

5- Google Classroom in Middle School Math

Thursday, October 27, 2016: 8:00 AM-9:00 AM
224 B (Phoenix Convention Center)

Lead Speaker: Lindsey Blass

Technology can transform instruction and bring mathematical concepts to life. See sixth- to eighth-grade examples of how middle school math teachers have used Google Classroom to facilitate mathematical discussions, share digital modeling tools, assign and collect student work, and use flipped or blended learning techniques.
Presentation Format: 6-8 Session

7- Percents, Voting, and the Government

Thursday, October 27, 2016: 8:00 AM-9:00 AM
West 301 A (Phoenix Convention Center)

Lead Speaker: G. Patrick Vennebush

Pundits point fingers at politicians, but math may be to blame. A candidate receiving $\frac{1}{5}$ of the vote can become President. Just 18% of the population can stop a bill in the Senate. What gives? Let's explore elections, voting methods, and our democracy using mathematical models and see if we can figure out what's going on.
Presentation Format: General Interest / All Audiences Session

12.1- Unleash the Power of Game-Based Learning with Mangahigh

Thursday, October 27, 2016: 8:00 AM-9:00 AM
226 B (Phoenix Convention Center)

Lead Speaker: Tim Stanton

Discover how Mangahigh's **game-based environment** ignites passion and engagement in students, building skills, and increasing academic achievement. Learn how to differentiate and personalize instruction and how to maximize time and resources in a blended environment. We will offer ideas and strategies to motivate and raise the bar in your class. Presentation Format: Exhibitor Workshops

17- Linear Regression Is More Than a Calculation

Thursday, October 27, 2016: 8:00 AM-9:15 AM
225 (Phoenix Convention Center)

Lead Speaker: Amber R. Severson

Co-speakers: Erin E. Richgels and Glen W. Richgels

In this presentation we will differentiate between causation and correlation. **Linear regression** is a computation that helps forecast the future, fill in gaps in data, and look at the past. Too often we do not ask students to think about these computations. We will look at examples that demonstrate that regression is a tool to be used thoughtfully.
Presentation Format: 10-12 Workshop

21- STEMming the Zombie Rush

Thursday, October 27, 2016: 8:00 AM-9:15 AM
106 BC (Phoenix Convention Center)

Lead Speaker: Judith Hicks

Use the popularity of zombies to make **STEM** become "un-dead" in your math or science classroom! By making use of pop culture trends, the levels of engagement and interest can be raised in our classrooms. Once the seriousness of this zombie apocalypse has been established, attempts will be made to cure the curse of zombies.
Presentation Format: 8-10 Workshop

24- Exploring the Connection between Recursive Sequences and Composition of Functions

Thursday, October 27, 2016: 9:30 AM-10:30 AM
102 C (Phoenix Convention Center)

Lead Speaker: David Kapolka

Co-Speaker: Tom Beatini

We will examine multiple representations of recursive sequences through iterative techniques. Various learning styles will be addressed through modeling of real-world situations. See how **handheld technology** promotes algebraic thinking and a deeper understanding of sequences, functions, and limits to help students move from algebra to calculus.
Presentation Format: 10-12 Session

25- Greatly Enhance Your Students' Understanding by Fully Utilizing Your TI-83/84!

Thursday, October 27, 2016: 9:30 AM-10:30 AM
106 A (Phoenix Convention Center)

Lead Speaker: Tom Reardon

Get several creative ideas to fully utilize the **TI-83/84/CE** family more effectively. Use the 84 as an evaluator of complex expressions, trace on a graph and table simultaneously, use color photos to teach transformation graphing, finance math, and more. Utilize the TI-SmartView graphing calculator emulator. This session is for new and experienced users who work with students in grades 7-12.

Presentation Format: 10-12 Session

27- Math as Telescope: Applying Concepts to Explore Our World

Thursday, October 27, 2016: 9:30 AM-10:30 AM
West 301 A (Phoenix Convention Center)

Lead Speaker: Karim Ani

What is the fairest way for cities to raise revenue? Is there an upside to having a bad day? Like a telescope, math is a powerful tool that allows us to better understand the world. In this presentation, we'll model real-world lessons in which students apply concepts such as linear functions and integer operations to explore how the world works.

