

**2017 AATM Conference Pre-Conference Guide  
Saturday, Sept. 16<sup>th</sup> at ASU Memorial Union**

**Schedule**

**Conference Onsite Registration: 7:30 – 8:00**

**Keynote Speaker: 8:00 – 9:00**

**Conference Sessions: 9:15 – 3:35**

The following is a detail summary of sessions for the conference. (There may be some variation of schedules and times.)

**Speaker:** Tracy Fazio **Time:** 9:15 - 10:30  
**Room:** Alumni **Audience:** General  
**Title:** *New AZ K-12 Mathematics Standards – Support for classroom implementation*  
**Summary:** This session will address current support resources available that will guide teachers as they move towards full implementation of the Arizona Mathematics Standards. Teachers will work with support resources and will analyze how they and their grade level/course teams will implement the Arizona Mathematics Standards. Parent resources will also be presented that teachers can immediately put in student backpacks. Teachers will also provide the K-12 Standards Mathematics team with feedback on support resources and ideas for the next series of support materials.

**Speaker:** Heidi Sweet & Jen Thompson **Time:** 9:15 - 10:30  
**Room:** Apache **Audience:** 6<sup>th</sup>-8<sup>th</sup> Grade  
**Title:** *We Like to Move It, Move It!*  
**Summary:** Come and participate in several different styles of in-class learning activities that foster movement, engagement, and conversation in your mathematics classroom. Attendees will participate in a short example of each activity and suggestions for differentiation will be provided. Each of the techniques involve high student participation and motivation while allowing the students to incorporate movement to help increase cognitive abilities. Activities presented are applicable to both middle and high school settings. Materials will be provided.

**Speaker:** Barbie Buckner **Time:** 9:15 - 10:30  
**Room:** Cochise **Audience:** 3<sup>rd</sup>-High School  
**Title:** *NASA's Scale of Discovery: Ratios, Conversions & Scale*  
**Summary:** Come explore applications of ratios, fractions, and conversions with “out of this world” hands-on standards-aligned STEM activities. Engage with space and our universe as you apply scale to distance, time, and size. Learn how to apply fractions to our solar system by making a pocket solar system scroll while using unique NASA content to apply ratios and conversions while creating a scale model of the planets.

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- Speaker:** Nanci Smith **Time: 9:15 - 10:30**  
**Room:** Coconino **Audience: PreK-12<sup>th</sup> Grade**
- Title:** *A Workshop Model? In Math?*
- Summary:** How do we structure effective lessons so that students explore and make connections with important mathematics? One structure that can be used is a workshop model for mathematics. The structure involves designing an exploration for students to begin their thinking and learning prior to any direct instruction. These explorations are the primary difference between a workshop and a more typical mathematics classroom which primarily revolves around direct instruction and practice.
- Speaker:** Tracey Zak Johnson **Time: 9:15 - 10:30**  
**Room:** Gila **Audience: High School**
- Title:** *"Real-Life" Math*
- Summary:** This session will be one of the most exciting sessions high school teachers have ever participated in. We will take real situations/images and design a curve of best fit to model the data. From there, we will show at each mathematical level how to interpret the data starting with 8th grade math all the way through calculus. Teachers will be able to take the information back to their schools with free trial software and emulate the lesson to allow students to really understand quadratics.
- Speaker:** Stephanie Bainbridge **Time: 9:15 - 10:30**  
**Room:** Gold **Audience: PreK-5<sup>th</sup> Grade**
- Title:** *Power Play - Games for Teaching Elementary Place Value*
- Summary:** Come prepared to play games that incorporate the use of cards, dice and number lines that teach the following concepts: naming, ordering and comparing numbers from the tens to the millions, expanding and rounding, decimals, number patterns and more. Participants will leave with gameboards, ideas for differentiating the games to meet the needs of all students, journal writing and math talk extensions. Student samples will be shared. Our best strategies and new Box Cars place value games will be taught.
- Speaker:** Angela Rico & Monica Garofalo **Time: 9:15 - 10:30**  
**Room:** Graham **Audience: 3<sup>rd</sup>-8<sup>th</sup> Grade**
- Title:** *Let's Draw Equations*
- Summary:** Do your students struggle with their understanding of the processes involving equations? Drawing visuals is a great strategy to help them develop their understanding of the process of solving equations. Learn how to help your students use this tool to develop their understanding.
- Speaker:** Patty Low **Time: 9:15 - 10:30**  
**Room:** La Paz East **Audience: 3<sup>rd</sup>-8<sup>th</sup> Grade**
- Title:** *Not a Traditional Math Assignment*
- Summary:** Combine technology tools to develop depth of knowledge focused on fractions, ratios, and percents. Discover ways to allow students to illustrate math concepts using technology productivity tools, flip books for student created notes, and the online simulations Gizmos for exploration.

