



Math Moves Mountains

TMTA Conference, Sept. 28-29, 2018
Walter State Community College, Sevierville

M³

TMTA 2018 CONFERENCE

HOSTED BY:

TENNESSEE MATHEMATICS TEACHERS ASSOCIATION (TMTA)

TENNESSEE MATHEMATICS ASSOCIATION OF TWO-YEAR COLLEGES (TMATYC)

UPPER EAST TENNESSEE COUNCIL TEACHERS OF MATHEMATICS (UETCTM)

TABLE OF CONTENTS

<u>Conference Registration and Vendor Exhibits</u>	3
<u>Schedule At A Glance</u>	4
<u>My Schedule</u>	5
<u>My Contacts</u>	5
<u>BUILDING ABBREVIATIONS AND CAMPUS MAP</u>	6
<u>FRIDAY SESSION 1:</u>	7
<u>FRIDAY SESSION 2:</u>	12
<u>FRIDAY SESSION 3:</u>	17
<u>SATURDAY SESSION 4:</u>	23
<u>SATURDAY SESSION 5:</u>	29
<u>SATURDAY SESSION 6:</u>	35
<u>TMTA Executive Committee</u>	36
<u>TMTA AFFILIATES</u>	37

For more information, please visit our
Conference Website
<https://slight71.wixsite.com/tmta2018>
or our Main Website
<https://tmta.wildapricot.org/>

Conference Registration and Vendor Exhibits

Friday, September 28, 1:30 p.m. – 5:15 p.m.

Saturday, September 29, 7:45 a.m. – 9:00 a.m.

**Conference Registration: Maples Marshall Hall Lobby
Walters State Community College @ Sevierville**

**THANK YOU to our VENDORS
for their generous contributions to the TMTA Conference.
Please visit them in the Maples Marshall Hall.**

*Diamond Exhibitors
(Providing Refreshments and Supporting Student Award Winners):*

**American Book Company
Explore Learning
Great Minds
Learning Wrap-Ups, Inc.
National Geographic/ Cengage Learning
Tennesseans for Student Success**

Silver Exhibitors:
**Casio America, Inc.
EAI Education
First in Math
Math Olympiads for Elementary & Middle Schools
SRI International
Texas Instruments
The Outstanding Guides**

Provided Lanyards:
Hooda Math

Schedule At A Glance

<i>Friday, September 28</i>	
9:00 a.m. – 12:30 p.m.	TAMTE Preconference (requires separate registration)— Maples Marshall Hall 217
11:00 a.m. – 1:00 p.m.	<i>TMTA Executive Board Meeting (members of the Executive Board only)</i> — Maples Marshall Hall 215
12:00 – 1:30 p.m.	<i>Exhibit Set-Up (not open to TMTA participants)</i> — Maples Marshall Hall
1:30 – 5:15 p.m.	Registration Open— Maples Marshall Hall Lobby
1:30 – 5:15 p.m.	Exhibits Open— Maples Marshall Hall
2:00 – 2:45 p.m.	SESSION 1 (various locations—see detailed schedule)
3:00 – 3:45 p.m.	SESSION 2 (various locations—see detailed schedule)
3:45 – 4:30 p.m.	Exhibits Open— Maples Marshall Hall
4:30 – 5:15 p.m.	SESSION 3 (various locations—see detailed schedule)
6:30 – 8:30 p.m.	<p>TMTA Awards Banquet: Sevierville Convention Center: 202 Gists Creek Road, Sevierville, TN 37876</p> <p><i>Speaker: Dr. Karoline Pershell, Executive Director, Association for Women in Mathematics</i></p> <p><i>Student Award Winners Sponsored by:</i></p> <ul style="list-style-type: none"> • <i>American Book Company</i> • <i>Explore Learning,</i> • <i>Great Minds</i> • <i>Learning Wrap-Ups, Inc.</i> • <i>National Geographic/Cengage Learning</i> • <i>Tennesseans for Student Success</i>
<i>Saturday, September 29</i>	
7:45 a.m – 8:30 a.m.	Continental Breakfast— Maples Marshall Hall
7:45 – 9:00 p.m.	Registration Open— Maples Marshall Hall Lobby
7:45 – 12:00 p.m.	Exhibits Open— Maples Marshall Hall
8:30 – 9:15 a.m.	SESSION 4 (various locations—see detailed schedule)
9:30 – 10:15 a.m.	SESSION 5 (various locations—see detailed schedule)
10:15 – 11:00 a.m.	Exhibits Open— Maples Marshall Hall
11:15 – 12:00 p.m.	SESSION 6 (various locations—see detailed schedule)
12:00 – 12:45 p.m.	Lunch and Affiliate Meetings <i>Pick up boxed lunches in Maples Marshall Hall</i>
	CAMTA: Chattanooga Area Mathematics Teachers' Association— MMH 119
	SM ² EA: Smoky Mountain Mathematics Educators' Association— MMH 116
	MACOTOM: Memphis Area Council of Teachers of Mathematics— ACAD 104
	TMATYC: Tennessee Mathematics Association for Two Year Colleges— MMH 215
	MT ² NW: Mathematics Teachers of Tennessee, Northwest— ACAD 114
	UETCTM: Upper East Tennessee Council of Teachers of Mathematics— MMH Patio
	(MT) ² : Middle Tennessee Mathematics Teachers— MMH 118
TAMTE: Tennessee Association of Mathematics Teacher Educators— MMH 217	
12:00 – 1:30 p.m.	<i>Exhibit Take-Down (not open to TMTA participants)</i> — Maples Marshall Hall
1:00 – 2:15 p.m.	FINAL SESSION: Updates from Tennessee Department of Education, TMTA Business Meeting, Door Prizes— Maples Marshall Hall 116

BUILDING ABBREVIATIONS AND CAMPUS MAP

MMH – Maples Marshall Hall ACAD – Cates Cutshaw Hall



SESSION 1
FRIDAY 2:00 PM - 2:45 PM

CONFRONTING COMMON MISTAKES IN ALGEBRA

SESSION 1 – ACAD 104

Holly Anthony, *hanthony@tntech.edu*

EXPLORE THREE ACTIVITIES TO HELP STUDENTS CONFRONT SOME OF THE COMMON MISTAKES IN ALGEBRA SO THEY ARE LESS LIKELY TO MAKE THEM IN THE FUTURE.

Audience: High

Strand: Algebra

WHAT IS A 3 ACT TASK?

SESSION 1 – MMH 217

Amanda Lister, Ed.D., *Amanda.lister@wcs.edu*

PARTICIPANTS WILL ENGAGE IN THIS LOW FLOOR, HIGH CEILING APPROACH TO TASKS. WE WILL DISCUSS PLANNING, IMPLEMENTING, AND ASSESSING THE TASKS IN YOUR CLASSROOM.

Audience: K-2; 3-5

Strand: Number & Operation; Mathematical Processes

PROBLEM-SOLVING THE WAY IT SHOULD BE!

SESSION 1 – ACAD 204

Jamie Price, *pricejh@etsu.edu*

FUN PROBLEM SOLVING! PARTICIPANTS WILL LEAVE WITH IDEAS TO HELP STUDENTS BECOME ENGAGED IN THE ART OF SOLVING PROBLEMS USING 3-ACT TASKS AND OPEN MIDDLE.

Audience: General

Strand: Mathematical Processes; Mathematical Modeling; General Activities

PAPER QUILTS WITH AREA!

SESSION 1 – MMH 215

Melinda Hopkins & Theresa Hopkins,

Melinda.hopkins@knoxschools.org; thopkins@utk.edu

ENGAGING STUDENTS IN AN ART PROJECT THAT INVOLVES CALCULATING AREA, FINDING PATTERNS, AND DISCUSSING IMPORTANT MATHEMATICAL SKILLS.

Audience: Middle

Strand: Geometry & Measurement

THIS SESSION IS REPEATED DURING SESSION 2.

5E INTERACTIVE NOTEBOOK WITH CER FRAMEWORK USING SAIL-CARS

SESSION 1 – ACAD 231

Eric Dunlap & Ryan Nivens, Ph.D., *dunlap@etsu.edu; nivens@etsu.edu*

DISCUSSION OF THE 5E LEARNING PROCESS UTILIZING CER FRAMEWORK WITH AN INTERACTIVE NOTEBOOK. INTERACTIVE DEMONSTRATION OF ONE OF THE SAIL-CAR ACTIVITIES.

Audience: K-2

Strand: STEM

INCREASING ENGAGEMENT THROUGH COLLABORATION & RICH PROBLEM-SOLVING

SESSION 1 – MMH 118

April Daniels, *April.Daniels@cengage.com*

THIS SESSION FOCUSES ON FOSTERING DEEP MATHEMATICAL THINKING IN THE MATH CLASSROOM THROUGH COLLABORATIVE PROBLEM-SOLVING, DISCOURSE, AND ENGAGEMENT IN THE MATHEMATICAL PRACTICES.

Audience: General

Strand: Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 2.