Presentation Format: 8-10 Session

32.1- K-5 iPad Math App: Rigorous, Comprehensive, and Highly Engaging!

Thursday, October 27, 2016: 9:30 AM-10:30 AM
226 B (Phoenix Convention Center)

Lead Speaker: Christophe Pralong

Crafted by teachers, myBlee Math (my Best Lesson Ever) is a **digital publisher** specializing in K-5 math on iPad solely. Thousands of exercises, manipulatives, handwriting recognition, and adaptive feedback, all aligned to Common Core. Come check out our latest, comprehensive, engaging, and rigorous solution for elementary.

Presentation Format: Exhibitor Workshops

36- Face-to-Face Time in a Flipped Classroom Setting

Thursday, October 27, 2016: 9:45 AM-11:00 AM
103 (Phoenix Convention Center)

Lead Speaker: Sharon Bruce

Now that I am using a **flipped classroom** setting, how do I hold students accountable, and how has this changed what I do with my face-to-face time with my students? Experience firsthand how I use formative assessment, discovery activities, and problem solving to deepen student understanding and also address student misconceptions. Presentation Format: 10-12 Workshop

41- Using Free Mobile NCTM Resources to Think Like Escher

Thursday, October 27, 2016: 9:45 AM-11:00 AM
102 AB (Phoenix Convention Center)

Lead Speaker: Ann Holdren-Kong

Take on the role of a student in this interactive geometry investigation. Explore polyhedra using different representations and perspectives for three-dimensional block figures using concrete and **virtual manipulative**. Walk away with an engaging project, aligned to CCSSM and Principles and Standards, that you can use to incorporate art into your geometry classroom. Presentation Format: 6-8 Workshop

43- A Learning Management System Survival Guide in the Math Classroom

Thursday, October 27, 2016: 11:00 AM-12:00 PM
102 C (Phoenix Convention Center)

Lead Speaker: Robert C. King

Have you heard about learning management systems (LMSs) and not sure where to start? How can you springboard your traditional math classroom into a truly digital classroom? In this session, we will discuss how LMSs (such as **Edmodo, Google Classroom, Canvas**, etc.) work and how they make your class time more meaningful and instruction more engaging. Presentation Format: 8-10 Session

48- Finally! A Coaching Framework That's Actually about the Math

Thursday, October 27, 2016: 11:00 AM-12:00 PM
221 C (Phoenix Convention Center)

Lead Speaker: Claire Gogolen
Co-Speaker: Samantha Rabinowicz

Looking to improve feedback for math teachers? Experience the power of the MQI in focusing discussions of math instruction and guiding teachers' growth. The Mathematical Quality of Instruction (MQI) is a Common Core-aligned, math-specific rubric. Learn how our **MQI video-based, virtual coaching model** helps teachers improve.

Presentation Format: Coaches / Leaders / Teacher Educators Session

61- Statistical Misunderstandings of Students

Thursday, October 27, 2016: 11:30 AM-12:00 PM
101 C (Phoenix Convention Center)

Lead Speaker: Sharon Bruce

Technology is a powerful tool to address statistical misunderstandings of students. We will use technology to help students understand concepts such as: Does the empirical rule apply to all distributions? What does a box plot tell us about the shape of a distribution? How can I help students understand the meaning of slope beyond "rise over run"?

Presentation Format: 10-12 Burst

66- I'm Blogging with the Man in the Mirror

Thursday, October 27, 2016: 12:30 PM-1:00 PM
106 BC (Phoenix Convention Center)

Lead Speaker: Justin M. Aion

If you want to make the world a better place, you'd better look at yourself and then write a blog! "But, Justin," you say! "What would I write about? Why would anyone read it?" Come join us as we discuss why and how spreading your brain jelly onto **Internet** toast can help you become the best teacher ever!

Presentation Format: General Interest / All Audiences Burst

70- Secondary Math in Social Studies Class? Collaboration Enhances Transdisciplinary Learning

Thursday, October 27, 2016: 12:30 PM-1:00 PM
103 (Phoenix Convention Center)

Lead Speaker: Stephanie Ogden

Successful teachers appreciate the importance of connecting math with other disciplines in our math classrooms. We have taken this idea to the next level by embedding algebra, geometry, and statistics activities in social studies lessons. We will share how collaboration and **technology** supported enhanced transdisciplinary learning for our students.

