



Friday 11:15  
Session - 8

Room - Bluestone

Grades 3-12

**Using Technology to Engage Students**

Presented by Lori Whitt (WVDE)

This session will focus on using a variety of technology to more closely engage students on a daily basis.

Friday 11:15  
Session - 6

Room - Potomac

Grades 3-5

**The Power of Learning Through Problem Solving and Conceptual Understanding**

Presented by Bryan Hott (Eagle School Intermediate, Berkeley County Schools) and Jessica Warner(Berkeley County Schools )

Problem solving is an area of math most students fear. Having a deep conceptual understanding of math concepts is very important when problem solving. In this session the presenters will discuss ways to approach problem solving so that your students don't fear word problems. Through the use of Math Olympiad, Math Madness, and Number Talks students can build their math confidence with problem solving and conceptual understanding.

Friday 11:15  
Session - 9

Room - Birch

Grades 6-12

**Learn to Code Like a Statistician**

Presented by Samantha Service (West Virginia University)

Many students (and adults) have an interest in learning about coding. During this session, participants will learn how to download and code using R, a free open-source statistical software. By the end of the session, attendees will be able to engage in basic computations, algebra, and graphing. Let Samantha turn you into a coding pro! Unless you want to watch, please bring your laptop.

Friday 11:15  
Session - 10

Room - Greenbrier

Grades 6-12

**DESMOS Online Activities and Graphing Calculator**

Presented by Craig Mason (Magnolia High School)

This session will show participants how to implement DESMOS online classroom activities and also use the DESMOS online calculator. Included in the presentation will be handouts explaining the process and best practices for implementing the lessons and using the calculator. Please bring your own computer or tablet to participate in the activities.

Friday 11:15  
Session - 11

Room - Tygart

Grades 6-12

**Using Role Cards to Facilitate Meaningful Math Discussions**

Presented by Kelly Barr (Gilmer County High School) and Melissa Jones(Gilmer County High School)

Do your students struggle to have meaningful math conversations in the classroom? Come see what three teachers have been doing with the use of role cards in the classroom to engage

students in deeper, richer math conversations. Attendees will leave with ideas of how to facilitate the use of the role cards, how to ensure engagement by all students, and review data collected for the M3T project in classrooms using this practice.

Friday 11:15

Session - 7

Room - Kanawha

Grades 6-8

**Blast Off with Guided Math in the Middle School Classroom**

Presented by Sarah Waugh (Aurora School)

Are you nervous about attempting guided math in the middle school classroom? In this session, you will learn how you can make guided math work in your classroom. Learn how to group students, how to access learning tasks and centers to differentiate instruction. Participants will have an opportunity to brainstorm how to get guided math started within your classrooms!

Friday 11:15

Session - 12

Room - Sutton

Grades 9-College

**Using Social Network Analysis to Measure Growth in the WV First2 Alliance**

Presented by Marjorie Darrah (West Virginia University) and Roxann Humbert(ProEvaluators, LLC)

The First2 Alliance is a statewide network that is being developed to help rural, first-generation college students persist in a science, technology, engineering, and mathematics (STEM) degree. The network is made up of many individuals from academia, government, and industry. We are applying social network analysis to determine if the network is robust and if it is growing over the years. A new measure called social conductivity was developed to measure the strength of connections.

**Friday 12:30**

Session - 17

Room - Bluestone

Grades K-12

**WVDE Math4Life Initiative**

Presented by Teresa Hammond (West Virginia Department of Education) and Cindy Burke(West Virginia Department of Education)

In this session participants will hear about the WVDE math4life initiative and all the offerings for teachers throughout the state, plus resources available to them via the WVDE math4life website.

Friday 12:30

Session - 501

Room - Restaurant

All Grades

**SECOND LUNCH**

choose only one lunch

Friday 12:30

Session - 16

Room - Ballroom 2

Grades K-8

**Building Powerful Multiplicative Reasoning**

Presented by Pam Harris (Keynote)

Students need to know their facts! But they also need to understand mathematical relationships and properties and they need to develop efficient, sophisticated multiplication strategies. We can do both! We need to do both! Come and experience powerful teaching strategies to help all students multiply that also lead to success in higher math.

Friday 12:30  
Session - 15

Room - Greenbrier

Grades K-5

**Reach for the Stars!**

Presented by Stacey McKenzie (Wiley Ford Primary)

Reach every one of your star students! The presenter will show various ways to reach every type of learner in your math classroom. Participants will be given various materials to help them with all the learning styles within the math classroom.