FREE ONLINE RESOURCES TO ENHANCE YOUR TEACHING

SESSIONS 1 & 2 – ACAD 113

Ingrid Pariseau, *Ingrid.pariseau@knoxschools.org*

ONLINE CUSTOMIZABLE BOOKS, GRADED QUIZZES, PROGRESSIVE PRACTICE, VIVID GRAPHING. LEARN WHERE TO FIND THESE ONLINE RESOURCES AND HOW TO USE THEM TO ENHANCE YOUR CLASSROOM.

Audience: 3-5; Middle; High

Strand: Finding & Using Online Resources

LITERACY-RICH LESSONS ON EQUATIONS AND EXPRESSIONS

SESSION 1 – ACAD 108

Tina Harrison & Dr. Kimberly G. Williams, *Tharri70@utm.edu;*

Kwill126@utm.edu

TEACHING EQUATIONS AND EXPRESSIONS IN A LITERACY-RICH MATH CLASSROOM USING WORD WALLS, DATA ANALYSIS, GRAPHS AND TABLES.

Audience: Middle

Strand: Algebra

REASONING PROPORTIONALLY: CROSS-MULTIPLICATION IS A THING OF THE PAST

SESSION 1 – ACAD 211

Dovie Kimmins & Jeremy Winters, *dkimmins@mtsu.edu; jwinters@mtsu.edu*

THIS SESSION WILL EXPLORE ESSENTIAL UNDERSTANDINGS OF PROPORTIONAL REASONING BY EXAMINING STUDENT THINKING. ACTIVITIES WILL BE SHARED TO HELP STUDENTS REASON PROPORTIONALLY.

Audience: Middle; College; Pre-Service

Strand: Ratio & Proportion

USING GOOGLE MAPS AND DESMOS TO REPRESENT ALGEBRA CONCEPTS

Please bring a laptop or tablet of your choice to this session.

SESSION 1 – ACAD 229

Jennifer Axley, *Jennifer_axley@webbschool.org*

WE WILL USE MAPS SUPERIMPOSED IN DESMOS TO WRITE EQUATIONS OF SYSTEMS OF LINES AND INEQUALITIES. TEACHERS WILL ALSO INSERT THEIR OWN MAPS INTO DESMOS.

Audience: Middle; High

Strand: Algebra

THIS SESSION IS REPEATED DURING SESSION 4.

CANDY GRAPHING & QUIZLET LIVE!

SESSION 1 – ACAD 210

Whitney Jacobsen Hodges, *jwhit423@gmail.com*

PARTICIPANTS WILL DO AN INTERACTIVE HANDS-ON GRAPHING ACTIVITY WITH M&M'S AND TWIZZLERS, AND PARTICIPATE IN A QUIZLET LIVE FORMATIVE ASSESSMENT THAT ENCOURAGES TALKING ABOUT THINKING.

Audience: 3-5; Middle; High; Pre-service; General

Strand: Algebra; General Activities; Teachers of Teachers; Mathematical Modeling; STEM

THIS SESSION IS REPEATED DURING SESSION 6.

THE 8 MATHEMATICAL PRACTICES

SESSION 1– ACAD 227

Jacob Adkins & Jill Burgner, *adkinsj@wcde.org; burgnerj@wcde.org*

8 GUIDING PRINCIPLES TO FOSTER A DEEPER UNDERSTANDING IN MATHEMATICS BY CHALLENGING STUDENTS WITH REAL WORLD PROBLEMS AND DEVELOPING CRITICAL THINKERS.

Audience: K-2; 3-5

Strand: Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 2.

MOUNTAINS OF GEOMETRY PACKED INTO SUCH TINY BOXES

SESSIONS 1 & 2 – ACAD 208

Nicholas Restivo, *nrestivo@moems.org*

TRANSFORM GREETING CARDS INTO BOXES – DISCOVER GEOMETRY CONCEPTS THAT RELY ON DEFINITIONS ASSOCIATED WITH PARALLELOGRAMS. NON-ROUTINE PROBLEMS USING THOSE PROPERTIES WILL BE EXPLORED.

Audience: Middle; High

Strand: Geometry & Measurement; STEM

THIS SESSION IS REPEATED DURING SESSIONS 4 & 5.

YOU DON'T HAVE TO TEACH THEM EVERYTHING

SESSIONS 1 & 2 – MMH 119

Lora Hopkins & Val Love, *lhopkins@k12k.com; vlove@k12k.com*

PARTICIPANTS WILL ENGAGE IN EXPERIENCES AND LESSONS LEARNED AS AN ALGEBRA 1 TEAM TRANSITIONED FROM OVER-TEACHING TO AN APPROACH THAT ALLOWS STUDENTS TO DEVELOP MATHEMATICAL REASONING.

Audience: Middle; High; Pre-service

Strand: Course Re-Design

THIS SESSION IS REPEATED DURING SESSIONS 4 & 5.

HELP!!! I JUST CAN'T DO MATH

SESSIONS 1 & 2 – ACAD 139

Yolanda Parker Williams, *yolanda.williams@knoxschools.org*

IN THIS PRESENTATION, YOU WILL BE GIVEN AN OPPORTUNITY TO ENGAGE IN DIFFERENT STRATEGIES AND SCENARIOS THAT BUILD CONFIDENCE IN THE MATH CONTENT AREA.

Audience: General

Strand: Number & Operation; Algebra; Mathematical Processes; Data Analysis, Statistics & Probability; Teacher of Teachers; Mathematical Modeling

HANDS-ON AND SELF-CORRECTING MATH CENTERS

SESSIONS 1 & 2 – ACAD 114

Rich Stuart, *rich@learningwrapups.com*

THIS IS YOUR OPPORTUNITY TO PLAY WITH, AND KEEP, HANDS-ON AND SELF-CORRECTING MATERIALS THAT HELP K-5 STUDENTS WITH NUMERATION, ALGEBRA, GEOMETRY & MEASUREMENT, AND PROBABILITY AND STATISTICS.

Audience: K-2; 3-5

Strand: Number & Operation; Algebra; Geometry & Measurement; Data Analysis, Statistics & Probability

MORE THAN JUST CO-TEACHING

SESSIONS 1 & 2 – ACAD 136

Sean Golden & Liesel Watkins, *sgolden@k12k.com; lwatkins@k12k.com*

NEED HELP WITH DIFFERENTIATING? WE WILL FOCUS ON THE CO-TEACHING MODEL WE USE INCLUDING STRATEGIES TO HELP ENHANCE INSTRUCTION IN ANY CLASSROOM.

Audience: Middle; High

Strand: Differentiating & Meeting the Needs of All Learners

SESSION 2
FRIDAY 3:00 PM - 3:45 PM

**LET'S GET PHYSICAL! MATHEMATICS THROUGH A PHYSICS
LENS**

SESSION 2 - ACAD 231

L. Jeneva Clark & Peggy Bertrand & Andrea Lawyer,

dr.jenevaclark@utk.edu; bertrand.stem.ed@gmail.co;
andrea.lawyer.tn@gmail.com

FUNDED BY A TENNESSEE HIGHER EDUCATION COMMISSION, THIS SESSION WILL HAVE YOU ENGAGED IN DISCOVERY-BASED, LAB-STYLE LEARNING. EXPERIENCE THIS LESSON AS YOUR STUDENTS WOULD AND LEAVE WITH AN INEXPENSIVE LAB IDEA AND HANDOUTS.

(MAP THE PATH OF A WANDERING BUG AND MEET 7TH AND 8TH GRADE MATH STANDARDS OR STRETCH TO PARAMETRIC EQUATIONS.)

Audience: Middle; High; College

Strand: Algebra; Data Analysis, Statistics, Probability; Mathematical Modeling; STEM

EARTH BY THE NUMBERS

SESSION 2 - ACAD 104

Joshua Kenna, Ph.D., *jkenna@utk.edu*

IN THIS STEM-BASED WORKSHOP, USE REAL-WORLD DATA ON NATURAL RESOURCES, POPULATION AND THE ENVIRONMENT TO BOOST UNDERSTANDING OF NUMBERS AND OPERATIONS, MEASUREMENT, PROBABILITY AND MORE.

Audience: Middle

Strand: Number & Operations; Mathematical Modeling; STEM

ENRICHMENT TOPICS FOR A GEOMETRY CLASS

SESSION 2 - ACAD 229

Carroll G. Wells, *Carroll.wells@lipscomb.edu*

BY TWISTING PIECES OF STRING OR OF PAPER, UNEXPECTED THINGS HAPPEN. THESE ACTIVITIES CAN BE USED TO GET STUDENTS INTERESTED IN STUDYING GEOMETRY.

Audience: 3-5; Middle; High; College; Pre-Service; General

Strand: Geometry & Measurement

CUBES MAKE A GREAT SETTING FOR PROBLEM SOLVING

SESSION 2 – MMH 217

Dennis Mulhearn, *Li_mathguy@yahoo.com*

A CUBE IS A STARTING POINT FOR RICH PROBLEMS WITH MULTIPLE SOLUTIONS. FIND FACTORS, VOLUME, SURFACE AREA, NETWORKS, AND MORE INVOLVED IN THESE CONTEST PROBLEMS.

Audience: 3-5

Strand: Problem Solving

THIS SESSION IS REPEATED DURING SESSION 3.