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- Speaker:** LaMar Queen **Time:** 9:15 - 10:30  
**Room:** La Paz West **Audience:** 3<sup>rd</sup>-High School
- Title:** *Use Hip Hop Math Songs to Engage, Motivate, and Teach!*
- Summary:** Use music to spark student dialogue, deepen understanding, and motivate students as they learn. In this session you learn how to effectively and seamlessly incorporate standards based hip hop into your existing curriculum. Since music is a universal language and activates the whole brain, this tool can engage all students!
- Speaker:** Kim Rimbey **Time:** 9:15 - 10:30  
**Room:** Mohave **Audience:** PreK-5<sup>th</sup> Grade
- Title:** *Make Math Meaningful: Connecting Addition and Subtraction*
- Summary:** Making sense of multi-digit subtraction requires strong connections with addition and place value. Join us as we explore addition and subtraction using concrete and visual models, connected to written work, and grounded in problem solving. Formative assessment strategies will be included.
- Speaker:** Melissa Hosten **Time:** 9:15 - 10:30  
**Room:** Navajo **Audience:** 3<sup>rd</sup>-High School
- Title:** *I am a Math Learner: Intentionally Impacting Math Identity*
- Summary:** How can we change the narrative for our students. How can they KNOW they are math learners even when they hear others claim they are "not good at math"? How can we change their self-talk and their personal experience with mathematics? Come and explore a few activities that connect to the principles of identity change.
- Speaker:** Sherry Ayala & Amy Spilde **Time:** 9:15 - 10:30  
**Room:** Pinal **Audience:** PreK-2<sup>nd</sup> Grade
- Title:** *A Method to Creating Effective Parent/ Teacher Teams*
- Summary:** Participants will learn how to build a community of academically engaged parents through a year-long process of creating parent-teacher teams focused on using student data to improve foundational math skills and confidence. Students benefit from the conjunctive practice at home and at school when parents are provided the knowledge and resources needed to practice specific skills. Student growth is visible through periodic assessment of the specific skill, instilling a growth mindset for all.
- Speaker:** Melanie LiCausi **Time:** 9:15 - 10:30  
**Room:** Santa Cruz **Audience:** PreK-8<sup>th</sup> Grade
- Title:** *Plan Differentiation with Learning Goals and Scales*
- Summary:** What could be more empowering than teaching students to identify their own proficiency level? Learning Goals and Scales are a powerful way to create a roadmap of past, present and future learning for students. These pathways become easy guides for differentiation if planned thoughtfully. This presentation shares how I created and used differentiated scales in my classroom. We'll walk through how to create an effective scale, add examples, present them to students, and use them as guides for assessment and lesson planning. We'll also consider ways to fit these practices into your routines.