Presentation Format: 8-10 Burst

71- Tablet Teaching in Class and Online

Thursday, October 27, 2016: 12:30 PM-1:00 PM
101 C (Phoenix Convention Center)

Lead Speaker: Krista Hands

Co-Speaker: Sarah Marsh

In our increasingly **technological society**, students have become accustomed to engagement through screens. Now, iPad technology has allowed our classes to be restructured to enhance student learning and provide additional outside-of-class support. In addition, this structure has promoted student engagement in online courses for an interactive experience.

Presentation Format: Higher Education Burst

72- The Architecture of Thomas Jefferson: Integrating Math, Science, and History

Thursday, October 27, 2016: 12:30 PM-1:00 PM
228 (Phoenix Convention Center)

Lead Speaker: Beverly Heigre

Co-Speaker: Lee Pruet

We use Jefferson's drawings as a springboard into our interdisciplinary curriculum that combines geometry, environmental science, and U.S. history. The lessons ask students to analyze the geometry present in classic architecture, relate it to familiar structures, and take a Google Earth tour of some of the first buildings to dot the colonial landscape.

Presentation Format: 10-12 Burst

78- New Types of Questions in the Classroom

Thursday, October 27, 2016: 12:30 PM-1:30 PM
221 C (Phoenix Convention Center)

Lead Speaker: Kim Thomas
Co-Speaker: Veronica Carlson

Has the types of questions that you ask in class changed with new **online assessments** and content standards? Online question types can be used on a daily basis in the classroom to help assess student understanding and promote communication about mathematics. Focus will be on algebra 2 type questions.
Presentation Format: 10-12 Session

85- Get to the Common Core: Activities & Assessment in Algebra

Thursday, October 27, 2016: 1:30 PM-2:45 PM
103 (Phoenix Convention Center)

Lead Speaker: Veronica Carlson
Co-Speaker: Kim Thomas

In this interactive session, participants will explore hands-on activities, utilizing **technology** and the mathematical practices that make it possible for students to learn, practice, and discover mathematics, which enable students to be successful on the End-of-Course (EOC) assessment.
Presentation Format: 10-12 Workshop

91- You've Got to Move It! Transforming Mathematics

Thursday, October 27, 2016: 1:30 PM-2:45 PM
227 AB (Phoenix Convention Center)

Lead Speaker: Jennifer North Morris

Let's get moving!! Come explore various ways to excite your students to explore transformations in mathematics. Using national and state standards as a guide, we will collect data, use **technology**, and, of course, MOVE to discover properties of functions and create models to predict mathematical behavior.
Presentation Format: 8-10 Workshop

93- Geometry City Project: STEAM Geometry Project with Architectural Applications

Thursday, October 27, 2016: 2:00 PM-3:00 PM
222 C (Phoenix Convention Center)

Lead Speaker: Beverly Heigre
Co-Speaker: Anthony Lecheler

We will journey through the process of design, implementation, and differentiation a semester-long cross-curricular project. In this project, we incorporate concepts such as constructions, congruence, triangle properties, area, volume, and proportions. Cross-curricularly, we've tied into English, social studies, science, social justice, and **technology**.

Presentation Format: 8-10 Session

100.1- STEM behind Sports: Field Goal for the Win

Thursday, October 27, 2016: 2:00 PM-3:00 PM
226 B (Phoenix Convention Center)

Lead Speaker: ExWkshp Texas Instruments

The kick is up . . . and it's good! Get your students fired up about math with interactive lessons that model a game-winning field goal. Learn how **technology** can be used to engage your students in challenging mathematics they experience every day. Get free resources for middle grades through precalculus that can be used in your classroom right away. Presentation Format: Exhibitor Workshops

102- A Division Mission: Developing a Deep Understanding

Thursday, October 27, 2016: 3:15 PM-4:30 PM
227 AB (Phoenix Convention Center)

Lead Speaker: Barbara Boschmans

Join me to explore division models and learn how these models will develop a deeper understanding of division. We will use manipulatives and **technology**. We will start with whole numbers and learn how the division models carry into work with fractions and decimals, and we will also spend time interpreting remainders in applications.