READING, WRITING, & SPEAKING LIKE A MATHEMATICIAN

SESSION 2 – ACAD 108

Dr. Karen S. DiBella, Dr. Kimberly Williams & Dr. Tammie Patterson,

kdibella@utm.edu; kwill126@utm.edu; tpatterson@utm.edu

READING, WRITING, AND SPEAKING ARE NOT JUST FOR ELA COURSES! THIS PRESENTATION WILL OFFER HANDS-ON STRATEGIES TO ENGAGE STUDENTS USING THESE SKILLS AND MORE IN THE MATHEMATICS CLASSROOM.

Audience: 3-5; Middle; Pre-service

Strand: Data Analysis, Statistics, Probability; Teachers of Teachers; Math Modeling

TEACHING FUTURE MATH TEACHERS MATH THEY WILL TEACH

SESSION 2 – ACAD 211

Ryan Fox, *ryan.fox@belmont.edu*

I DISCUSS WORK WITH PRE-SERVICE TEACHERS DEVELOPING MATHEMATICAL KNOWLEDGE FOR TEACHING THROUGH READINGS. AFTER DISCUSSIONS ABOUT THE TOPIC, PRE-SERVICE TEACHERS EXTEND KNOWLEDGE TO CLASSROOM SITUATIONS.

Audience: College; Pre-service

Strand: Teachers of Teachers

THIS SESSION IS REPEATED DURING SESSION 3.

CONNECTING TEACHER PRACTICE AND STUDENT LEARNING THROUGH COACHING

SESSION 2 – ACAD 235

Amanda L. Cole, *acole@k12k.com*

PARTICIPANTS WILL USE THE EIGHT MATHEMATICAL TEACHING PRACTICES AND SEE HOW THESE CAN BE LEVERAGED TO SUPPORT TEACHERS IN MOVING STUDENTS TO DESIRED OUTCOMES AND LEARNING THROUGH COACHING CYCLES.

Audience: General

Strand: Teachers of Teachers

THIS SESSION IS REPEATED DURING SESSION 3.

NUMBER TALKS: INITIATING DISCUSSIONS JOINING NUMERACY AND STEM

SESSION 2 – ACAD 204

Karen R. Cheng & Shande King, *nking5@vols.utk.edu*;

kcheng2@vols.utk.edu

LEARN HOW TO UTILIZE NUMBER TALK ROUTINES TO SUPPORT CLASSROOM DISCOURSE ABOUT MATHEMATICS, WHILE ALSO INCORPORATING NUMBER TALKS TO MAKE CONNECTIONS TO OTHER STEM FIELDS.

Audience: K-2; 3-5; Middle

Strand: Number & Operation; General Activities; STEM

THIS SESSION IS REPEATED DURING SESSION 3.

FREE ONLINE RESOURCES TO ENHANCE YOUR TEACHING

SESSIONS 1 & 2 – ACAD 113

Ingrid Pariseau, *Ingrid.pariseau@knoxschools.org*

ONLINE CUSTOMIZABLE BOOKS, GRADED QUIZZES, PROGRESSIVE PRACTICE, VIVID GRAPHING. LEARN WHERE TO FIND THESE ONLINE RESOURCES AND HOW TO USE THEM TO ENHANCE YOUR CLASSROOM.

Audience: 3-5; Middle; High

Strand: Finding & Using Online Resources

YOU DON'T HAVE TO TEACH THEM EVERYTHING

SESSIONS 1 & 2 – MMH 119

Lora Hopkins & Val Love, *lhopkins@k12k.com; vlove@k12k.com*

PARTICIPANTS WILL ENGAGE IN EXPERIENCES AND LESSONS LEARNED AS AN ALGEBRA 1 TEAM TRANSITIONED FROM OVER-TEACHING TO AN APPROACH THAT ALLOWS STUDENTS TO DEVELOP MATHEMATICAL REASONING.

Audience: Middle; High; Pre-service

Strand: Course Re-Design

THIS SESSION IS REPEATED DURING SESSIONS 4 & 5.

MOUNTAINS OF GEOMETRY PACKED INTO SUCH TINY BOXES

SESSIONS 1 & 2 – ACAD 208

Nicholas Restivo, *nrestivo@moems.org*

TRANSFORM GREETING CARDS INTO BOXES – DISCOVER GEOMETRY CONCEPTS THAT RELY ON DEFINITIONS ASSOCIATED WITH PARALLELOGRAMS. NON-ROUTINE PROBLEMS USING THOSE PROPERTIES WILL BE EXPLORED.

Audience: Middle; High

Strand: Geometry & Measurement; STEM

THIS SESSION IS REPEATED DURING SESSIONS 4 & 5.

HELP!!! I JUST CAN'T DO MATH

SESSIONS 1 & 2 – ACAD 139

Yolanda Parker Williams, *yolanda.williams@knoxschools.org*

IN THIS PRESENTATION, YOU WILL BE GIVEN AN OPPORTUNITY TO ENGAGE IN DIFFERENT STRATEGIES AND SCENARIOS THAT BUILD CONFIDENCE IN THE MATH CONTENT AREA.

Audience: General

Strand: Number & Operation; Algebra; Mathematical Processes; Data Analysis, Statistics & Probability; Teacher of Teachers; Mathematical Modeling

MORE THAN JUST CO-TEACHING

SESSIONS 1 & 2 – ACAD 136

Sean Golden & Liesel Watkins, *sgolden@k12k.com; lwatkins@k12k.com*

NEED HELP WITH DIFFERENTIATING? WE WILL FOCUS ON THE CO-TEACHING MODEL WE USE INCLUDING STRATEGIES TO HELP ENHANCE INSTRUCTION IN ANY CLASSROOM.

Audience: Middle; High

Strand: Differentiating & Meeting the Needs of All Learners

10 DAYS TO MULTIPLICATION MASTERY

SESSIONS 1 & 2 – ACAD 114

Rich Stuart, *rich@learningwrapups.com*

LEARN MULTIPLICATION TABLES IN 10 DAYS WITH FUN METHODS OF PRACTICE AND UNDERSTANDING THE POWER OF COMMUTATIVE PROPERTIES.

Audience: 3-5

Strand: Number & Operation

PAPER QUILTS WITH AREA!

SESSION 2 MMH 215

Melinda Hopkins & Theresa Hopkins, *Melinda.hopkins@knoxschools.org; thopkins@utk.edu*

ENGAGING STUDENTS IN AN ART PROJECT THAT INVOLVES CALCULATING AREA, FINDING PATTERNS, AND DISCUSSING IMPORTANT MATHEMATICAL SKILLS.

Audience: Middle

Strand: Geometry & Measurement

THIS SESSION IS REPEATED DURING SESSION 1.

**INCREASING ENGAGEMENT THROUGH COLLABORATION & RICH
PROBLEM-SOLVING**

SESSION 2 – MMH 118

April Daniels, *April.Daniels@cengage.com*

**THIS SESSION FOCUSES ON FOSTERING DEEP MATHEMATICAL THINKING IN THE
MATH CLASSROOM THROUGH COLLABORATIVE PROBLEM-SOLVING, DISCOURSE, AND
ENGAGEMENT IN THE MATHEMATICAL PRACTICES.**

Audience: General

Strand: Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 1.

THE 8 MATHEMATICAL PRACTICES

SESSION 2 – ACAD 227

Jacob Adkins & Jill Burgner, *adkinsj@wcde.org; burgnerj@wcde.org*

**8 GUIDING PRINCIPLES TO FOSTER A DEEPER UNDERSTANDING IN MATHEMATICS
BY CHALLENGING STUDENTS WITH REAL WORLD PROBLEMS AND DEVELOPING
CRITICAL THINKERS.**

Audience: K-2; 3-5

Strand: Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 1.

SESSION 3
FRIDAY 4:30 PM – 5:15 PM

SHHH, I DIFFERENTIATED MY GEOMETRY LESSON!

SESSION 3 – MMH 215

Theresa Hopkins, *thopkins@utk.edu*

I WILL SHARE A SAMPLE DIFFERENTIATED HIGH SCHOOL GEOMETRY LESSON WITH TIME TO DISCUSS WHAT OTHER TOPICS WOULD WORK WITH THIS STRATEGY.

Audience: Middle; High

Strand: Geometry & Measurement; Mathematical Processes

BUILDING CONFIDENCE BY BRINGING CALCULUS INTO THE CLASSROOM

SESSION 3 – ACAD 113

Ingrid Pariseau, *Ingrid.pariseau@knoxschools.org*

HELP STUDENTS LEARN HOW TO JUSTIFY THEIR MATHEMATICS AND BUILD THEIR CONFIDENCE BY USING MODIFIED AP CALCULUS QUESTIONS. EXAMPLES AT ALL LEVELS ARE PROVIDED.

Audience: High

Strand: Geometry & Measurement

CUBES MAKE A GREAT SETTING FOR PROBLEM SOLVING

SESSION 3 – MMH 217

Dennis Mulhearn, *Li_mathguy@yahoo.com*

A CUBE IS A STARTING POINT FOR RICH PROBLEMS WITH MULTIPLE SOLUTIONS. FIND FACTORS, VOLUME, SURFACE AREA, NETWORKS, AND MORE INVOLVED IN THESE CONTEST PROBLEMS.