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- Speaker:** **Kim Thomas** **Time: 9:15 - 10:30**  
**Room: Yavapai** **Audience: High School**
- Title:** *Connecting the Abstract and the Concrete: Volume Using Disk Method*
- Summary:** Students complete this activity in one hour with class discussions and extensions though out the area & volume unit in Calculus. Participants will connect technology with pencil and paper to make a 3D model. Activity can be adapted for Geometry classroom.
- Speaker:** **Liz Morris** **Time: 9:15 - 10:30**  
**Room: Yuma** **Audience: 3<sup>rd</sup>-5<sup>th</sup> Grade, Admin**
- Title:** *Selecting and Sequencing Student Work for Productive Math Discourse*
- Summary:** Research shows there are best practices to create a classroom environment that fosters rich classroom discussions. In this session, you will look at student work and determine a sequence to promote mathematical discourse in your classrooms.
- Speaker:** **Brandon Smith** **Time: 11:00-11:50**  
**Room: Alumni** **Audience: PreK-8<sup>th</sup> Grade**
- Title:** *The Neuroscience of Product Struggle: How We Learn*
- Summary:** When math education moves beyond how and into why, you hear it happening. “Oh, now I get it.” “Yes!” This is the sound of deeper engagement, thought and learning. How do you get there? In this session, we share insights on how our brains learn and how to create active learning environments that encourage deeper learning and foster student success.
- Speaker:** **Linda Fulmore** **Time: 11:00-11:50**  
**Room: Apache** **Audience: General**
- Title:** *NEW Grant Opportunities for Mathematics Teachers from the Mathematics Education Trust*
- Summary:** Learn about new grant opportunities from the Dolciani Holloran Foundation, NCSM and TODOS. Receive specific guidelines and tips on these and other grants and scholarships to enhance chances of becoming an awardee. MET supports teachers, schools, and students with funds for materials, lesson development, conference attendance, courses, professional development, technology, and action research.
- Speaker:** **Mona Toncheff** **Time: 11:00-11:50**  
**Room: Cochise** **Audience: 6<sup>th</sup>-High School**
- Title:** *Building a Student Centered Classroom*
- Summary:** How do you build rich and meaningful discussion into your daily lesson design? How do you transition from 32 or more individual students to a community of learners that support each other in the learning process? Examine strategies on how to make student thinking visible to promote critical thinking and build a classroom culture that is student centered. Learn ways to explicitly engage each and every student with defending their thinking and critique the thinking of others.
- Speaker:** **Janelle Chisholm** **Time: 11:00-11:50**  
**Room: Coconino** **Audience: 6<sup>th</sup>-8<sup>th</sup> Grade**

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Title: *Making Sense of Percent*

Summary: Do your students struggle with percent situations? Do you want a strategy that will help them find the percent of a number, percent increase, percent decrease, and more? If so, this session is for you! Come and see how to use a percent bar to solve all kinds of real-world problems. Handouts will be given.

**Speaker:** **Lorraine Tanaka** **Time: 11:00-11:50**  
**Room: Gila** **Audience: General**

Title: *Math: It's Not Always about Computation*

Summary: Tried and simple activities that promote both vocabulary development and conceptual understanding. These activities can be easily incorporated into daily lessons. Engage in several activities such as "What Do You See?" and leave with resources that will make a difference for you and your students.

**Speaker:** **Grace Kelemanik** **Time: 11:00-11:50**  
**Room: Gold** **Audience: General**

Title: *Routines for Reasoning Fostering Mathematical Practices in All Students*

Summary: Math practices are habits and habits are developed through routine. *Connecting Representations* is a robust instructional routine designed to develop structural thinking (SMP7) in all students. Participants will engage in the routine as math learners, unpack the routine, and discuss how it develops structural thinking and provides access to a wide range of learners, including emergent bilinguals and students with learning disabilities. We will also discuss the types of tasks to sit inside the routine as well as strategies for weaving it into the math curriculum.

**Speaker:** **Allison Davis** **Time: 11:00 – 11:50**  
**Room: Graham** **Audience: PreK-2<sup>nd</sup> Grade**

Title: *Counting, Cardinality & Coding: Making Connections to Number Sense*

Summary: We all know that counting and cardinality are important in K-2, but what about coding? During this session, you will be exposed to how coding is appropriate for K-2 students and how it can be integrated into your daily lessons to increase number sense and create a game atmosphere. Classroom clips and lesson resources will be shared.

**Speaker:** **Pareesa Shirazi** **Time: 11:00-11:50**  
**Room: La Paz East** **Audience: High School, Admin, Teacher Leaders**

Title: *Using TI-84 Technology to Deepen Understanding of Algebra*

Summary: During this hands-on session, attendees will use the TI-84 technology to explore a variety of algebraic concepts to support instruction of the CCSS. The session will also focus on many ways of integrating TI-84 Plus technology to display multiple representations and dive deeper into Algebraic thinking. The TI-84 Plus CE is acceptable for use on the AzMERIT, PSAT/NMSQT, SAT, ACT, IB, and AP exams.

**Speaker:** **Kimberly Larson** **Time: 11:00-11:50**  
**Room: La Paz West** **Audience: 3<sup>rd</sup>-5<sup>th</sup> Grade**

Title: *Fascinating Fractions: Real-Life Scenarios for Grades 4-6*

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**Summary:** Let's help students engage with fractions in fun, real-life scenarios! Join us as we explore ways to support mathematical thinking and to tap into prior knowledge on the journey toward student mastery of fractions standards. During this session, we walk through a series of problems, investigating the relationship between the problems and fundamental understanding of fractions. Be prepared to learn, discuss, and share with each other, leaving with new ideas that can be used in your classroom right away.