Presentation Format: 3-5 Workshop

112- Principles to Actions Using Mathematical Games

Thursday, October 27, 2016: 3:30 PM-4:30 PM
101 AB (Phoenix Convention Center)

Lead Speaker: Bos Bos

We will discuss how games (like **Minecraft**) can be designed and used in such a way as to exemplify the Principles to Actions Effective Mathematics Teaching Practices. Participants in small groups will design a plan for making a mathematics games from a "sandbox" platform and reflect on the design and use in the classroom.
Presentation Format: 3-5 Session

115- Mathematics and the "Flipped" Classroom

Thursday, October 27, 2016: 3:30 PM-4:30 PM
221 C (Phoenix Convention Center)

Lead Speaker: Sheri Bain

The **flipped classroom** model is an effective tool to use in math classrooms in order to increase a student's understanding of math concepts by allowing each student to teach, question, and use productive struggle as they grapple with their course-related topics. When well guided, students learn to communicate more effectively about their mathematics. Presentation Format: General Interest / All Audiences Session

131- Using Technology to Save Time in Teaching Common Core Algebra

Friday, October 28, 2016: 8:00 AM-9:00 AM
102 C (Phoenix Convention Center)

Lead Speaker: Anthony J. Farrell

This session will show how the **TI-Nspire CX CAS software** and handheld can be used in helping to support teaching and learning with a focus on Common Core algebra. The use of patterning in learning skills will also be demonstrated. This session is appropriate for complete beginners with this technology or those who have only used the device minimally.
Presentation Format: 8-10 Session

132- Colorizing Quadratics So They Make Sense

Friday, October 28, 2016: 8:00 AM-9:15 AM
227 AB (Phoenix Convention Center)

Lead Speaker: Terri L. Kurz
Co-speakers: Wendy Landis and Sarah Leming

Color tiles and graphing calculators are used to connect visual images to tables of values and equations, emphasizing both linear and quadratic equations. In building equations with shapes, students can connect visually what the equation numerically represents. A project for students will be explored to help equations make sense.
Presentation Format: 8-10 Workshop

134- Digital Documentation: Constructing Knowledge and Assessment in Mathematics

Friday, October 28, 2016: 8:00 AM-9:15 AM
106 BC (Phoenix Convention Center)

Lead Speaker: Criselda Lozon
Co-Speaker: Elizabeth Echternach

Digital representation of a student's progress is a powerful tool to clarify the steps in learning, both socially and academically. The process of gathering digital artifacts provides a clear and unique platform for teachers to monitor student learning. For students, digital documentation allows young learners to reflect on their learning.
Presentation Format: PreK-2 Workshop

139- Technology Skills for Student Success on the AP Calculus Exam

Friday, October 28, 2016: 8:00 AM-9:15 AM
225 (Phoenix Convention Center)

Lead Speaker: Kim Thomas
Co-Speaker: Veronica Carlson

AP Calculus is a course that requires a variety of technology resources for student visualization and exploration. When it comes to test time, what skills must students have in order to be efficient and precise when using their calculator? This session explores calculator active AP Calculus questions and TI-Nspire CAS user skills to complete them.
Presentation Format: 10-12 Workshop

151.2 10 Minutes of Code

Friday, October 28, 2016: 9:30 AM-10:30 AM
226 B (Phoenix Convention Center)

Lead Speaker: ExWkshp Texas Instruments

Want to get your students interested in **coding**? This hands-on session introduces you to the basics of coding on your **TI graphing calculator** in just 10 minutes—no experience needed! Learn how coding in the math classroom can strengthen students' reasoning and problem-solving skills. Get free resources that you can use in class right away.

Presentation Format: Exhibitor Workshops

152- Building Concepts: Expressions, Equations, and Mathematical Structure

Friday, October 28, 2016: 9:45 AM-11:00 AM
102 AB (Phoenix Convention Center)

Lead Speaker: Gail Burrill

Expressions and equations are the language of algebra. A coherent learning trajectory, supported by **interactive dynamic technology**, can develop students' understanding of these concepts within and across grades. Using mathematical structure as a way to reason can help students build a mix of procedural fluency rooted in conceptual understanding.