Audience: 3-5

Strand: Problem Solving

THIS SESSION IS REPEATED DURING SESSION 2.

NUMBER TALKS: INITIATING DISCUSSIONS JOINING NUMERACY AND STEM

SESSION 3 – ACAD 204

Karen R. Cheng & Shande King, *nking5@vols.utk.edu*;
kcheng2@vols.utk.edu

**LEARN HOW TO UTILIZE NUMBER TALK ROUTINES TO SUPPORT CLASSROOM
DISCOURSE ABOUT MATHEMATICS, WHILE ALSO INCORPORATING NUMBER TALKS
TO MAKE CONNECTIONS TO OTHER STEM FIELDS.**

Audience: K-2; 3-5; Middle

Strand: Number & Operation; General Activities; STEM

THIS SESSION IS REPEATED DURING SESSION 2.

2 WEEKS LEFT AFTER TNREADY-CODE WITH THE TI-84

SESSION 3 – ACAD 229

Alice Carson, *alice.carson@knoxschools.org*

**WE WILL LEARN TO CODE INPUT/OUTPUT STATEMENTS AND MAYBE EVEN LOOPS.
COME HAVE SOME FUN. STUDENT ENGAGEMENT WILL BE 100%.**

Audience: Middle; High; Pre-service

Strand: STEM

STEPS TO EDTPA SUCCESS IN MATH METHODS

SESSION 3 – ACAD 104

Jennifer Meadows, *jrmeadows@tntech.edu*

**DURING THIS INTERACTIVE WORKSHOP, PARTICIPANTS WILL EXPLORE WAYS TO
PREPARE TEACHER CANDIDATES FOR COMPLETING THE EDTPA. COME READY TO
COLLABORATE!**

Audience: College; Pre-service

Strand: Teachers of Teachers

INTERPRETING DERIVATIVES & INTEGRALS

SESSION 3 – ACAD 231

Vicki Borlaug, *Victoria.Borlaug@ws.edu*

**PARTICIPANTS WILL WORK THROUGH STUDENT HANDOUTS DESIGNED FOR
INTERPRETING FUNCTIONS, DERIVATIVES, AND INTEGRALS FROM MODELS. EMPHASIS
WILL BE PLACED ON UNITS AND INTERPRETING WITH SENTENCES.**

Audience: High; College

Strand: Mathematical Modeling; STEM; Calculus

TEACHING FUTURE MATH TEACHERS MATH THEY WILL TEACH

SESSION 3 – ACAD 211

Ryan Fox, *ryan.fox@belmont.edu*

I DISCUSS WORK WITH PRE-SERVICE TEACHERS DEVELOPING MATHEMATICAL KNOWLEDGE FOR TEACHING THROUGH READINGS. AFTER DISCUSSIONS ABOUT THE TOPIC, PRE-SERVICE TEACHERS EXTEND KNOWLEDGE TO CLASSROOM SITUATIONS.

Audience: College; Pre-service

Strand: Teachers of Teachers

THIS SESSION IS REPEATED DURING SESSION 2.

TURN YOUR MATHEMATICS CLASS INTO AN ESCAPE ROOM

SESSION 3 – ACAD 108

Dr. Tammie T. Patterson, Dr. Kimberly G. Williams & Dr. Karen S. Dibella, *tpatterson@utm.edu; Kwill126@utm.edu; kdibella@utm.edu*

DO YOU WANT TO ESCAPE YOUR MUNDANE MATH CLASS? ARE YOU LOOKING FOR REAL WORLD LEARNING TASKS, CRITICAL THINKING, AND TEAMWORK BUILDING? THIS WORKSHOP IS FOR YOU!

Audience: 3-5; Middle; High; College; Pre-service; General

Strand: Teachers of Teachers; Mathematical Modeling; STEM

THIS SESSION IS REPEATED DURING SESSION 4.

CONNECTING TEACHER PRACTICE AND STUDENT LEARNING THROUGH COACHING

SESSION 3 – ACAD 235

Amanda L. Cole, *acole@k12k.com*

PARTICIPANTS WILL USE THE EIGHT MATHEMATICAL TEACHING PRACTICES AND SEE HOW THESE CAN BE LEVERAGED TO SUPPORT TEACHERS IN MOVING STUDENTS TO DESIRED OUTCOMES AND LEARNING THROUGH COACHING CYCLES.

Audience: General

Strand: Teachers of Teachers

THIS SESSION IS REPEATED DURING SESSION 2.

OMG! MATH GRAPHIC ORGANIZERS!

SESSION 3 – ACAD 136

Rhonda K. Davis, OMG.rhonda@gmail.com

COME SEE HOW GRAPHIC ORGANIZERS CAN TRANSFORM YOUR CLASS! MAKE AN OUTSTANDING MATH GUIDE (OMG) CONTAINING GRAPHIC ORGANIZERS WITH STEPS, EXAMPLES, AND VOCABULARY FOR EVERY KEY CONCEPT TAUGHT THROUGHOUT THE YEAR. THIS CREATIVE GUIDE OFFERS STUDENTS A QUICK REFERENCE THAT WILL PUT THE 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!

Audience: General

Strand: Number & Operation; Mathematical Processes; Mathematical Modeling

THIS SESSION IS REPEATED DURING SESSION 4.

1-1 IPADS IN CALCULUS: A CASE STUDY

SESSION 3 – ACAD 208

Jeff Knoll, jknoll@charlottelatin.org

THE INS AND OUTS OF USING 1-1 DEVICES TO DELIVER A SENIOR LEVEL NON-AP CALCULUS CURRICULUM. I WILL SHARE APPS TO USE FOR NOTE TAKING, DEMONSTRATIONS, AND DISCOVERY OF TOPICS AND I WILL SHARE CHANGES I'VE MADE AFTER 4 YEARS.

Audience: High

Strand: Calculus Teachers

THIS SESSION IS REPEATED DURING SESSION 4.

STRATEGIES FOR HIGH ENGAGEMENT IN ELEMENTARY MATH

SESSION 3 – ACAD 227

Jessica Willings & Rebekah Pettit, jwillings@jcboe.net; rpettit@jcboe.net

HAVE YOU EVER WONDERED HOW TO MARRY RIGOROUS, STANDARDS-BASED MATH CONTENT WITH HIGH LEARNER ENGAGEMENT? PARTICIPANTS WILL LEARN STRATEGIES THAT KEEP THEIR LEARNERS WANTING MORE!

Audience: K-2; 3-5

Strand: General Activities

THIS SESSION IS REPEATED DURING SESSION 6.

BACKWARDS, SIDEWAYS, AND UPSIDE DOWN

SESSION 3 – ACAD 139

Deborah T. Cantrell, *debbie-cantrell@utc.edu*

ELEMENTARY MATH ACTIVITIES WILL BE PRESENTED THAT INTRODUCE AND REINFORCE CONCEPTUAL UNDERSTANDING. THESE ACTIVITIES WILL ENCOURAGE STUDENTS TO ANALYZE PROBLEMS FROM A DIFFERENT PERSPECTIVE.

Audience: 3-5; Pre-Service

Strand: General Activities

GAME ON! UNDERSTANDING AND SUPPORTING K-2 FACT FLUENCY

SESSION 3 – MMH 119

Christy Plummer, *cplummer@email.usn.org*

DATA FROM FACT FLUENCY INTERVIEWS HELP US UNDERSTAND, SUPPORT, AND MONITOR STUDENTS' GROWTH. LEARN TO ADMINISTER INTERVIEWS, INTERPRET RESULTS, AND MATCH STUDENTS WITH JUST-RIGHT GAMES.

Audience: K-2; Preservice

Strand: Number & Operations

THIS SESSION IS REPEATED DURING SESSION 6.

USING DESMOS GRAPHING CALCULATOR FOR BEGINNERS

SESSION 3 – ACAD 210

Emily McDonald & Shirley McDonald, *mcdonald_emily@hcde.org*;

smcdonald.rms@catoosa.k12.ga.us

LEARN HOW THE FREE ONLINE DESMOS CALCULATOR CAN HELP FACILITATE MATHEMATICAL CONVERSATIONS, EVEN WITH ONE COMPUTER. USE POINTS, SLIDERS, TABLES, REGRESSION, GEOMETRY CONSTRUCTION, AND MORE.

Audience: Middle; High

Strand: Algebra; Mathematical Modeling; Mathematical Processes General Activities; STEM

THIS SESSION IS REPEATED DURING SESSION 4.

DIGITAL BLENDED LEARNING IN THE MATH CLASSROOM

SESSION 3 – ACAD 113

Melanie Lehman

HOW TO USE DIGITAL BLENDED LEARNING IN MATH AND THE DIFFERENCE BETWEEN BLENDED LEARNING AND TECHNOLOGY INTEGRATION.

Audience: General

Strand: Mathematical Processes; Mathematical Modeling; General Activities

ROTATING PARABOLAS IN FLATLAND

SESSION 3 (UNDERGRADUATE 20 MINUTE PRESENTATION) – MMH 118

Mark Miller, *mark.miller@lipscomb.edu*

**A 2D MODEL FOR WHAT A PARABOLA LOOKS LIKE IN THE XY-PLANE AS IT IS
ROTATED ABOUT ITS AXIS THROUGH ANY ANGLE.**

Audience: High; College

Strand: Mathematical Modeling

6:30 P.M.