**Speaker:** **Kim Rimbey** **Time: 11:00-11:50**  
**Room: Mohave** **Audience: General**

**Title:** *Make Math Meaningful: Tools That Support Math Leadership*

**Summary:** Are you a leader looking for tools to help you help your teachers make math meaningful? Join us as we explore tools that guide you in identifying appropriate levels of rigor, relevant representations, and productive processes for any particular grade-level (K-5). We'll explore productive conversations as well as observation protocols. This session is great for both administrators and teacher leaders.

**Speaker:** **Tanya Moore** **Time: 11:00-11:50**  
**Room: Navajo** **Audience: General**

**Title:** *Maximize Your Teaching Time—You Are the Math Expert*

**Summary:** Imagine a classroom where the non-compliant student learns to self-correct inappropriate behavior. Where you could spend more time doing what you love...teaching math. Eliminate the repeated warnings and requests without using trendy gimmicks or paying a student to behave. The techniques provided will increase the time you spend on academics while at the same time empowering your students to take responsibility for their actions and achieve success. Keep your classroom energized with learning math and not misbehavior!

**Speaker:** **Cheryl Gehres** **Time: 11:00-11:50**  
**Room: Pinal** **Audience: 3<sup>rd</sup>-5<sup>th</sup> Grade**

**Title:** *Illuminating Creativity in the Practice of Mathematics*

**Summary:** Engaging gifted students in meaningful math inquiry can be challenging! This session will connect characteristics of gifted learners with the math practices that can ignite them to really make sense of the rich mathematics around them. Learn to use mathematical provocations to tap into student creativity, foster inductive and deductive reasoning, and set learners up to grapple with worthy problems.

**Speaker:** **Jeanette Scott** **Time: 11:00-11:50**  
**Room: Santa Cruz** **Audience: High School**

**Title:** *Implementing a Growth Mindset to Empower Students Learning*

**Summary:** Our students were struggling with discovery based learning and persevering during problem solving. After reading Jo Boaler's Mathematical Growth Mindset, one Algebra PLC decided to implement a Week of Inspirational Math from YouCubed.org after the winter break. The shift in attitude and effort by the students was very effective. This inspired our initiative to foster a growth mindset in every freshmen math class.

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- Speaker:** Sandee Trevino **Time:** 11:00 – 11:50  
**Room:** Yavapai **Audience:** PreK-5<sup>th</sup> Grade
- Title:** *Transatlantic Outreach Program STEM Activities U.S. to Germany*
- Summary:** Come explore with the latest in STEM activities enriched by the TOP program experience in July 2017. Learn about the TOP program while also participating in current hands-on activities used in German classrooms as they apply to the standards in the U.S.
- Speaker:** Jason Makansi **Time:** 11:00 – 11:50  
**Room:** Yuma **Audience:** High School
- Title:** *Twelve Commandments for Evaluating a Numerical Result*
- Summary:** Presentation based on presenter's latest book, the 2017 GOLD IPPY Award Winning (and Forward Reviews Finalist) *Painting By Numbers: How to Sharpen Your BS Detector and Smoke Out the Experts*, in which he outlines 12 commandments for gauging the validity of a numerical result and presents examples from everyday life in how to apply them.
- Speaker:** Carole Greenes **Time:** 1:10 - 2:25  
**Room:** Alumni **Audience:** General
- Title:** *75% Off Original Price After 50% Off Reduced Price: Huh?*
- Summary:** Activities, problems, and puzzles designed to engage students in the solution of challenging problems that concurrently develop their algebraic reasoning talents and provide venues for assessing their depths of understanding, will be presented. Specific attention will be given to: 1) symbolic representation of numeric and measurement relations, 2) applications in science, music, the arts, sports and history (SMASH) fields, and 3) development of deductive and inductive reasoning abilities. Participants will leave with collections of activities, puzzles and problems, and assessment techniques.
- Speaker:** Veronica Perrone **Time:** 1:10 - 2:25  
**Room:** Apache **Audience:** PreK-Kinder
- Title:** *Bringing Math to Life*
- Summary:** Kindergarteners who develop strong number sense are better able to make sense of their world. "Bringing Math to Life" will examine the big ideas in early mathematical development so teachers can create intentional learning opportunities for children to interact with numbers and construct their own learning. This session will highlight the use of a variety of numerical representations while engaging in developmentally appropriate kindergarten mathematics activities.
- Speaker:** James Tanton **Time:** 1:10 - 2:25  
**Room:** Cochise **Audience:** 3<sup>rd</sup>-High School
- Title:** *Exploding Dots: The Joyous K-12 Mathematical Story Sweeping the Globe!*
- Summary:** Come see the power of taking an astoundingly simple mathematical construct and pushing it to the max. See how to unite grade-school arithmetic, advanced high-school algebra, and beyond, in one natural, accessible, uplifting fell swoop. Experience deep creative discovery first-hand and true joyous mathematics doing. Come with pencil and paper in hand--and possibly an extra pair of socks as this session will likely knock your

