level on a specific topic makes formative assessment easy and fun. In this session games for basic multiplication, division and fractions for grades 3-6 will be used to show how the motivation that comes from playing games can help students learn basic concepts. The games have an added component that will enable teachers to quickly assess student understanding on each topic.

Karen Courtney

Teacher Radney Elementary

1:10-2:00p A Year's Growth: Math Differentiation for the Gifted Le

301 Classroom Level 3

Every student deserves a year's growth. So what do you do when students arrive at your door having already mastered that grade level's content? Find interesting ways to engage your high achievers in problem solving and project based tasks that still provide time for you to meet the needs of the rest of the class. We can do more than hand them an iPad and walk away. Let's promote leadership and critical thinking skills in these students who are so often ignored.

Amber Trantham

AMSTI Math Specialist Jacksonville State University

Upper Elementary & Middle School 3-8 Focused Session

10:00-10:50a

Presto Change-o ... and independent thinker!

302 Classroom Level 3

How do you turn young students into independent and confident mathematicians? There are no potions or magic words needed, no kissing of frogs. I will share my secret to getting young mathematicians ready to start their day without hands raised, mouths open, and minds closed. Two years ago I developed a plan to turn my sixth grade students into self-starters, and saw such a change, that my entire grade level started the 2013-14 school year with the same plan. Sliding down to fifth grade this year, I bring the plan with me, and I will share with you, not just my results, but the questions & process I use. There is relatively little pain involved, other than growing pains. There are no expenses to implement it. And you will see a change. No toads or warts involved, I guarantee it.

Joanne Wells

Teacher

Eclectic Middle School

11:00-11:50a How Children Quantify Area: Research and Implications 301 Classroom Level 3

The Common Core State Standards (2010) requires the quantification of area with the formula for a rectangle, length multiplied by width. More specifically, according to the Standards, third graders are to find the area of a rectangle by tiling it and showing that the area is the same as it would be from multiplying the side lengths. Is this a realistic expectation for third graders? This presentation focuses on how children quantify area after receiving instruction on length x width, when asked to compare two rectangles having different dimensions. Fourth, sixth, and eighth graders were interviewed. It was found that even eighth graders did not use the formula and approached the questions at cognitively much lower levels. Educational implications are discussed.

Jim Wilder

Teacher

Odenville Middle School

1:10-2:30p Paper With A Purpose Ticketed

Science Classroom Mezzanine Level

Come learn how everyday paper products can become manipulatives in your classroom. Use inexpensive items such as paper plates, index cards, card stock, and copy paper to teach a variety of math skills. Tear, cut, fold, and color your way to create hands-on activities to engage your students.

Beverly Kubina Gary Kubina

Retired Teacher/Math Consultant Retired Teacher/Math Consultant

Middle School 6-8 Focused Sessions

9:00-9:50a

Share a Tangy Drink: Model Concept-Driven **Learning Environments to Address Ratio and** 301 Classroom Level 3

Proportion

This session will model and participants will receive a wide range of 3 part online lessons and software from ratio introduction to ratio tables, double number lines, sampling, scale drawings, proportionality constant to scaffold learning in a variety of learning environments. Specific lessons demonstrate differentiated instruction to address needs of all learners through interactive, multisensory approaches in blended classrooms. Lessons will model integration of instructional technology with multiple entry points and seamless integration to support both content and instruction.

Rudy Neufeld

Thames Valley Schools London, Ontario Canada Cynthia Lowery

Teachers n Tools Mobile, AL

9:00-10:20a What in the World is Mean Absolute Ticketed

Deviation???

Regions Room **Mezzanine Level**

If you've been searching for a more conceptual approach to teaching mean absolute deviation to your 6th Graders, then this is the session for you! We'll use balances to help us think about the mean as a balance point and then use this information to explore what the "mean absolute deviation" really means! These lessons are based on NCTM journal articles that were shared by a UA STEM professor and have been tried with students in the classroom.

Meg Rankin

AMSTI Math Specialist University of Alabama

Deidra White

Teacher

Moundville Elementary

Math with a Blender - Using Blended Learning 10:00-10:50a

302 Classroom Level 3

Resources in Math

In this session, participants will learn about several resources that can be used to create a Blended Learning environment. This session will show the benefits that each student can gain through incorporating digital resources alongside quality teaching practices. Participants will also learn strategies to extend the learning of their students beyond the classroom.