Sevierville Convention Center

202 Gists Creek Road, Sevierville, TN 37876

TMTA BANQUET

Featuring Guest Speaker

Dr. Karoline Pershell,

Executive Director, Association for Women in Mathematics

and celebrating

**The 2018 TMTA High School Math Contests
Award Winners and Teachers**

SESSION 4
SATURDAY 8:30 AM – 9:15 AM

DO YOU HAVE A LICENSE TO DRIVE A TI ROVER?

SESSION 4 – ACAD 229

Alice Carson, *alice.carson@knoxschools.org*

COME AND PLAY AROUND WITH THE TI-ROVER. NO EXPERIENCE IS NECESSARY.
EARN YOUR LEARNER'S PERMIT. WE WILL DRIVE THE ROVER WITH SIMPLE
COMMANDS.

Audience: Middle; High; Pre-service
Strand: STEM

OMG! MATH GRAPHIC ORGANIZERS!

SESSION 4 – ACAD 136

Rhonda K. Davis, *OMG.rhonda@gmail.com*

COME SEE HOW GRAPHIC ORGANIZERS CAN TRANSFORM YOUR CLASS! MAKE AN
OUTSTANDING MATH GUIDE (OMG) CONTAINING GRAPHIC ORGANIZERS WITH
STEPS, EXAMPLES, AND VOCABULARY FOR EVERY KEY CONCEPT TAUGHT
THROUGHOUT THE YEAR. THIS CREATIVE GUIDE OFFERS STUDENTS A QUICK
REFERENCE THAT WILL PUT THE 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!

Audience: General
Strand: Number & Operation; Mathematical Processes; Mathematical Modeling

THIS SESSION IS REPEATED DURING SESSION 3.

TURN YOUR MATHEMATICS CLASS INTO AN ESCAPE ROOM

SESSION 4 – ACAD 108

**Dr. Tammie T. Patterson, Dr. Kimberly G. Williams & Dr. Karen S.
Dibella**, *tpatterson@utm.edu; Kwill126@utm.edu; kdibella@utm.edu*

DO YOU WANT TO ESCAPE YOUR MUNDANE MATH CLASS? ARE YOU LOOKING
FOR REAL WORLD LEARNING TASKS, CRITICAL THINKING, AND TEAMWORK
BUILDING? THIS WORKSHOP IS FOR YOU!

Audience: 3-5; Middle; High; College; Pre-service; General
Strand: Teachers of Teachers; Mathematical Modeling; STEM

THIS SESSION IS REPEATED DURING SESSION 3.

THE TROUBLE WITH PLACE VALUE

SESSIONS 4 & 5 – MMH 215

Theresa Hopkins & JoAnn Cady, *thopkins@utk.edu; jcady@utk.edu*

WALK IN YOUR STUDENTS' SHOES WHEN IT COMES TO LEARNING PLACE VALUE. THEN DISCUSS TARGETED LEARNING ACTIVITIES TO MEET CHALLENGES TO DEEP UNDERSTANDING.

Audience: K-2; 3-5; College

Strand: Number & Operations; Teachers of Teachers

SHOW ME WHAT YOU KNOW: A LOOK AT STANDARDS BASED GRADING

SESSION 4 – MMH 118

Tabitha Michael, *tmichael@my.apsu.edu*

WE WILL LOOK AT HOW STANDARDS BASED GRADING IS A MANAGEABLE AND POWERFUL TOOL TO COMMUNICATE WHAT STUDENTS KNOW AND ARE ABLE TO DO.

Audience: Middle; High

Strand: General Activities

MY FAVORITE CONTEST PROBLEMS ARE FOR ALL STUDENTS

SESSION 4 – ACAD 104

Dennis Mulhearn, *Li_mathguy@yahoo.com*

MATH CONTESTS ARE NOT ONLY FOR THE GIFTED. PROBLEM SOLVING IS CENTRAL FOR ALL. CHALLENGE STUDENTS WITH CONTEST PROBLEMS. DISCOVER MULTIPLE SOLUTIONS THAT ENRICH UNDERSTANDING.

Audience: Middle

Strand: Problem Solving

THIS SESSION IS REPEATED DURING SESSION 5.

THERE'S MORE TO SLOPE THAN JUST $Y = MX + B$!

SESSION 4 – ACAD 231

Rebecca Darrough & Alexandria Brumfield, *darroughr@apsu.edu;*

abrumfield@my.apsu.edu

WHEN ASKING STUDENTS WHAT $Y = MX + B$ MEANS, THEY ANSWER "THE SLOPE FORMULA!" BUT THERE IS MORE TO $Y = MX + B$! MAKE CONNECTIONS BETWEEN REPRESENTATIONS!

Audience: Middle; Pre-Service

Strand: Algebra; Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 5.

ORDER OF OPERATIONS: THINKING BEYOND THE MNEMONIC

SESSION 4 – ACAD 227

Elizabeth Barlow, *elizabeth.barlow@knoxschools.org*

OPENS UP THE DISCUSSION OF HOW ONE CAN TEACH STUDENTS THE MEANING BEHIND THE ORDER OF OPERATIONS INSTEAD OF MAKING IT A MEMORIZATION OF A MNEMONIC.

Audience: 3-5; Middle

Strand: Number & Operation

THIS SESSION IS REPEATED DURING SESSION 5.

MATH LEADING AND LEARNING: NCSM SUPPORTS YOU!

SESSION 4 – ACAD 204

Paul Gray, Jr., *pgray@mathedleadership.org*

ARE YOU A COACH, TEACHER LEADER, SPECIALIST, OR OTHER MATHEMATICS LEADER? COME LEARN MORE ABOUT THE RESOURCES AVAILABLE FOR YOU FROM NCSM, THE NATION'S PREMIERE MATHEMATICS EDUCATION LEADERSHIP ORGANIZATION.

Audience: K-2; 3-5; Middle; High; College

Strand: Teachers of Teachers

INTEGRATING INTEGRATED MATH FOR HIGH SCHOOLS

SESSION 4 – ACAD 139

Mark Waxmonsky & Jillian Blamer, *mark.waxmonsky@knoxschools.org*;
jillian.blamer@knoxschools.org

INTEGRATED MATH TEXTBOOKS KEEP ALGEBRA, GEOMETRY, AND PROBABILITY TOPICS SEPARATED RATHER THAN INTEGRATING THEM. HEAR ABOUT HOW ONE SCHOOLS HAS TRULY INTEGRATED THE TOPICS.

Audience: High

Strand: Algebra; Geometry & Measurement; Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 5.

**ENGINEERS HELP “SHAPE” THE FUTURE: INTEGRATING
PHYSICAL SCIENCE, GEOMETRY AND THE ENGINEER DESIGN
PROCESS**

SESSION 4 – MMH 217

Andrea Fissel, *afissel@k12k.com*

**WE WILL LOOK AT HOW WE CAN PLAN FOR AND TEACH AS WE INTEGRATE
S.T.E.M. THROUGH ENGAGING IN HANDS-ON LEARNING. EXPERIENCE THE MATH
PRACTICES, SCIENCE AND ENGINEERING PRACTICES, CROSSCUTTING CONCEPTS,
AND THE ENGINEER DESIGN PROCESS TO REASON ABOUT THE ATTRIBUTES OF 2-
D AND 3-D SHAPES AND THEIR ROLE IN REAL-WORLD SITUATIONS.**

Audience: K-2; 3-5

Strand: Geometry & Measurement; Mathematical Processes; STEM

TECHNOLOGY TO BRING MATH ALIVE

SESSION 4 – ACAD 113

Teresa Agee, *Teresa.Agee@mnps.org*

**DEMONSTRATION OF THE SOFTWARE AND HARDWARE THAT I BOUGHT WITH THE
MONEY FROM THE TMTA MINI GRANT. HOW I USE IT TO ENHANCE THE
INSTRUCTION IN MY CLASSROOM.**

Audience: Middle; High

Strand: Algebra; Geometry & Measurement; General Activities

HANDS-ON AND SELF-CORRECTING MATH CENTERS

SESSIONS 4 & 5 – ACAD 114

Rich Stuart, *rich@learningwrapups.com*

**THIS IS YOUR OPPORTUNITY TO PLAY WITH, AND KEEP, HANDS-ON AND SELF-
CORRECTING MATERIALS THAT HELP K-5 STUDENTS WITH NUMERATION,
ALGEBRA, GEOMETRY & MEASUREMENT, AND PROBABILITY AND STATISTICS.**

Audience: K-2; 3-5

*Strand: Number & Operation; Algebra; Geometry & Measurement; Data Analysis,
Statistics & Probability*

1-1 IPADS IN CALCULUS: A CASE STUDY

SESSION 4 – ACAD 208

Jeff Knoll, *jknoll@charlottelatin.org*

THE INS AND OUTS OF USING 1-1 DEVICES TO DELIVER A SENIOR LEVEL NON-AP CALCULUS CURRICULUM. I WILL SHARE APPS TO USE FOR NOTE TAKING, DEMONSTRATIONS, AND DISCOVERY OF TOPICS AND I WILL SHARE CHANGES I'VE MADE AFTER 4 YEARS.