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first pair right off! (Exploding Dots is the roll-out topic of Global Math Week 2017. See [www.theglobalmathproject.org/gmw](http://www.theglobalmathproject.org/gmw) for a sneak preview and more.)

**Speaker:** **Linda Fulmore** **Time: 1:10 - 2:25**  
**Room: Coconino** **Audience: General**  
**Title:** *Equity and Social Justice Structures and resources for the Mathematics Classroom*  
**Summary:** This session is designed to examine beliefs and provide ideas for developing lessons with both social justice and mathematics learning goals. Each attendee will receive a copy of the NCSM/TODOS Position Paper. All activities fall under one of the following three categories: Beliefs and Structures, Curriculum and Instructions, and Partnering with Family and Community.

**Speaker:** **Melissa Hosten** **Time: 1:10 - 2:25**  
**Room: Gila** **Audience: Prek-5<sup>th</sup> Grade**  
**Title:** *Leveraging Structure to Engage ALL Learners*  
**Summary:** Mathematical Practices are key behaviors students exhibit as they engage in mathematics problem solving and learning. One of the most difficult practices to understand is Look for and Making Use of Structure (MP7). How do we recognize these behaviors? How do we encourage them in the classroom? How can they support student understanding of key grade level mathematics standards? Teachers will explore and analyze these behaviors through hands-on minds-on tasks.

**Speaker:** **Stephanie Bainbridge** **Time: 1:10 - 2:25**  
**Room: Gold** **Audience: 3<sup>rd</sup>-8<sup>th</sup> Grade**  
**Title:** *Math Fun"die"mentals - Gr 3 - 8 Math Games*  
**Summary:** Come prepared to play games that incorporate the use of both cards and dice that teach the following concepts: all operations including order of operations, multi-digit work, fractions, algebra and more. Learn ways to engage and motivate your students that allow for effective practice. This workshop will be especially help for your middle years students who are struggling with elementary basic and you need to rebuild and reteach underlying concepts. Participants will leave with gameboards, ideas for differentiating instruction, and math journals. Great for regular, ELL, RTI

**Speaker:** **Barbie Buckner** **Time: 1:10 – 2:25**  
**Room: Graham** **Audience: 3<sup>rd</sup>-High School**  
**Title:** *International Space Station Microgravity: Mass vs Weight*  
**Summary:** Come learn about calculating the difference between mass and weight. Engage in “out of this world” hands-on, standards-aligned STEM experiments. Experiment with activities that demonstrate the difference between mass and weight, analyze your experimental data by creating tables, charts and graphs, and finally compare your results with similar experiments performed on-board the International Space Station in micro-gravity by Expedition 20 NASA astronauts Robert Thirsk, Koichi Wakata and Nicole Stott.

**Speaker:** **Greta Hansen** **Time: 1:10 - 2:25**  
**Room: La Paz East** **Audience: High School**

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Title: *Conquering Geometric Proofs with Manipulatives*

Summary: Geometry proofs are often a struggle for even high level math students. Through using manipulatives, this session will demonstrate how to help even the lowest skill level students build accurate proofs with a visual and kinesthetic approach. Participants use proof blocks to build proofs, learn how to implement their use in the classroom (scaffolding, differentiation, extension), and find out where to obtain the free resources.