Chad Sorrells

Teacher

Mountain Brook Junior High

Middle School 6-8 Focused Sessions

10:30-11:50a Experiencing Probability & Statistics with GENEious Lab Level 1

During this session, participants will explore probability and statistics content through experiments and various graphical representations. They will model probability using teddy bears and be able to determine expected value using real life examples. Participants will also be able to use information obtained in the model to determine a linear relationship.

Dorothy Bell

AMSTI Math Specialist University of Alabama

Fostering Reasoning and Sense Making for All Explore Lab
11:00-11:50a Students: Supporting the Goals of the Level 2
Standards for Mathematical Practice

Pedagogical strategies will be examined that foster mathematical reasoning and sense making for all students, including those with learning disabilities, from different cultural and linguistic backgrounds, considered mathematically gifted, or deemed unmotivated. Connections will be made to the Alabama College and Career Ready Standards of Mathematical Practice and NCTM's Mathematical Teaching Practices.

Marilyn Strutchens

Secondary Mathematics Education Auburn University

1:10-2:30p Questioning Students' Thinking: A Case in Ticketed Ratio and Proportion 304 Classroom Level 3

Learning to teach for understanding goes beyond engaging students in high-level mathematics tasks. While starting with a worthwhile task is critical, as teachers, we also need to develop how we question student thinking to assess and advance their understanding of mathematical concepts. In this session, we will solve a task involving ratios and discuss the multiple solution paths generated by the session participants. Then we will consider how students might solve the same problem before analyzing actual student work to the same problem. The goal of the session is to develop questioning skills to help us plan for implementing high-level mathematics tasks.

Justin Boyle

Secondary Mathematics Education University of Alabama

Secondary 6-12 Focused Sessions

9:00-10:20a Problem-based Learning (PBL) in the Geometry 304 Classroom

Ticketed Classroom Level 3

This session is designed to make it easy for geometry teachers to incorporate authentic problems/projects into their classroom curriculum while addressing the goals of the Common Core Standards for Mathematical Content, as well as the Standards for Mathematical Practice. Also, participants will learn effective ways to develop conceptual understanding of major geometry concepts through active participation using a problem-based learning (PBL) lesson. Classroom examples will be shared to highlight how to facilitate a classroom when using PBL as a teaching and learning approach.

Shelia McGee Ingram

Birmingham-Southern College

HIGHLIGHTED SESSION:

10:00-10:50a

Grant Writing

AquaSpace Theatre Lower Level LL

Would you like technological equipment for your classroom such as a media projector? Or, perhaps you would like to have a classroom set of graphing calculators or other manipulatives for your students to use. Need money to implement an idea? The focus of this workshop will be on how to write a grant as well as common mistakes to avoid.

Lisa Lishak

Teacher Beulah High School

Please join us for a wonderful LUNCH!

12:00 PM - 1:00 PM

Events Center Banquet Room

Level-3 by the VENDORS!

Included in your Friday registration!

Secondary 6-12 Focused Sessions

11:00-11:50a Creating Learning Stations for Middle School Math

AquaSpace Theatre Lower Level LL

The benefits of establishing learning stations in the middle school math class include more focused students, immediate remediation, and a student-driven learning environment. Learn what worked, what didn't and what is the next step for teaching our students to be in charge of their own learning through learning stations. Explore how students use technology every day to not only enhance their learning but also as a tool to illustrate their own knowledge.

Lesley Ray Johanna Roberts

Teacher Teacher

Sand Rock School Sand Rock School

1:10-2:00p Using The World of Gaming to Increase
Learning and Motivation in Middle School
Math Class

302 Classroom

Level 3

How to use a gaming blueprint for both intrinsic and extrinsic motivation of middle school math students? Focus is on the use of a gaming design in combination with age appropriate learning stations to keep students focused, motivated to learn, and eager to accomplish goals. Learn how these two practices work together within the classroom to keep your middle school math student engaged and eager to learn. Participants will learn how to combine teaching in chunks using learning

stations and game based motivation to meet students "where they live". This takes you one more step

Johanna Roberts

Teacher

Sand Rock School

Lesley Ray

Teacher

Sand Rock School

Sand Rock School

closer to the goal of students in charge of their own learning.

Help us stay connected to you! update your contact information at the ACTM membership table.

High School 9-12 Focused Sessions

9:00-9:50a

Binomial Probability for PreCalculus

AquaSpace Theatre Lower Level LL

A discussion about how to tie Binomial Expansion to Binomial Probability through using Laying the Foundation Lesson. A discussion about the prerequisites that need to be in place before teaching this concept will also be discussed. This will be an easy approach to a hard sounding concept.