Friday 12:30  
Session - 14

Room - Sutton

Grades K-2

**Plugging and Unplugging in the Kindergarten Classroom**

Presented by Gayle Allen (Springfield Green Spring Elementary)

This session will focus on finding a balance in Mathematics instruction between using technology and other methods.

Friday 12:30  
Session - 19

Room - Kanawha

Grades 3-12

**Using ALEKS to Make Data-Driven Decisions to Personalize Learning**

Presented by Johnny Miller (McGraw-Hill)

Participants will explore the rich reliable data within ALEKS. Using the knowledge check and ongoing personalized pathway data for all students to make informed decisions in the classroom. This session will provide an overview of how this adaptive digital content can personalize learning for all students and differentiate at all levels. Using a variety of reports within ALEKS to provide interventions, on grade level reinforcement and rigorous deeper learning opportunities for all students.

Friday 12:30  
Session - 23

Room - Pecan

Grades 6-K

**Voting: Pick the Method – Pick the Winner!**

Presented by Dennine LaRue (Fairmont State University)

Participants will examine various methods to tabulate votes. In all cases, each person has the right to vote. Can the tabulation method affect the winner? Are some methods better than others? Does everyone election (political or otherwise) in the United State use the same counting method? What is the mathematics behind voting?

Friday 12:30  
Session - 24

Room - Summersville

Grades 6-K

**Get the Goof: Researching How to Encourage Student Discussion of Errors**

Presented by Laurel Dilley (Pocahontas County High School) and Julie Brown (Green Bank Middle School)

Join a team of Pocahontas County teachers as they collect research through the M3T Program on students' abilities to find their and others' mistakes and talk about them! A study will be conducted across two high school math classes and one middle school class in which students were encouraged to identify and discuss errors. Come explore their findings and see if they are able to encourage their students to more openly evaluate peer work and be willing to make and discuss mistakes.

Friday 12:30  
Session - 20

Room - Birch

Grades 6-12

### **Algebra Tiles and Other Manipulatives**

Presented by Jennifer McIntosh (Parkersburg South High School)

Manipulatives are a great resource for any age. Come see how to use Algebra Tiles and geoboards with algebra and geometry students strengthen their skills and go from concrete and visual to abstract thinkers.

Friday 12:30  
Session - 21

Room - Ballroom 1

Grades 6-12

### **Soar with Strategies Used to Promote Discourse in Math Classrooms**

Presented by Kathy Williams (CPM Educational Program)

Students sitting together in teams does not guarantee effective mathematical discourse. Everyone needs to be heard. Activities will be modeled that encourage students to talk, write and share ideas. Participants will experience study team and teaching strategies for discourse, work on math problems using these strategies, see how the Standards for Mathematical Practices will be related to these strategies, and be actively engaged in using strategies to can take back and use in their classrooms.

Friday 12:30  
Session - 22

Room - Tygart

Grades 6-12

### **Students Seesaw the Importance of Learning**

Presented by Amy Salmons (Tug Valley High School) and Steven Alley (Tug Valley High School)

Join this session to learn how to transform your classroom to one where students can embrace the power of mistakes and struggle to become better math students, be more focused on the standards they are learning and truly understand what they know and what they still need to work on. You will learn about Seesaw (online portfolio), how to give assessments without giving a grade, and how to provide students the opportunity for them to "defend" their grade through conferencing.

Friday 12:30  
Session - 18

Room - Potomac

Grades 6-8

### **Explorations in Mathematical Habits of Mind - Constructing an Argument**

Presented by Samantha Buch (Bridge Street Middle School)

The presenter will share classroom experiences with the use of the Which One Doesn't Belong website. Students are shown a collection of items, pictures, numbers, etc. and are to construct an argument for why all but one belong to the defined group.

### **Friday 1:45**

Session - 30

Room - Potomac

Grades K-12

#### **How to Win \$10,000 as a Leader in Education**

Presented by Cindy Burke (West Virginia Department of Education)

Learn how to apply for the Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) to win a \$10,000 cash prize and a trip to Washington, DC for you and a guest. Awardees serve as models for their colleagues, inspiration to their communities, and leaders in the improvement of mathematics and science education. We will connect you with a mentor and provide hints to help you showcase your best teaching on your application.

Friday 1:45

Session - 31

Room - Ballroom 1

Grades K-12

#### **Problem Strings: A Lesson Format for All Students**

Presented by Pam Harris (Keynote)

A problem string is a powerful lesson format where all students learn, have access to the problems, and are challenged. The success hinges on the order, the discussion, and the teacher modeling student strategies to build connections. Come experience strings of problems that help students construct mathematical relationships so that powerful strategies become natural instincts in everything from arithmetic to solving equations to graphing functions.