**Speaker:** **Mona Toncheff**

**Time: 1:10 - 2:25**

**Room: La Paz West**

**Audience: Admin, Teacher Leaders**

Title: *Grow Teacher Practice through Coaching a Team*

Summary: How can coaches support collaborative teams to build a sustainable and rigorously aligned curriculum focused on instruction and assessment? This session explores specific planning components of a coaching model - addressing the Who, What, When, and How of a unit-by-unit plan and response to student learning. Explore team protocols, routines, and structures that can be used to facilitate team actions needed for continual teacher learning that ensures equitable learning experiences for each and every learner.

**Speaker:** **Jane Gaun**

**Time: 1:10 - 2:25**

**Room: Mohave**

**Audience: 3<sup>rd</sup>-High School**

Title: *Real Collaboration in the Classroom: From Engagement to Deep Learning*

Summary: Research tells us that learning is a social activity that it takes place over time. How do we not only engage the learners as partners but also create opportunities for deep learning? How do we move from working in groups to working as a group? We will examine and experience many strategies, routines, and teacher moves that not only engage students but can also lead to deep learning. Participants will leave with enriched understanding of deep learning and with ideas and strategies they can use in class on Monday.

**Speaker:** **Veronica Carlson**

**Time: 1:10 - 2:25**

**Room: Navajo**

**Audience: High School**

Title: *Get Students Energized with Graphing Technology*

Summary: In this interactive session, participants will explore hands-on activities, utilizing graphing technology that make it possible for students to learn, practice and discover mathematics, which enable students to be engaged and empowered in algebra classes.

**Speaker:** **Betsy Mays**

**Time: 1:10 - 2:25**

**Room: Pinal**

**Audience: 6<sup>th</sup>-8<sup>th</sup> Grade**

Title: *Absolute Integers*

Summary: Don't let negativity get you down. Use new and creative strategies to have a positive experience teaching the ups and downs of integers. With these new engaging lessons and games students can more readily master the concepts of positive and negative numbers as seen in a variety of situations from number lines, 4 quadrant planes and real life situations. Activities will address the 6<sup>th</sup> and 7<sup>th</sup> grade math standards involving integers, operations with integers and absolute value.

**Speaker:** **Dorthea Lynch**

**Time: 1:10 - 2:25**

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- Room: Santa Cruz**                      **Audience: High School**  
Title: *Project Based Learning Activities for Algebra & Geometry*  
Summary: Using project based learning activities for Algebra students such as creating Algebra (Geometry) String Art, designing and creating a dream home and looking at how it ties back to Algebra, i.e. does it have parallel lines, intersecting lines or coinciding lines? Looking to the future of Geometry and looking at their Dream home; measuring the areas/perimeters.
- Speaker: LaMar Queen**                      **Time: 1:15 - 2:30**  
**Room: Yavapai**                      **Audience: 3<sup>rd</sup>-High School**  
Title: *Song Writing 101: Lesson Plans in a Song*  
Summary: In this session teachers will learn how to facilitate a Song writing workshop with students. Since writing leads to deeper understanding, students that engage in standards based song writing become masters of the content. Teachers will leave the session with their own original piece and the tools needed to help their students write math songs!
- Speaker: Omaya Ahmad**                      **Time: 1:15 - 2:30**  
**Room: Yuma**                      **Audience: 6<sup>th</sup>-8<sup>th</sup> Grade**  
Title: *Math/Science Integration for Earth's Sake*  
Summary: In this hands-on workshop, participants will participate in innovative STEM activities that illustrate the math behind real-world ecology concepts such as human population growth and natural resource use. Presented strategies include creating representational models with manipulatives, cooperative group problem-solving challenges, graphing and analysis to engage all kinds of learners.
- Speaker: Carole Greenes & Mary Cavanagh** **Time: 3:10 – 4:00**  
**Room: Alumni**                      **Audience: General**  
Title: *SMASH Jeopardy*  
Summary: SMASH Jeopardy is an adaptation of the classic game Jeopardy. In SMASH Jeopardy, categories are Science, Math, Art, Sports History. The first team to reach 2500 points wins. Prizes will be awarded. Interested students, teachers, and others attending the AATM Conference who want to play, will be separated into two teams (max of 20/team). Each team selects a leader. The team is responsible for giving the team's final answer to all questions. Come play and hone your skills!
- Speaker: L. Marizza Bailey**                      **Time: 3:10 – 4:00**  
**Room: Apache**                      **Audience: High School**  
Title: *Investigations in Mathematics*  
Summary: Students are often given problems in which teachers already know the answer. This leads them to constantly look for the nod of approval from the teachers. However, that is not how mathematicians really work. In this session, I will share ideas for open-ended projects accessible to all students who have a basic knowledge of probability and reasoning skills. This is for teachers who would like to find the extra project to supplement their curriculum that would give students a glimpse of what it is to be a "real" mathematician.