Kitty Morgan

A+ College-Ready ALSDE

9:00-10:20a

Developing Statistical Inference: Practice

Science Classroom
Mezzanine Level

Ticketed Standards in Action

Mezzanine Level

Statistical inference is often inaccessible to students. This session will help teachers build the understanding of statistical inference through a multiple entry level problem allowing participants to describe naturally what should happen next. This HANDS-ON workshop will help develop the logic behind statistical tests using simulation. Additionally, teachers will leave with access to resources outlining why this approach is currently being implemented across the country, as well as better understand the statistical progressions document for the high school curriculum. This is for all levels of statistics but will be especially helpful for Pre-cal and Statistics teachers.

Bradley Bearden

Basil Conway

Teacher

Teacher

Dadeville High School

Beauregard High School & Auburn University

10:00-10:50a

Principles to Actions: Implications for High

Rushton Theatre Level 1

School

Which combination could be

A pizzeria makes two kinds of pizza, cheese and pepperoni. Which combination could be baked when given certain limitations? Let's learn how to teach graphing linear inequalities while engaging students in a real-world problem-solving situation incorporating Alabama College and Career Readiness Standards.

W Gary Martin

Secondary Mathematics Education Auburn University

High School 9-12 Focused Sessions

10:30-11:50a Ticketed Using Computer Programming to Teach
Mathematical Reasoning in Middle and High
School Math Classrooms

Science Classroom Mezzanine Level

This workshop will immerse participants in innovative instruction in mathematical reasoning. As colleagues in a mathematics/computer science department, we observed students had trouble reading, understanding, and communicating abstract mathematical concepts. We developed an instructional method that uses programming to teach students to write mathematical expressions and then uses these to write a convincing argument or proof. This hands-on workshop will allow participants to experience the teaching strategy first hand. Participants will leave with lessons for their own classes. The instruction presented in the workshop is part of an ongoing effort titled CPR 2 and is funded by the USDE through an MSP grant. No prior programming experience is needed.

Janet T Jenkins Jessica E. Stovall James A. Jerkins Cynthia L Stenger University of North Alabama UNA UNA UNA

11:00-11:50a Understanding Sampling and Sampling Lu
Distributions Using the Gettysburg Address Lo

Lunch Area, Room A Lower Level LL

This session will offer participants a chance in using the Gettysburg Address to develop reasoning about sampling and sampling distribution. The activity will help develop reasoning for simple random samples and sample in ways that reduce sampling bias. The session will also offer examples of sample means from participants and technological simulation tools that lead to the construction of the central limit theorem. The tools are essential in the formulation of understanding of statistical testing procedures.

Basil Conway Bradley Bearden

Teacher Teacher

Beauregard High School & Auburn University Dadeville High School

Please join us for a wonderful LUNCH!

12:00 PM – 1:00 PM

Events Center Banquet Room

Level-3 by the VENDORS!

Included in your Friday registration!

High School 9-12 Focused Sessions

1:10-2:00p Incorporating Free and Inexpensive Rushton Theatre
Technologies in the Mathematics Classroom Level 1

In this talk, we will provide an introduction to two free tools offered by Wolfram (the makers of Mathematica) and explore how they can be used to enhance learning in the classroom. An emphasis will be placed on using these tools for discovery learning activities. For each topic, we will demonstrate ways to present the material if you have access to a computer lab, or only to a single classroom computer.

Ashley Johnson Miranda Bowie

University of North Alabama University of North Alabama

1:10-2:30p Making Predictions: Exploring Probability in Regions Room
Ticketed High School Mathematics Mezzanine Level

Have fun exploring games and real-world applications of probability! Participants will experience hands-on activities and problem-solving strategies for analyzing categorical data in two-way tables, understanding independence, computing conditional probability, calculating probabilities of compound events, and finding the expected value of a random variable.

Linda Bridges

AMSTI Math Specialist
University of Alabama—Huntsville

HIGH SCHOOL TEACHERS, Do you have a Math Team?

Participate in the Alabama Statewide High School Mathematics Contest!

Deadline for registration for next contest is January 31, 2015.

First round competition will be held on February 22, 2015.

Second round (at UNA) on March 15, 2015

Check out the website: http://mcis.jsu.edu/mathcontest/

For information contact

Professor Cynthia Stenger, University of North Alabama,

clstenger@una.edu

Please join us for a wonderful LUNCH! 12:00 PM - 12:50 PM Events Center Banquet Room Level-3 by the VENDORS! Included in your Friday registration!