Friday 1:45

Session - 25

Room - Bluestone

All Grades

#### **NASA Education Resource Center**

Presented by Emily Helton (NASA Katherine Johnson IV&V ERC)

Learn about everything that the Education Resource Center has to offer the teachers of West Virginia. Based in Fairmont, WV at the Katherine Johnson IV&V Facility, they loan out equipment free of charge to teachers who have been trained. Math-heavy kits include Robots and Ratios, Transit of Venus, and Introduction to GPS.

Friday 1:45

Session - 26

Room - Sutton

All Grades

#### **Engaging Students With Projects of Local Sociocultural Importance**

Presented by Nathan Sams (Davis & Elkins College)

Teaching math for social justice includes instruction that aims for improved human well-being. Interdisciplinary projects related to real-world problems engage students in topics that matter in their lives while still addressing state standards. Using math to tackle local issues attends to NCTMs position to teach with high expectations, foster identity and agency, and build on prior knowledge. Student teachers will show lesson plans of this type and we will brainstorm ideas for all classrooms.

Friday 1:45  
Session - 29

Room - Birch

Grades K-8

**Estimation**

Presented by Wyoming County Curriculum Coaches Curriculum Coaches (Wyoming County)

This session will be set up with stations. Each station will have a presenter explaining the activity for that table. All activities will revolve around estimation and the importance of instructing students to use that when doing math. We will include real-world, number lines, and technology resources to aid in estimation instruction.

Friday 1:45  
Session - 28

Room - Pecan

Grades K-5

**Passion Forward Math: Learning Through the Interests of Teacher and Student**

Presented by Amanda Rhodes (West Preston School) and Ashley Kerns McMillen(West Preston School)

If your students didn't have to come to school, would they still want to? Walk with us as we explore the power of choice and voice as it fosters relationships and boosts engagement. Navigate the potential of deeper understanding through meaningful connections, expanding horizons beyond the unknown, and allowing students' ownership of their learning. With thematic learning, hands-on exploration, and real-world application, the possibilities are limitless! |

Friday 1:45  
Session - 27

Room - Maple

Grades K-2

**I Love Math: Integrating Children's Books with Hands-On Math Strategies**

Presented by Shelly Ratliff (Glenville State College)

This hands-on session will focus on integrating developmentally appropriate math strategies and quality children's literature. Participants will have the opportunity to learn fun, hands-on strategies they can implement in their early education classrooms to make math appealing while exposing their students to high-quality children's literature. Participants will be actively engaged in the activities during the session and will have a chance to network with professionals about best practices.

Friday 1:45  
Session - 36

Room - Tygart

Grades 6-K

**From the Industrial Age of Math Instruction to Learner-Centered Design**

Presented by Derek Oldfield (Berkeley County Schools)

Do all students learn at the same pace? Do all students learn math at same moment? With equal degrees of support? Let's investigate the impact the industrial age, one-size-fits-all notion of schooling, has on math instruction. This is a practical session about how we can realistically reimagine the way we lay out content for students in ways that provide students flexibility in path, pace, and place.

Friday 1:45  
Session - 32

Room - Greenbrier

Grades 6-12

### **Applying AI Software to Monitor and Motivate Your Students!**

Presented by Jack Crumm (Carnegie Learning, Inc.)

During this session (bring your device), you will experience MATHia as a student while also experiencing the power of LiveLab as a tool to motivate and monitor individual student progress. You will also be given the opportunity to view reports generated by the software and see first-hand how the data can be used to drive instruction for individual, small group and even whole class instruction.

Friday 1:45  
Session - 33

Room - Ballroom 2

Grades 6-12

### **M3T: How Six Districts Are Improving 6-12 Math**

Presented by Joanna Burt-Kinderman (Pocahontas County Schools) and Matthew Campbell (West Virginia University)

Mathematics teachers from local improvement teams in six counties (Fayette, Gilmer, Grant, Mineral, Pocahontas, and Randolph) will share progress and reflections on their efforts to improve middle and high school mathematics classrooms as part of the "Mountaineer Mathematics Master Teachers" (M3T) project. Attendees will learn how each team purposefully chose and improved upon specific aspects of their teaching and engaged collaboratively to build more engaging, student-centered math classrooms.