Audience: High

Strand: Calculus Teachers

THIS SESSION IS REPEATED DURING SESSION 3.

USING DESMOS GRAPHING CALCULATOR FOR BEGINNERS

SESSION 4 – ACAD 210

Emily McDonald & Shirley McDonald, *mcdonald_emily@hcde.org*;

smcdonald.rms@catoosa.k12.ga.us

LEARN HOW THE FREE ONLINE DESMOS CALCULATOR CAN HELP FACILITATE MATHEMATICAL CONVERSATIONS, EVEN WITH ONE COMPUTER. USE POINTS, SLIDERS, TABLES, REGRESSION, GEOMETRY CONSTRUCTION, AND MORE.

Audience: Middle; High

Strand: Algebra; Mathematical Modeling; Mathematical Processes General Activities; STEM

THIS SESSION IS REPEATED DURING SESSION 3.

YOU DON'T HAVE TO TEACH THEM EVERYTHING

SESSIONS 4 & 5 – MMH 119

Lora Hopkins & Val Love, *lhopkins@k12k.com*; *vlove@k12k.com*

PARTICIPANTS WILL ENGAGE IN EXPERIENCES AND LESSONS LEARNED AS AN ALGEBRA 1 TEAM TRANSITIONED FROM OVER-TEACHING TO AN APPROACH THAT ALLOWS STUDENTS TO DEVELOP MATHEMATICAL REASONING.

Audience: Middle; High; Pre-service

Strand: Course Re-Design

THIS SESSION IS REPEATED DURING SESSIONS 1 & 2.

MOUNTAINS OF GEOMETRY PACKED INTO SUCH TINY BOXES

SESSIONS 4 & 5 – ACAD 211

Nicholas Restivo, *nrestivo@moems.org*

TRANSFORM GREETING CARDS INTO BOXES – DISCOVER GEOMETRY CONCEPTS THAT RELY ON DEFINITIONS ASSOCIATED WITH PARALLELOGRAMS. NON-ROUTINE PROBLEMS USING THOSE PROPERTIES WILL BE EXPLORED.

Audience: Middle; High

Strand: Geometry & Measurement; STEM

THIS SESSION IS REPEATED DURING SESSIONS 1 & 2.

USING GOOGLE MAPS AND DESMOS TO REPRESENT ALGEBRA CONCEPTS

Please bring a laptop or tablet of your choice to this session.

SESSION 4 – MMH 116

Jennifer Axley, *Jennifer_axley@webbschool.org*

WE WILL USE MAPS SUPERIMPOSED IN DESMOS TO WRITE EQUATIONS OF SYSTEMS OF LINES AND INEQUALITIES. TEACHERS WILL ALSO INSERT THEIR OWN MAPS INTO DESMOS.

Audience: Middle; High

Strand: Algebra

THIS SESSION IS REPEATED DURING SESSION 1.

THE IMPORTANCE OF SELF-AWARENESS IN TEACHING AND LEARNING

SESSION 4 – ACAD 235

Khoa Dinh, *kdinh@vols.utk.edu*

CALCULUS STUDENTS PREDICTED THEIR TEST GRADES AFTER EACH TEST. RESULTS SHOWS HIGHER SCORERS ALSO PREDICTED MORE ACCURATELY. THIS MOTIVATES US TO CONSIDER STUDENTS' SELF-AWARENESS.

Audience: General

Strand: General Activities

SESSION 5

SATURDAY 9:30 AM – 10:15 AM

CREATE INTEREST AND EASE ANXIETY BY INCORPORATING ART

SESSION 5 (UNDERGRADUATE 20 MINUTE PRESENTATION) – MMH 116

Samantha Broadhurst & Chelsea McCall, *sbroadhurst@my.apsu.edu*;
cmccall4@my.apsu.edu

BY INCORPORATING ART INTO MATH CURRICULUM, STUDENTS WILL HAVE LESS ANXIETY AND BE MORE EXCITED TO LEARN. LET'S REMOVE THE "MATH IS HARD" STIGMA.

Audience: Middle; High
Strand: General Activities

INTEGRATING INTEGRATED MATH FOR HIGH SCHOOLS

SESSION 5 – ACAD 139

Mark Waxmonsky & Jillian Blamer, *mark.waxmonsky@knoxschools.org*;
jillian.blamer@knoxschools.org

INTEGRATED MATH TEXTBOOKS KEEP ALGEBRA, GEOMETRY, AND PROBABILITY TOPICS SEPARATED RATHER THAN INTEGRATING THEM. HEAR ABOUT HOW ONE SCHOOLS HAS TRULY INTEGRATED THE TOPICS.

Audience: High
Strand: Algebra; Geometry & Measurement; Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 4.

INCREASE STUDENT ENGAGEMENT USING F3

SESSION 5 – ACAD 108

Dr. Kimberly G. Williams, Dr. Tammie T. Patterson & Dr. Karen S. Dibella, *kwill126@utm.edu*; *tpatterson@utm.edu*; *kdibella@utm.edu*

FIND OUT HOW TO INCORPORATE FUNNY & FABULOUS FRACTION STORIES INTO YOUR MATHEMATICS CLASSROOM TO MAKE LEARNING FUN, INTERACTIVE, AND LITERACY-BASED.

Audience: 3-5; Middle; Pre-service
Strand: Number & Operation; Teachers of Teachers; Mathematical Modeling

ORDER OF OPERATIONS: THINKING BEYOND THE MNEMONIC

SESSION 5 – ACAD 227

Elizabeth Barlow, *elizabeth.barlow@knoxschools.org*

OPENS UP THE DISCUSSION OF HOW ONE CAN TEACH STUDENTS THE MEANING BEHIND THE ORDER OF OPERATIONS INSTEAD OF MAKING IT A MEMORIZATION OF A MNEMONIC.

Audience: 3-5; Middle

Strand: Number & Operation

THIS SESSION IS REPEATED DURING SESSION 4.

MY FAVORITE CONTEST PROBLEMS ARE FOR ALL STUDENTS

SESSION 5 – ACAD 104

Dennis Mulhearn, *Li_mathguy@yahoo.com*

MATH CONTESTS ARE NOT ONLY FOR THE GIFTED. PROBLEM SOLVING IS CENTRAL FOR ALL. CHALLENGE STUDENTS WITH CONTEST PROBLEMS. DISCOVER MULTIPLE SOLUTIONS THAT ENRICH UNDERSTANDING.

Audience: Middle

Strand: Problem Solving

THIS SESSION IS REPEATED DURING SESSION 4.

THERE'S MORE TO SLOPE THAN JUST $Y = MX + B$!

SESSION 5 – ACAD 231

Rebecca Darrough & Alexandria Brumfield *darroughr@apsu.edu;*
abrumfield@my.apsu.edu

WHEN ASKING STUDENTS WHAT $Y = MX + B$ MEANS, THEY ANSWER “THE SLOPE FORMULA!” BUT THERE IS MORE TO $Y = MX + B$! MAKE CONNECTIONS BETWEEN REPRESENTATIONS!

Audience: Middle; Pre-Service

Strand: Algebra; Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 4.

**DEVELOPING REASONING AND PROBLEM SOLVING THROUGH
CHILDREN'S LITERATURE**

SESSION 5 – ACAD 229

Cindy Cliche & Jeremy Winters, *Cindy.cliche@cityschools.net;*

Jeremy.winters@mtsu.edu

THIS SESSION WILL FOCUS ON ENGAGING IN LITERATURE-BASED TASKS AND ANALYZING STUDENT WORK. PARTICIPANTS WILL LEAVE WITH TASKS DESIGNED TO DEVELOP PROBLEM SOLVING SKILLS.

Audience: K-2

Strand: Number & Operation

**ENGAGING YOUNG, GIFTED, AND BLACK LEARNERS IN
CULTURALLY CHALLENGING TASKS**

SESSION 5 – ACAD 204

Dr. Lisa Hinton

THIS INTERACTIVE SESSION WILL FOCUS ON IMPLEMENTING CULTURALLY RESPONSIVE TEACHING METHODS FOR GIFTED AFRICAN AMERICAN LEARNERS. WE WILL DISCOVER MULTIPLE APPROACHES TO CREATE CLASSROOM ENVIRONMENTS INCLUSIVE OF DIVERSE LEARNERS WHILE ENGAGING THEM IN MEANINGFUL, CULTURALLY-BASED MATH TASKS.

Audience: Middle

Strand: Algebra; Mathematical Modeling; Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 6.

**RE-EMPOWERING WHOLE GROUP DISCUSSIONS: A HARKNESS
APPROACH**

SESSION 5 – ACAD 208

Shande King & Julie Steimer, *nking5@vols.utk.edu; jsteimer@cakmail.org*

GIVE VOICE BACK TO THE STUDENTS IN NON-BORING, NON-DISTRACTING WHOLE GROUP DISCUSSIONS BY FOCUSING ON COLLECTIVE ARGUMENTATION VIA A HARKNESS APPROACH.

Audience: Middle; High

Strand: General Activities; Stem

THIS SESSION IS REPEATED DURING SESSION 6.

ONE AND DONE NOW TEACHING IS FUN!