Presentation Format: 8-10 Workshop

164- Focus on Transformational Geometry, Congruence, Similarity, and Video Game Application

Friday, October 28, 2016: 11:00 AM-12:00 PM
106 A (Phoenix Convention Center)

Lead Speaker: Penny Gennuso

In this session, we will examine why we study transformational geometry and how to use translations, reflections, and rotations in the plane to develop a precise definition of congruence. Basic rigid motions are embedded in Eureka/EngageNY (grade 8). Investigative activities will be used to clarify the meaning of congruence and to review the foundational and practice standards and other topics.

Presentation Format: 6-8 Session

168- Modeling the Cost Effectiveness of Hybrid Vehicles

Friday, October 28, 2016: 11:00 AM-12:00 PM
221 AB (Phoenix Convention Center)

Lead Speaker: Ryan Pietropaolo

This talk will use **technology** and recursion to analyze cost comparisons of hybrid vehicles with comparable non-hybrid vehicles. Fuel costs, maintenance, financing rates, and various other variables will be included in the analysis. This problem has been used in the classroom in a collaborative environment and samples of student work will be shared.

Presentation Format: 10-12 Session

170- Think, Sketch, Print: 3D Printing in Algebra and Geometry

Friday, October 28, 2016: 11:00 AM-12:00 PM
102 C (Phoenix Convention Center)

Lead Speaker: Tiffany C. Sakaguchi

Capture the excitement of algebra and geometry and make connections by using **3D printing** in the classroom. Engage students in problem-based challenges that develop an in-depth understanding of algebraic and geometric relationships while building STEM interest. Project ideas and software options will be presented.

Presentation Format: 8-10 Session

178- Numeracy in English 4: Accumulation, Logistic Modeling, and Chaucer's England

Friday, October 28, 2016: 11:30 AM-12:00 PM
228 (Phoenix Convention Center)

Lead Speaker: Stephanie Ogden

Co-Speaker: Misty Brown

Successful teachers connect math with other disciplines in our math classrooms. We have embedded the medieval seeds of calculus along with logistic modeling in an English 4 unit on the Canterbury Tales. We will share how collaboration and technology supported enhanced transdisciplinary learning and nourished a school-wide growth mindset.

Presentation Format: 10-12 Burst

180- SketchUp 3D Modeling: Downtown Studies—Interdisciplinary Experience-Based Learning

Friday, October 28, 2016: 11:30 AM-12:00 PM
227 AB (Phoenix Convention Center)

Lead Speaker: Candace Matthews

Can you create experience-based learning that takes students to their city's downtown, extends across disciplines, and engages them in mathematical analysis? Of course you can. Downtown is our classroom as seventh graders connect with the urban center. With **SketchUp 3D software**, they design models of key buildings, bringing math and history to life. Presentation Format: 6-8 Burst

188- Position As Elevation? Difficulties Understanding Position/Time Graphs

Friday, October 28, 2016: 12:30 PM-1:00 PM
103 (Phoenix Convention Center)

Lead Speaker: Terri L. Kurz

Elementary preservice teachers (PSTs) explored distance/time and position/time graphs using **motion detectors**. After several explorations, PSTs were asked to analyze the correctness of a misinterpretation describing someone's change in elevation. PSTs misconceptions will be presented along with recommendations for teaching these graphs.

Presentation Format: Research Burst

191- Translations & Scale Changes on Data Sets: Effects on Descriptive Statistics

Friday, October 28, 2016: 12:30 PM-1:00 PM
224 A (Phoenix Convention Center)

Lead Speaker: Thomas Fox

We'll take a look at a classroom-ready exploration that asks students to make conjectures about what happens to basic, descriptive statistics under translations and scale changes. Technology connections will also be explored.