Friday 1:45  
Session - 34

Room - Summersville

Grades 6-12

### **Project Based Learning (PBL) Share-a-thon**

Presented by Elaine Schwing (West Virginia University)

Presented by: Kathleen Cross, Olivia Fidler, Jamie Gilmore, Sydney Michalski, Karen Morgan, Kristen Pinkney, Miriam Straka, Nancy Stacy | PBL engages students as they gain knowledge and skills by investigating and responding to an authentic question. Are you looking for ideas for PBL units? In this share-a-thon, participants will be presented with PBL units that have been implemented in middle and high school math classrooms. All PBL units are standards-based, hands on explorations.

Friday 1:45  
Session - 35

Room - Kanawha

Grades 9-12

### **M<sup>3</sup>-Meeting of the Math Minds**

Presented by Sara Klesel (Parkersburg South High School)

Lets meet and collaborate! Bring at least two ideas, activities, resources, or strategies that work in your classroom. We will create a OneNote where everyone can upload their shared activities/resources.

## **Friday 3:00**

Session - 40

Room - Pecan

Grades K-12

### **20 Days of Math Tasks That My Students Love!**

Presented by Donna Folwell (Hamilton Middle School - Wood County)



Create rich math discourse through the meaningful progression of tasks that award-winning teacher and instructional coach, Steve Wyborney has developed and shared. Engage your students with deepening their number sense and conceptual understanding using Wyborney's 20 Days of Number Sense & Rich Math Talk (K-12). This session is geared toward all grade levels, promoting greater student engagement and equity while providing meaningful, rich, math opportunities for all learners in your class.

Friday 3:00  
Session - 37

Room - Bluestone

All Grades

**Give Your Friends Some Challenging Problems**

Presented by George Norton (None - retired )

Do you have any favorite math problems that you would like to share? This is your chance to bring them in and present them to everyone in the session. These can be any level, whether you currently teach it or not.

Friday 3:00  
Session - 38

Room - Greenbrier

Grades K-5

**Self-Regulation in Writing and Mathematics**

Presented by Maggie Luma (West Virginia Department of Education) and Joseph Mastracci(West Virginia Department of Education )

This session will integrate learning theories into a practical set of strategies that enable teachers to see growth in both academics and student independence. With deep attention to purpose, task, audience, and social context, teachers will seek to explicitly develop strong writing and math strategies as well as critical strategies to facilitate self-regulation.

Friday 3:00  
Session - 39

Room - Potomac

Grades K-5

**Reflex – A Technology Solution for Math Fact Fluency**

Presented by Jose Ramos (ExploreLearning)

ExploreLearning Reflex is an online fact fluency program that provides customized instruction, motivating games, and assessments that will prepare students for the challenges of advanced mathematics. Come learn how the system is rapidly helping students in the local area attain automaticity, and changing their attitudes about math!

Friday 3:00  
Session - 42

Room - Summersville

Grades 3-12

**Homework Reimagined**

Presented by Jami Packer (Brooke Middle School)

Learning how to make homework an effective/efficient part of Jami's class has been a journey. Student reluctance, time limitations, and grading issue are all obstacles she had to overcome to arrive at a solution that has student buy-in and feels beneficial for learning. The result is a routine that requires minimal disruption to students' home lives but requires students to be accountable for their learning in a collaborative way. Come learn more about how this practice has transformed Jami's class.

Friday 3:00  
Session - 43

Room - Tygart

Grades 6-12

**Interactive Note-Taking in Secondary Mathematics**

Presented by Katherine Capaldi (Keyser High School)

A look into how a method of interactive note-taking in an integrated 10th grade mathematics course has been adapted over the years to strive toward a system that promotes engagement, understanding, ease of use, and organization among students.

Friday 3:00  
Session - 44

Room - Ballroom 1

Grades 6-12

**Launch Student Thinking by Reasoning Quantitatively with the Giant One**

Presented by Kathy Williams (CPM Educational Program)

Participants will see the power of the Giant One which can be used to find equivalent fractions, GCF and common denominators. It can be used to simplify fractions and for all operations (including division) of fractions. The Giant One can be used to model the Multiplicative Identity as well as for percent. Ratios, similarity, unit conversions and solving proportions can be done efficiently with the Giant One. It doesn't matter if you are using rational expressions; the Giant One is powerful.

Friday 3:00  
Session - 45

Room - Kanawha

Grades 6-12

**An Equation That Works: MATH 180**

Presented by Jan Scott (Houghton Mifflin Harcourt) and Mar-Mary Lutge(Houghton Mifflin Harcourt)

Focus on what matters most, make the teacher a force multiplier for teaching, provide a path for a growth mindset, and you have an equation that works. Join us for a hands-on experience of the blended model and technology of MATH 180. Participants are encouraged to bring laptops for this session.