SESSION 5 – ACAD 235

David Frongillo, *davidfrongillo@yahoo.com*

DISRUPTIVE STUDENTS DOMINATE YOUR ATTENTION AND TIME. IMAGINE SPEAKING TO YOUR TROUBLESOME STUDENT(S) JUST ONCE, AND IT ENDS THERE. IT CAN HAPPEN, AND IT DOES!

Audience: Middle; High; Pre-service; General

Strand: Teachers of Teachers

THIS SESSION IS REPEATED DURING SESSION 6.

BUILDING CHEMI-CARS

SESSION 5 – MMH 217

L. Jeneva Clark, Ph.D. & Tabatha Rainwater, *dr.jenevaclark@utk.edu;*
tabatha.rainwater@knoxschools.org

IN EVOL-10 (UTK TICKLE COLLEGE OF ENGINEERING), 10TH-GRADERS BUILD CHEMICAL-REACTION-POWERED CARS, LEARN ENGINEERING, AND PREPARE FOR THE ACT. WE WILL DEMONSTRATE AND PROVIDE LESSON PLANS.

Audience: High

Strand: STEM

THIS SESSION IS REPEATED DURING SESSION 6.

USING DESMOS FOR STUDENT ENGAGEMENT AND FEEDBACK

SESSION 5 – ACAD 113

Susan M. Garber

WOULD YOU LIKE TO INTEGRATE MORE INTERACTIVE STRATEGIES USING TECHNOLOGY INTO YOUR MATH LESSONS? HOW ABOUT MORE IDEAS FOR STUDENT COLLABORATION AND ENGAGEMENT? IF YES, PLEASE JOIN ME!

Audience: General

Strand: General Activities; STEM; Teachers of Teachers

NUMBER TALKS WITH VIRTUAL MANIPULATIVES

SESSION 5 – ACAD 210

Thom O'Brien, *tobrien@explorellearning.com*

NUMBER TALKS HAPPEN WHEN STUDENTS USE MANIPULATIVES TO PROVE WHAT THEY ARE THINKING. VIRTUAL MANIPULATIVES CAN TAKE STUDENTS FARTHER IN WHILE WORKING THROUGH THEIR THINKING.

Audience: Middle

Strand: Mathematical Processes; Mathematical Modeling

HANDS-ON AND SELF-CORRECTING MATH CENTERS

SESSIONS 4 & 5 – ACAD 114

Rich Stuart, *rich@learningwrapups.com*

THIS IS YOUR OPPORTUNITY TO PLAY WITH, AND KEEP, HANDS-ON AND SELF-CORRECTING MATERIALS THAT HELP K-5 STUDENTS WITH NUMERATION, ALGEBRA, GEOMETRY & MEASUREMENT, AND PROBABILITY AND STATISTICS.

Audience: K-2; 3-5

Strand: Number & Operation; Algebra; Geometry & Measurement; Data Analysis, Statistics & Probability

YOU DON'T HAVE TO TEACH THEM EVERYTHING

SESSIONS 4 & 5 – MMH 119

Lora Hopkins & Val Love, *lhopkins@k12k.com; vlove@k12k.com*

PARTICIPANTS WILL ENGAGE IN EXPERIENCES AND LESSONS LEARNED AS AN ALGEBRA 1 TEAM TRANSITIONED FROM OVER-TEACHING TO AN APPROACH THAT ALLOWS STUDENTS TO DEVELOP MATHEMATICAL REASONING.

Audience: Middle; High; Pre-service

Strand: Course Re-Design

THIS SESSION IS REPEATED DURING SESSIONS 1 & 2.

ALGEBRA THROUGH THE GRADES: WHAT DOES THAT LOOK LIKE TO YOU?

SESSION 5 – MMH 118

Joshua McMillan & Carri Hudgins, *josh.mcmillan@rcstn.net & carri.hudgins@rcstn.net*

USING THE EXPERIENCE GAINED FROM TEACHING EVERYTHING FROM 3 YEAR OLDS TO SENIORS, WE'LL DISCUSS HOW ALGEBRA CAN BE FOUND AT EACH LEVEL.

Audience: Middle; High

Strand: Algebra; General Activities; Mathematical Modeling

MOUNTAINS OF GEOMETRY PACKED INTO SUCH TINY BOXES

SESSIONS 4 & 5 – ACAD 211

Nicholas Restivo, nrestivo@moems.org

TRANSFORM GREETING CARDS INTO BOXES – DISCOVER GEOMETRY CONCEPTS THAT RELY ON DEFINITIONS ASSOCIATED WITH PARALLELOGRAMS. NON-ROUTINE PROBLEMS USING THOSE PROPERTIES WILL BE EXPLORED.

Audience: Middle; High

Strand: Geometry & Measurement; STEM

THIS SESSION IS REPEATED DURING SESSIONS 1 & 2.

THE TROUBLE WITH PLACE VALUE

SESSIONS 4 & 5 – MMH 215

Theresa Hopkins & JoAnn Cady, *thopkins@utk.edu; jcady@utk.edu*

**WALK IN YOUR STUDENTS' SHOES WHEN IT COMES TO LEARNING PLACE VALUE.
THEN DISCUSS TARGETED LEARNING ACTIVITIES TO MEET CHALLENGES TO DEEP
UNDERSTANDING.**

Audience: K-2; 3-5; College

Strand: Number & Operations; Teachers of Teachers

SESSION 6
SATURDAY 11:15 AM – 12:00 PM

BINOMIAL, NORMAL, OR CENTRAL LIMIT THEOREM – WHICH ONE?

SESSION 6 – ACAD 231

Vicki Borlaug, *Victoria.Borlaug@ws.edu*

STUDENTS OFTEN HAVE DIFFICULTY DECIDING WHETHER WORD PROBLEM SOLUTIONS USE BINOMIAL DISTRIBUTION, NORMAL DISTRIBUTION, OR CENTRAL LIMIT THEOREM. HANDOUTS PRESENTED WILL EMPHASIZE THE SELECTION PROCESS.

Audience: High; College

Strand: Data Analysis, Statistics & Probability

BUILDING CHEMI-CARS

SESSION 6 – MMH 217

L. Jeneva Clark, Ph.D. & Tabatha Rainwater, *dr.jenevaclark@utk.edu;*
tabatha.rainwater@knoxschools.org

IN EVOL-10 (UTK TICKLE COLLEGE OF ENGINEERING), 10TH-GRADERS BUILD CHEMICAL-REACTION-POWERED CARS, LEARN ENGINEERING, AND PREPARE FOR THE ACT. WE WILL DEMONSTRATE AND PROVIDE LESSON PLANS.

Audience: High

Strand: STEM

THIS SESSION IS REPEATED DURING SESSION 5.

ONE AND DONE NOW TEACHING IS FUN!

SESSION 6 – ACAD 235

David Frongillo, *davidfrongillo@yahoo.com*

DISRUPTIVE STUDENTS DOMINATE YOUR ATTENTION AND TIME. IMAGINE SPEAKING TO YOUR TROUBLESOME STUDENT(S) JUST ONCE, AND IT ENDS THERE. IT CAN HAPPEN, AND IT DOES!

Audience: Middle; High; Pre-service; General

Strand: Teachers of Teachers

THIS SESSION IS REPEATED DURING SESSION 5.

CLASSROOM MANAGEMENT

SESSION 6 – ACAD 136

ENGAGING YOUNG, GIFTED, AND BLACK LEARNERS IN CULTURALLY CHALLENGING TASKS

SESSION 6 – ACAD 204

Dr. Lisa Hinton

THIS INTERACTIVE SESSION WILL FOCUS ON IMPLEMENTING CULTURALLY RESPONSIVE TEACHING METHODS FOR GIFTED AFRICAN AMERICAN LEARNERS. WE WILL DISCOVER MULTIPLE APPROACHES TO CREATE CLASSROOM ENVIRONMENTS INCLUSIVE OF DIVERSE LEARNERS WHILE ENGAGING THEM IN MEANINGFUL, CULTURALLY-BASED MATH TASKS.

Audience: Middle

Strand: Algebra; Mathematical Modeling; Mathematical Processes

THIS SESSION IS REPEATED DURING SESSION 5.

RE-EMPOWERING WHOLE GROUP DISCUSSIONS: A HARKNESS APPROACH

SESSION 6 – ACAD 208

Shande King & Julie Steimer, *nking5@vols.utk.edu; jsteimer@cakmail.org*

GIVE VOICE BACK TO THE STUDENTS IN NON-BORING, NON-DISTRACTING WHOLE GROUP DISCUSSIONS BY FOCUSING ON COLLECTIVE ARGUMENTATION VIA A HARKNESS APPROACH.

Audience: Middle; High

Strand: General Activities; Stem

THIS SESSION IS REPEATED DURING SESSION 5.

3DOODLER CITY: CONSTRUCT A CITY WITH 3D PENS

SESSION 6 – MMH 215

Perihan Fidan & Stephanie Wendt, *pfidan@tntech.edu & swendt@tntech.edu*

IN THIS SESSION, PARTICIPANTS WILL DESIGN A CITY COMPRISED OF SHAPES USING 3D PENS. THIS REAL-WORLD, HANDS-ON PROJECT COMBINES MATH, PROBLEM SOLVING, COLLABORATION AND TECHNOLOGY.