Presentation Format: 8-10 Burst

206- Transforming Student Thinking about Congruent Figures

Friday, October 28, 2016: 1:30 PM-2:45 PM
222 AB (Phoenix Convention Center)

Lead Speaker: John Ashurst
Co-Speaker: Lindsay A. Gold

Participants will be presented with pairs of geometric figures. Through exploration, we will devise strategies for using one or more rigid motion transformations to confirm congruency. As we proceed, we'll analyze the merits of paper folding, patty paper, compass-straightedge, and **handheld technology** as transformation tools.

Presentation Format: 10-12 Workshop

214- Math Game Inventors—Students Make Great Teachers

Friday, October 28, 2016: 2:00 PM-3:00 PM
105 (Phoenix Convention Center)

Lead Speaker: John Felling

Students thoroughly learn a math concept when they have to teach it to someone else. During the Invent a Math Game project, students create a math game while honing their writing and speaking skills in English language arts. They practice their **technology** skills while filming themselves and uploading the video to their teacher's website.

Presentation Format: 3-5 Session

217- Teaching, Learning, and Assessing with Digital Math Games

Friday, October 28, 2016: 2:00 PM-3:00 PM
106 A (Phoenix Convention Center)

Lead Speaker: Holly Y. Pope

Choosing and using digital math games in classrooms can be a daunting task for teachers. Most digital math games available are limited in their development of mathematical thinking, and may even hinder what students learn from game play. This presentation will present a framework for evaluating **digital games** for children.

Presentation Format: PreK-2 Session

219- What Mathematics Is Important in Algebra II and Precalculus?

Friday, October 28, 2016: 2:00 PM-3:00 PM
101 AB (Phoenix Convention Center)

Lead Speaker: Gail Burrill

What should students know before they are prepared for career and collegiate level mathematics? Why are concepts such as logarithms and trigonometry important and how can we make sure students really understand them? And what is the role of **dynamic interactive technology** in making this happen?

Presentation Format: 10-12 Session

224- Modeling: Doing It Right!

Friday, October 28, 2016: 3:15 PM-4:30 PM
104 (Phoenix Convention Center)

Lead Speaker: David E. Ewing

Modeling, if taught correctly, is one of the most effective tools in student learning. Modeling is meaningful, inspirational, and connects math to the real world. Learn, hands-on, how to create and how to use models that truly help students learn. (**iPads** and **graphing calculators** are welcome.)

Presentation Format: 10-12 Workshop

227- STEAMing It Up: A Cross-Curricular Collaborative Approach to Learning

Friday, October 28, 2016: 3:15 PM-4:30 PM
225 (Phoenix Convention Center)

Lead Speaker: Teri Barenborg

Co-Speaker: Tari Sexton

Participants will learn how to create a culture of problem solving through a collaborative approach. Teachers will learn how to facilitate this process through unique lessons that begin with real-world situations and end with students justifying their solutions through a variety of choices addressing the standards of the arts, **technology**, and English language arts. Presentation Format: 3-5 Workshop

229- Accessibility In Apps

Friday, October 28, 2016: 3:30 PM-4:30 PM
222 C (Phoenix Convention Center)

Lead Speaker: Guy Vardi

Learning is an active process. When children "learn by doing" they develop intuition, improved critical thinking abilities, and higher self-esteem. With the use of **virtual manipulative in apps**, the interaction can be adapted for each child based on motor, sensory, or cognitive abilities while allowing immediate and transparent assessment.
Presentation Format: PreK-2 Session

230- Digital Story Telling: Teaching Math as a Language

Friday, October 28, 2016: 3:30 PM-4:30 PM
102 C (Phoenix Convention Center)

Lead Speaker: Vito Ferrante

Technology changes content challenging words for many instructors but perhaps more so for teachers of mathematics. This session will make a case for teaching mathematics as a language where students use digital tools to create narratives indicating their understanding of content area math skills.
Presentation Format: 10-12 Session

232- Exploring Real World Statistics with Technology

Friday, October 28, 2016: 3:30 PM-4:30 PM
105 (Phoenix Convention Center)

Lead Speaker: Amy Adkins

This presentation provides constructivism-based lessons using **technology** integrated statistical activities aligned with CCSS. **Technologies** such as **graphing calculators** and **statistical apps** are featured in the lessons. The technology activities will support the development of statistical concepts by collecting, analyzing, and interpreting data.
Presentation Format: 8-10 Session