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**Speaker:** Nora Ramirez **Time: 3:10 – 4:00**  
**Room: Cochise** **Audience: 3<sup>rd</sup>-5<sup>th</sup> Grade**  
**Title:** *Engage and Empower Your Students with DIVISION!*  
**Summary:** How do we teach standards related to division so students feel mathematically powerful? How do we guide students to understand division? Come and experience accessible activities that foster reasoning and understanding, emphasize communication and connections, and model mathematics in various ways.

**Speaker:** Janelle Chisholm **Time: 3:10 – 4:00**  
**Room: Coconino** **Audience: 4<sup>th</sup>-6<sup>th</sup> Grade**  
**Title:** *Hands-On Fractions: Multiplication and Division*  
**Summary:** Join us as we use visual fraction models to solve problems like these: Jackie is making 4 batches of cookies. Each batch calls for  $\frac{2}{3}$  cups of butter. How much butter will she need? Javier has one-half pound of fudge. If a serving is  $\frac{3}{8}$  of a pound, how many servings can he make? Your students will thank you!

**Speaker:** Eryn Barker **Time: 3:10 – 4:00**  
**Room: Gila** **Audience: General**  
**Title:** *Engaging English Language Students in the Academic Language of Math*  
**Summary:** Mathematical reasoning and problem solving are closely linked to language and rely upon a firm understanding of basic math vocabulary (Dale & Cuevas, 1992; Jarret, 1999). This can be a struggle in a math classroom when many of the students are struggling with basic social and academic language skills. We will discuss best practices for engaging EL students in the math classroom and improving the academic vocabulary to improve academic outcomes in the classroom.

**Speaker:** Brian Huyvaert **Time: 3:10 – 4:00**  
**Room: Gold** **Audience: General**  
**Title:** *Inspiring Future Mathematicians Through Failure*  
**Summary:** Few tools are as useful to a mathematician as being wrong. Facilitating productive failure cultivates resilient learners who are prepared for the dynamic challenges in STEM. By removing the stigmas of what it means to "be wrong," our students are empowered to be imaginative problem solvers. We will even work through a few math problems in order to evaluate our own responses to failure. It's time to approach math education like a mathematician, where failure is the key to success!

**Speaker:** Amy Tixier **Time: 3:10 – 4:00**  
**Room: Graham** **Audience: PreK-2<sup>nd</sup> Grade**  
**Title:** *Reading Math: Close Reading in the K-3 Math Class*  
**Summary:** Come join us as we explore ways to engage students in the close reading process while engaging in math problem solving. The main emphasis will center on helping students understand what they're supposed to do before they even start solving problems.

**Speaker:** Patty Low **Time: 3:10 – 4:00**



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**Speaker:** Jennifer North Morris                      **Time:** 3:10 – 4:00  
**Room:** Santa Cruz                                      **Audience:** High School

**Title:** *Conceptualizing Polynomials*

**Summary:** Spending too many weeks on factoring? Frustrated that students go outside to look for roots? Go beyond procedures to conceptualize how data, equations, roots, & factoring connect together as one mathematical reality that will empower all students.

**Speaker:** Sherri Adler                                      **Time:** 3:10 – 4:00  
**Room:** Yavapai    **Audience:** 3<sup>rd</sup>-5<sup>th</sup> Grade

**Title:** *An Introduction to Model Drawing*

**Summary:** Model Drawing can be used to solve the majority of word problems and can be implemented with any curriculum. In this session, we will work with the four basic operations. Participants will leave with some basic skills to implement immediately.

**Speaker:** Ana Gutierrez, Dr. Araceli Montoya, & Katelyn Orloski **Time:** 3:10 – 4:00  
**Room:** Yuma    **Audience:** PreK-8<sup>th</sup> Grade

**Title:** *Coherence Map and Other Tools from Achieve the Core and SAP*

**Summary:** During this session, the AZCoreAdvocates will explain the use of the coherence map to build deeper understanding of the standards, the cohesion, the progression of the standards, and major works of the grade level. We will also discuss assessment items and additional supports from that are available on [achievethecore.org](http://achievethecore.org)