Friday 3:00  
Session - 41

Room - Birch

Grades 6-8

**People Count: Math and Demography in the Year of the Census**

Presented by Roxann Humbert (ProEvaluators, LLC)

In this year of the decennial census, discover timely and innovative, hands-on activities for drawing connections between math and social studies. Presented activities incorporate U.S. demographic data and build skills in algebra, data analysis, problem solving, measurement and more. Receive lesson plans in an electronic format.

Friday 3:00  
Session - 46

Room - Maple

Grades 9-12

**Profiting from Financial Algebra**

Presented by Amy Ritz (Wheeling Park High School)

This is an opportunity for teachers already instructing a Financial Algebra class and those interested in introducing the course to their High School to come together in a collaborative

effort to share ideas. Participants will be encouraged to share their successes and learning opportunities during the introductory phases of the program.

Friday 3:00

Session - 47

Room - Sutton

Grades 9-12

**SAT: Connecting the Math Section of the SAT to Classroom Instruction.**

Presented by Joel Gulko (College Board)

This session will review resources available to math educators who work with students who will be taking the SAT. This session is not limited to only junior level teachers, but rather all math teachers from grade 8-11. An announcement of new resources to assist teachers will be reviewed. The SAT Skills Insight will be reviewed as well.

**Saturday 8:30**

Session - 53

Room - Tygart

Grades K-12

**Equity In Mathematics Is Just A Click Away**

Presented by Jane Scott (MetaMetrics)

Reaching the mathematical needs of all learners in your classroom can be daunting. The Quantile Framework for Mathematics can be your guide on the side to help make this happen with a few clicks on your keyboard. The Quantile Framework is aligned to the West Virginia College and Career Readiness Standards. In WV, the WVGSA and the SAT School Day assessments report a Quantile measure for students in grades 3-8 and 11. Come learn about these FREE tools and how to make this data point actionable.

Saturday 8:30

Session - 48

Room - Bluestone

All Grades

**The Golden Holtan**

Presented by Allison Miller (Spencer Elementary School)

Need money to do a special math project in your classroom? Come and learn about this special grant opportunity and hear ideas of past winners.

Saturday 8:30

Session - 49

Room - Greenbrier

Grades K-5

**Help Your Students Catch Up and Keep Up: Do The Math and Math Reads (K-5)**

Presented by Jan Scott (Houghton Mifflin Harcourt) and Mar-Mary Lutge(Houghton Mifflin Harcourt)

Let's not just review or reteach. Let's rebuild! Let's Do The Math! Written and developed by Marilyn Burns, Do The Math is designed to build conceptual understanding of whole numbers and fractions. This hands-on session will show you how to help students develop the skills they need to compute with accuracy and efficiency, the number sense they need to reason, and the ability to apply their skills and reasoning to solve problems.

Saturday 8:30

Session - 50

Room - Sutton

Grades K-5

**Count On Thinking Math**

Presented by Gregory Merritt (Wood County Schools)

Utilizing strategies from AFT's excellent professional development model, Thinking Math, the facilitator will lead participants through a variety of activities that lead to number sense through counting. Activities will be appropriate for children in all elementary grades.

Saturday 8:30

Session - 51

Room - Gauley

Grades K-5

**We Do Robots. 3 hour session (limited to 8 people due to room size)**

Presented by Emily Helton (Fairmont State University)

Engage your students in meaningful math learning with WeDo robots. Students as young as kindergarten follow picture-based directions to construct and program different robots designed to meet authentic needs, such as robotic arms for accessibility or a lunar rover to explore where people cannot. Embedded math concepts include measuring distance and time, calculating rates, and applying ratios. Attending this training will certify you to borrow the WeDo 2.0 kit from the NASA ERC.

Saturday 8:30

Session - 57

Room - Potomac

Grades 3-12

**Using ALEKS to Make Data-Driven Decisions to Personalize Learning**

Presented by Johnny Miller (McGraw-Hill) and Johnny Miller (McGraw-Hill)

Participants will explore the rich reliable data within ALEKS. Using the knowledge check and ongoing personalized pathway data for all students to make informed decisions in the classroom. This session will provide an overview of how this adaptive digital content can personalize learning for all students and differentiate at all levels. Using a variety of reports within ALEKS to provide interventions, on grade level reinforcement and rigorous deeper learning opportunities for all students.