Audience: Middle

Strand: Geometry & Measurement; STEM

MATHEMATICS AND SCIENCE CONNECTIONS WITHIN THE GLOBE PROGRAM

SESSION 6 – ACAD 108

Dr. Deborah A. McAllister, *Deborah-McAllister@utc.edu*

THE GLOBE PROGRAM PROVIDES PROTOCOLS FOR REAL-WORLD DATA COLLECTION IN SCIENCE. THIS PRESENTATION WILL HIGHLIGHT THE MATHEMATICS AND SCIENCE CONNECTIONS, AND THE EMBEDDED MATHEMATICS SKILLS.

Audience: 3-5; Middle

Strand: Geometry & Measurement; Data Analysis, Statistics & Probability

WEIGHT LOSS THAT WORKS: LOSE UP TO 3000 WASTED WORDS A DAY!

SESSION 6 – ACAD 211

Coral Harris-Thomas, *coralaharris@aol.com*

LOSE THE WEIGHT OF CONSTANT DISCIPLINE PROBLEMS! REGAIN CONTROL OF YOUR CLASSROOM FIGURE AND REDUCE THE SIZE OF NEGATIVE BEHAVIOR IMMEDIATELY!

Audience: K-2; 3-5; Middle; High

Strand: Number & Operations; Geometry & Measurement; Data Analysis; General Activities

COME WALTZ: CODING MUSIC WITH THE TI-INNOVATOR

SESSION 6 – ACAD 229

Alice Carson, *alice.carson@knoxschools.org*

WE WILL LOOK AT THE RELATIONSHIP BETWEEN GEOMETRIC SEQUENCES AND MUSIC. THEN WE WILL CODE A SONG USING THE TI-84CE AND THE TI-INNOVATOR. TRUST ME, YOUR STUDENTS WILL LOVE THIS!!!

Audience: High; Pre-service

Strand: Algebra; STEM

THERE'S A FOLDABLE FOR THAT!

SESSION 6 – ACAD 139

Cheryl Arp & Amy Yates

FIND OUT HOW TO CREATE EYE-CATCHING INTERACTIVE NOTEBOOKS. WE WILL SHARE OUR STRATEGIES FROM ORGANIZING THE NOTEBOOK TO OBTAINING FREE MATERIALS TO MAKE THEM.

Audience: Middle; High

Strand: STEM

MATH IS NOT A PROBLEM! UNDERSTANDING THE ADDITION AND SUBTRACTION PROBLEM TYPES

SESSION 6 – MMH 119

Pam Stidham, *pstidham@k12k.com*

PARTICIPANTS WILL CLOSELY EXAMINE THE CLASSIFICATIONS OF WORD PROBLEMS BY FOCUSING ON THE ACTION OR RELATIONSHIPS DESCRIBED IN THE PROBLEMS.

Audience: K-2

Strand: Number & Operations

CANDY GRAPHING & QUIZLET LIVE!

SESSION 6 – ACAD 113

Whitney Jacobsen Hodges, *jwhit423@gmail.com*

PARTICIPANTS WILL DO AN INTERACTIVE HANDS-ON GRAPHING ACTIVITY WITH M&M'S AND TWIZZLERS, AND PARTICIPATE IN A QUIZLET LIVE FORMATIVE ASSESSMENT THAT ENCOURAGES TALKING ABOUT THINKING.

Audience: 3-5; Middle; High; Pre-service; General

Strand: Algebra; General Activities; Teachers of Teachers; Mathematical Modeling; STEM

THIS SESSION IS REPEATED DURING SESSION 1.

USING AND CREATING DESMOS ACTIVITIES WITH ACTIVITY BUILDER

SESSION 6 – ACAD 210

Emily McDonald & Shirley McDonald, *mcdonald_emily@hcde.org*;
smcdonald.rms@catoosa.k12.ga.us

**USE THE FREE ONLINE ACTIVITY BUILDER FOR PRE-BUILT ACTIVITIES AND CREATE ENGAGING ACTIVITIES (CARD SORT, POLYGRAPH, MARBLE SLIDE, ETC.).
LEARN ABOUT THE FEATURES OF THE TEACHER DASHBOARD.**

Audience: Middle; High

*Strand: Algebra; Mathematical Modeling; Mathematical Processes General Activities;
STEM*

STRATEGIES FOR HIGH ENGAGEMENT IN ELEMENTARY MATH

SESSION 6 – ACAD 227

Jessica Willings & Rebekah Pettit, *jwillings@jcboe.net*; *rpettit@jcboe.net*

HAVE YOU EVER WONDERED HOW TO MARRY RIGOROUS, STANDARDS-BASED MATH CONTENT WITH HIGH LEARNER ENGAGEMENT? PARTICIPANTS WILL LEARN STRATEGIES THAT KEEP THEIR LEARNERS WANTING MORE!

Audience: K-2; 3-5

Strand: General Activities

THIS SESSION IS REPEATED DURING SESSION 3.

**GAME ON! UNDERSTANDING AND SUPPORTING K-2 FACT
FLUENCY**

SESSION 6 – ACAD 114

Christy Plummer, *cplummer@email.usn.org*

DATA FROM FACT FLUENCY INTERVIEWS HELP US UNDERSTAND, SUPPORT, AND MONITOR STUDENTS' GROWTH. LEARN TO ADMINISTER INTERVIEWS, INTERPRET RESULTS, AND MATCH STUDENTS WITH JUST-RIGHT GAMES.

Audience: K-2; Preservice

Strand: Number & Operations

THIS SESSION IS REPEATED DURING SESSION 3.

SHARING SESSION FOR MATH CONTEST DIRECTORS

SESSION 6 – ACAD 104

Dr. Audrey Bullock, Dr. Jennifer Yantz & Dr. Rebecca Darrough,

bullocka@apsu.edu; yantzj@apsu.edu; darroughr@apsu.edu

DISCUSSION SESSION OF HOW MIDDLE AND HIGH SCHOOL MATHEMATICS CONTESTS ARE RUN AT DIFFERENT SITES STATEWIDE, AND WAYS TO MAKE THE PROCESS RUN SMOOTHLY.

Audience: College

Strand: General Activities

1:00 p.m.

Room 116

Maples Marshall Hall

FINAL SESSION

featuring

Updates from the Tennessee Department of Education

TMTA Business Meeting

Door Prizes

(must be present to win)

TMTA Executive Committee

President: Alice Carson

Powell High School

E-mail: alice.carson@knoxschools.org

Past President: Jackie Vogel

Austin Peay State University

Email: vogelj@apsu.edu

Secretary: Steve Gadbois

Memphis University School

E-mail: steve.gadbois@musowls.org

Treasurer: Stephanie Kolitsch

University of Tennessee at Martin

E-mail: styler@utm.edu

NCTM Representative and Parliamentarian:

Ann Indingaro

E-mail: aindingaro@gmail.com

Vice-President for Elementary: Julie Martin

Glencliff High School

E-mail: julie.martin@mnps.org

Vice-President for Middle Schools:

Lois Coles

Brentwood Middle School

E-mail: loisc@wcs.edu

Vice-President for Secondary Schools:

Jennifer Axley

Webb School of Knoxville

Email: Jennifer_axley@webbschool.org

Vice President for Two-Year Colleges:

James Adair

Dyersburg State Community College

Email: adair@dsc.edu

Vice-President for Colleges/Universities:

Carroll Wells

Lipscomb University

E-mail: carroll.wells@lipscomb.edu

Examinations Director: David Ray

University of Tennessee at Martin

E-mail: davidray@utm.edu

Contest Coordinator: Becky Darrough

Austin Peay State University

E-mail: darroughr@apsu.edu

Contest Awards Chair: Desireé McCullough

University of Tennessee at Martin

Email: dmccull1@utm.edu

TMTA Bulletin Editor: Lisa Elliott

West Creek High School

E-mail: Lisa.elliott@cmess.net

rship Coordinator: Pat Tyree

Communications & Membership:

Kim Mullins

Bethel Springs Elementary School

mullinsk@mcnairy.org

TMTA AFFILIATES

CAMTA

Chattanooga Area Mathematics Teachers' Association
Andy Shultz
Baylor School – Chattanooga
astultz@baylorschool.org

MACOTOM

Memphis Area Council of Teachers of Mathematics
President
Elizabeth Kirby
White Station High School (Shelby County)
kirbyea@scsk12.org

MT²-NW

Mathematics Teachers of Tennessee – Northwest
Linda Farmer
sheila.horstman@cmcss.net

(MT)²

Middle Tennessee Mathematics Teachers
Shelia Horstman
Linda.farmerwcsk12.com

SM²EA

Smoky Mountain Mathematics Educators' Association
Chris Bradley
cbradley@acs.ac

TMATYC

Tennessee Mathematics Association for Two Year Colleges
Brittany Mosby

TAMTE

Tennessee Association of Mathematics Teacher Educators
Becky Darrough
Austin Peay State University
darroughr@apsu.edu

UETCTM

Upper East Tennessee Council of Teachers of Mathematics
Sunshine Light
Robinson Middle School
slight@k12k.com