The ACTM Executive Board will hold its business meeting during lunch Candidates for offices will be presented and voted upon Nominations for positions will be accepted

**** Executive Committee Members Required ****

ACTM Annual Business Meeting

All ACTM Members Are Invited!

Election of officers for 2014-2016

Announcement of Scholarship and Teacher Grant Winners

Find out how YOU can be involved in ACTM!

Events Center Banquet Room Level-3 by the VENDORS!

Vendor Exhibits will be closing at 2:15 PM

Before the closing session begins at 2:30 in the Banquet Hall

Don't forget to visit the VENDORS before the closing session's awarding of prizes.

Grand prize to be awarded!

Level-3 Events Center

Fall Forum Closing Session

Friday, October 24th, 2:30 – 2:45

Special Events Center, Level 3, Banquet Hall

Get a ticket when entering the room!

Door Prizes and *Major Prize Give-away*Must be present to WIN!!!

Are you an ACTM member? Are you a K-12 Teacher? **Apply for an ACTM Teacher Grant**

Go to the ACTM website, www.actm.education, for information on how to apply for a teacher grant, and for the application.

The deadline is December 12, 2014.

Special Interest Sessions – Post-Closing Session

Session S1 Association of Mathematics Teacher

Educators of Alabama Annual Business Meeting

Grades K-16

Classroom 301 Level 3

AMTEA is open to all mathematics teacher educators from education, the sciences, and school specialists from Alabama. Those interested in becoming members are encouraged to attend. This will conclude the ACTM conference and AMTEA pre-session. The session is open to all members and those interested in being part of AMTEA. Come find out what we are all about!

Tommy Smith
AMTEA President
Secondary Mathematics Education
The University of Alabama – Birmingham

JOIN AMTEA, read up at http://amtea.net/

LEAD SPEAKER INDEX

Lead Speaker Name	Location	Preferred Email	Affiliation Affiliation
Amber Trantham	Alexandria, AL	atrantham@jsu.edu	AMSTI Jacksonville State University
Andrea Shane	Fairhope AL	ashane@cainc.com	Curriculum Associates
Ashley Johnson	Killen, AL	ajohnson18@una.edu	University of North Alabama
Basil Conway IV	Opelika, AL,	conway.basil@lee.k12.al.us	Beauregard High School/Auburn University
Beverly Kubina	Mobile, AL	garymath@hotmail.com	Retired Teacher / Math Consultant
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Darlene Bones	Philadelphia, PA	assistant@educationalepiphany.com	Educational Epiphany
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ACTM and NCTM Membership Benefits

Great Benefits for You and Support for Your Affiliate

Join or Renew with NCTM Today and Participate in the Affiliate Rebate Program.

Joining is easy! Visit www.nctm.org/membership. Complete the online application (or renewal from) and NCTM will rebate funds to the Affiliate of your choice. On the Affiliate Rebate page of the application, select your affiliate from the drop down menu for Alabama and a portion of your NCTM dues will be returned to the affiliate of your choice.

Why Join the National Council of Teachers of Mathematics?

With nearly 100,000 members and more than 230 affiliates, NCTM is the world's largest organization dedicated to improving mathematics education in prekindergarten through two-year and teacher-education colleges. Join today and you'll know why this dynamic group of math educators relies on NCTM for the best in lessons, resources, and activities for the classroom, as well as peer networking and professional development.

Benefits of Full Membership

FREE subscription to one of the following award-winning journals, plus complete access to the full online archives for your journal. Select from:

- Teaching Children Mathematics (PreK-6)
- Mathematics Teaching in the Middle School (5-9)
- Mathematics Teacher (8-14) or
- Journal for Research in Mathematics Education.

Free member exclusive online resources—chock full of lessons, activities, and resources, including sample programs, interactive applets and multimedia for your students, and comprehensive topic collections. Resources also include a free subscription to ON-Math, NCTM's online-only school journal, and full access to NCTM's e-standards and e-seminars.

Significant discounts to top-notch conferences—including the NCTM Annual Meeting and the Regional Conferences.

NCTM publications and resources:

- FREE subscription to NCTM's online newsletters Summing Up and SmartBrief
- FREE subscription to Students Explorations in Mathematics (formerly Student Math Notes)
- FREE subscription to Member Update
- 20% members-only discount through the NCTM catalog.

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Participate in the Membership Referral Program—receive gifts and prizes when you refer colleagues and friends.