Saturday 8:30

Session - 54

Room - Kanawha

Grades 3-8

**Dividing Fractions: A Conceptual Approach**

Presented by Stephanie Jones (Fairmont State University)

Division of fractions involves an algorithm that is relatively easy to carry out, but difficult for students to remember. Instead, students need opportunities to first develop a conceptual understanding of fraction division. In this session, participants will discuss ways to help students develop this conceptual understanding through the use of contextual problems and manipulatives. Strategies for listening to student reasoning, rather than presenting students with an algorithm, will also be highlighted.

Saturday 8:30

Session - 52

Room - Pecan

Grades 3-5

**Nintendo Wii Math**

Presented by Shannon Blackburn (Williamson PreK-8)

Participants will explore student understanding of mean, median, mode, and range using the Nintendo Wii and Mario Cart.

Saturday 8:30  
Session - 58

Room - Ballroom 2

Grades 6-12

**M3T: Teacher-Led Multi-District Network to Improve Math in 6-12**

Presented by Joanna Burt-Kinderman (Pocahontas County Schools) and Matthew Campbell(West Virginia University)

This session explores the first year of the Mountaineer Mathematics Master Teachers (M3T) project. Teams of teachers across six counties defined the shared problems of teaching and learning in 6-12 math classrooms, developed change ideas to improve upon those problems, and tested and improved their practice as a community. This session will focus on how the project developed and the structures necessary for deep teacher engagement and connections across district lines.

Saturday 8:30  
Session - 59

Room - Summersville

Grades 6-12

**Project Based Learning (PBL) How-To**

Presented by Elaine Schwing (West Virginia University)

Project-based learning (PBL) is a student-centered teaching approach that engages students in acquiring deeper knowledge through active exploration of real-world challenges and problems. Participants will be actively involved in examining the essential parts of a PBL unit and will leave with strategies for adapting and implementing high-quality PBL units in their classrooms. This session will be useful for teachers new to PBL and teachers who wish their PBL units could be even better.

Saturday 8:30  
Session - 55

Room - Ballroom 1

Grades 6-8

**Manipulatives in the Middle: Promoting Conceptual Understanding**

Presented by Candace Lewis (Wood County) and Tammy McKnight(Wood County)

Are your students clear on the concepts? Are you struggling with helping your students master content in a conceptual way? What exactly does conceptual understanding mean? This session won't solve the struggle, but it will offer a better understanding of what conceptual understanding looks like and sounds like. It will also provide practical applications for using manipulatives in the middle school classroom to promote conceptual understanding

Saturday 8:30  
Session - 56

Room - Birch

Grades 6-8

**Space Explorations**

Presented by Sheila Ruddle (Retired (Pendleton County Schools))

Success in formal geometry begins with experiences with concrete materials. Participants will engage in activities that address the WV College- and Career- Readiness Standards for geometry.

Saturday 8:30  
Session - 60

Room - Maple

Grades 9-12

**Because You're i, I Walk the Line**

Presented by Jennifer Nail-Cook (Pocahontas County High School) and Katie Capaldi(Keyser High School)

Complex numbers have always been something that have been taught out of necessity. Come explore a new way to discover complex numbers, radicals with movement, and visualization.

### **Saturday 9:45**

Session - 65

Room - Greenbrier

Grades K-12

#### **Shake, Rattle and Roll: Using Teacher-Created Games to Reinforce Learning**

Presented by Millie Michael (Harrison County Schools-Project ISAAC Afterschool Programs)

During this workshop, participants will experience engaging, student-centered activities that provoke thought and collaboration. The games will provide opportunities for differentiation, cooperative learning, 21st Century skills, and STEM integration. The activities are especially beneficial for tactile and/or energetic students. The activities presented can be adjusted to fit any K-12 classroom.

Saturday 9:45

Session - 64

Room - Potomac

Grades K-8

#### **Covering Mathematical Habits of Mind**

Presented by Felicia Fordyce (Taylor County BOE)

Reviewing the eight Mathematical Habits of Mind, teachers will explore different activities that strengthen students' mathematical skills while seeing the relationship between strongly designed activities grounded in content and best practices already utilized in the classroom.

Saturday 9:45

Session - 62

Room - Tygart

Grades K-5

#### **Using a Multi-Sensory Approach to Teaching Students with Autism to Love Math**

Presented by Dr. Jason Conaway (West Virginia Department of Education) and Joseph Mastracci(West Virginia Department of Education)

Too often students who do not follow a typical developmental sequence of mathematics instruction are perceived as being unable to profit from academic instruction related to number sense and basic mathematical fluency building. This session will emphasize the importance of using a multi-sensory approach to numeracy for students with autism. Participants will leave equipped with current evidence-based strategies to implement and enhance math skills for students with autism.

Saturday 9:45

Session - 63

Room - Ballroom 1

Grades K-5

#### **Maker Math with Ms. Matty**

Presented by Amber Matty (Wood County Schools)

Do you and your students like to make things? Do you want ideas for using technology as a tool while teaching math? Would you like engaging activities for your students that fuse mathematics with other subjects? If you answered yes, this session is for you! Experience technology, makerspace, and curriculum, and a whole lot of fun! Participants will be active and participate in maker math stations. Some iPads will be available, but participants are

encouraged to bring their own device.

Saturday 9:45

Session - 61

Room - Birch

Grades K-2

**Progression of Mathematics Concepts in Pre-K – 2**

Presented by Janet Bock-Hager (West Virginia Department of Education) and Rhonda Fisher(West Virginia Department of Education)

Additional presenter - Lisa Fisher (WVDE) Participants will explore the progression of the West Virginia College-and Career-Readiness Standards for mathematics in Pre-K–2 through the examination of classroom experiences using hands-on activities and a game format. Formative assessment will also be explored.

Saturday 9:45

Session - 66

Room - Pecan

Grades 3-8

**Tantalizing Tangrams**

Presented by Lucie Refsland (Retired)

Tangram puzzles originated in Imperial China during the Tang Dynasty. However, Tangrams are not only puzzles. They are also a versatile teaching tool. Join Lucie in a hands-on workshop using Tangrams to explore perimeter, area, fractions and more. Tangrams will be provided for use during the session.

Saturday 9:45

Session - 72

Room - Sutton

Grades 6-K

**Mathematicians Welcome! All Shapes and Sizes!**

Presented by Jeremy Knight (Wildwood Middle School)

Jeremy will share some ideas for classroom decor, procedures, and lessons that help all students know that our classroom is a place where we are all mathematicians; that they can be respected and appreciated for who they are. Be ready to share your welcoming techniques!

Saturday 9:45

Session - 68

Room - Kanawha

Grades 6-12

**Using Edulastic for Rich Individual Feedback**

Presented by Barbara Zingg (Washington High School)

Edulastic is a powerful online tool for easily creating formative and summative standards-aligned assessments. Attendees will set up a teacher and student account, create and take an assessment, and view student work. Special attention will be given to the program's option of making meaningful individual comments on each student's work. The best feedback is timely, specific, and individual. This program allows for rich meaningful feedback.

Saturday 9:45

Session - 69

Room - Bluestone

Grades 6-12

**Head for the Exits! Using Plickers for Assessment in Our Math Classrooms**

Presented by Dave Kennedy (Shippensburg University of PA) and Ethan Clever(Shippensburg University of PA)

Plickers is an online assessment tool that is easy to learn. Any teacher with a smartphone or tablet can use it. In this session, participants will try Plickers, learn how the teacher creates and launches question sets, and discuss possible uses of Plickers in classrooms for surveys, quizzes, and other assessments. Presenters will also share some data from using Plickers for daily exit tickets in a middle-school classroom.

Saturday 9:45

Session - 70

Room - Ballroom 2

Grades 6-12

**M3T: Supporting Teacher Leadership and Networked Improvement in 6-12 Math**

Presented by Matthew Campbell (West Virginia University) and Joanna Burt-Kinderman(Pocahontas County Schools)

How can practicing teachers be supported to lead improvement efforts around math teaching and learning? Join the project leaders of "Mountaineer Mathematics Master Teachers" (M3T) to discuss new opportunities to integrate professional learning and tools for improvement across district lines as well as how to define new roles for teacher leaders in secondary math. Teachers, coaches, and administrators are welcome to share perspectives and learn ways to get involved.

Saturday 9:45

Session - 67

Room - Summersville

Grades 6-8

**Challenging Classrooms Through Open Middle Math**

Presented by Candace Mellen (Bridgestreet Middle School)

Finding resources that support but also enrich mathematical thinking in the classroom can be a challenge. With an interest in challenging students to solve higher-order thinking problems, Candace began to implement Open Middle math in her sixth-grade classroom. The results showed that incorporating these problems through collaborative learning tasks and small group efforts motivated students to produce multiple solutions and to persevere in problem-solving.

Saturday 9:45

Session - 71

Room - Maple

Grades 9-12

**Instant Assessments: Know What Your Students Know, Without Waiting**

Presented by Dean Banziger (Wood County Schools (Williamstown High School))

One of the biggest challenges teachers face is knowing if students understand without waiting weeks for a major test. The purpose of this session is to provide high school and middle school teachers suggestions on ways to quickly get feedback on students' comprehension and application of math standards. This is a hands-on presentation with attendees actively involved in the use of formative assessments such as individual white boards, online resources like menti.com, and exit tickets.

**Saturday 11:00**

Session - 75

Room - Bluestone

Grades K-12

**WVDE Math4Life Initiative**

Presented by Teresa Hammond (West Virginia Department of Education)

In this session participants will hear about the WVDE math4life initiative and all the offerings



for teachers throughout the state, plus resources available to them via the WVDE math4life website.

Saturday 11:00  
Session - 73

Room - Greenbrier

Grades K-2

**Exploring Number Sense in Legoland**

Presented by Sara Dailey (John J. Cornwell Elementary)

Participants will explore number sense concepts using Legos as a manipulative. We will investigate concepts such as composing and decomposing numbers, pattern recognition, skip-counting, adding, subtracting, regrouping, and more.

Saturday 11:00  
Session - 81

Room - Maple

Grades 3-K

**Using the DESMOS Learning Platform to Orchestrate Productive Conversations**

Presented by Derek Oldfield (Berkeley County Schools)

This session will focus on the five practices for orchestrating productive math discussions, and how the DESMOS learning platform can support teachers in designing high-quality experiences that yield rich conversation.

Saturday 11:00  
Session - 77

Room - Birch

Grades 3-12

**Gaming in Math Class: The Power of Play**

Presented by Amy Rice (Keyser Middle School)

Participants will explore how Rubik's cubes can motivate students, building perseverance and problem solving skills. This hands-on presentation includes the sharing of solving strategies and resources for implementing cubing into your classroom.

Saturday 11:00  
Session - 74

Room - Potomac

Grades 3-5

**Sugar and Spice Measuring Everything Nice**

Presented by Allison Shriver (Bradley Elementary School)

Looking for a FUN hands-on fractions activity that is real world and engaging for your students? How about two? This session is for you. Participants will create two gifts perfect for giving while exploring fractions. Attendees will make and take BBQ rub and salt scrub. This is a FUN session, but it might get a wee bit messy.

Saturday 11:00  
Session - 78

Room - Pecan

Grades 6-12

**The Escape Classroom-Escape Boring. Dare To Be Different. Refuse To Follow.**

Presented by Kari Hamric (Calhoun Gilmer Career Center)

The Escape Classroom ([theescapeclassroom.com](http://theescapeclassroom.com)) is a subscription or pay per download site that offers escape room style learning opportunities. In this classroom students are engaged and working hard to be the first team to escape. The escapes require a lot of prep but can be used over and over. Students use critical thinking skills to work their way through clues. There

are escapes for both elementary and middle/high classrooms in most subject areas. Participants are encouraged to bring a laptop or tablet.

Saturday 11:00  
Session - 79

Room - Ballroom 1

Grades 6-12

### **Assessing Student Understanding**

Presented by Jon Webster (Petersburg High School)

How much thought goes into your assessments? Do your grades accurately reflect what your students know and can do? The presenter will describe how one high school department redesigned assessment by incorporating questions with varying depths of knowledge into standards-based assessment. This is a practical approach to increase rigor, student perseverance and a growth mindset while giving all students a chance to succeed. Exciting side benefits of an engaged, math-focused PLC will be shared.

Saturday 11:00  
Session - 80

Room - Sutton

Grades 6-12

### **Thinking Math and Two Great Problems**

Presented by Mark Purcell (Parkersburg High) and Gregory Merritt(Wood County Schools)

Participants will examine two excellent math problems, appropriate for middle and high school students, that allow for depth of understanding and discourse. The facilitators will utilize AFT's excellent Thinking Math professional development model and will challenge participants to examine their instructional practice.

Saturday 11:00  
Session - 76

Room - Ballroom 2

Grades 6-8

### **Cooperative Learning Techniques for Middle School Math**

Presented by Teresa Rhea (Marlinton Middle School) and Boback Vada(Marlinton Middle School)

The presenters will divide participants into teams, teaching a mock lesson in which the participants will perform as students. They will model cooperative learning techniques that teachers will be able to apply in their own classrooms.

Saturday 11:00  
Session - 82

Room - Summersville

Grades 9-K

### **Productive Struggle and the Rise of the Machines**

Presented by Adam Fletcher (Bethany College)

Join Adam for a discussion of the pros and cons of a number of freely available cellphone applications as we attempt to build the mathematical mindset of problem solving and productive struggle in our students. Participants will use their smart phones to explore several different situations.