### Sessions & Workshops: 17 March 2019

### 8:15 – 8:30 AM – Welcome and Opening Remarks

### MCC President – Brian Bicknell <MPR>

### 8:30 – 9:00 AM – SPARK Academy Tour – Sign up @ Booth

### 8:30 – 10:00 AM

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | **Math Running Records: Setting the Foundation of Flexible Thinking for All** | **Rm 100** | **(K-5)** |

*Ann Elise Record, Ann Elise Record Consulting LLC*

*Co-Presenter: Dr. Nicki Newton - Newton Education Solutions*

Learn how the research-based Math Running Record math fact interview transformed the math culture within a school district. Providing data on all the facets of fact fluency: flexibility, accuracy, efficiency, and automaticity provides the information teachers need to plan instructional responses to develop a foundation of flexible thinking.

|  |  |  |  |
| --- | --- | --- | --- |
| 2 | **Number Lines as Bridges to Understanding** | **Rm 236** | **(3 - 5)** |

*Sara Donaldson Ed.D, Wheaton College -Massachusetts*

This interactive session will provide practice using the number line as a cohesive model to help students transfer whole number knowledge to fraction computation. Participants will leave understanding how the number line is used across grade levels and topics and how to help students see and use these connections.

|  |  |  |  |
| --- | --- | --- | --- |
| 3 | **One and Done… now teaching is FUN!** | **Rm 238** | **General Session** |

*David Frongillo, Retired Teacher, Certified National Trainer*

Disruptive students dominate your attention and time. Imagine speaking to your troublesome student(s) just once, and it ends there. Learn a research-based, time-tested philosophy, proven to WORK on grades K-12. The results - decrease discipline issues / increase academic performance / create a healthy, productive culture in your classroom.

|  |  |  |  |
| --- | --- | --- | --- |
| 4 | **"Coding Mondays" in Math Class –**  **ALL Students Can Code!** | **Rm 246** | **(6-12)** |

*Robyn Poulsen, Texas Instruments, Educational Technology Consultant/ New York State Master Teacher Emeritus*

ALL students can (and should!) learn to code! Come learn how I incorporated "Coding Mondays" in all of my math classes. Participants will be students - this is a hands on, interactive session. No coding experience is necessary! Free resources will be shared.

|  |  |  |  |
| --- | --- | --- | --- |
| 5 | **The Silent Symptoms Of Math Anxiety and**  **How To Address Them** | **Rm 272** | **(K - 5)** |

*Rosalba McFadden, Mathematics Consultant, Zenned Math*

Math anxiety is incredibly common and it is not limited to taking timed test. In this session, we'll take a look at the environmental factors that make up math anxiety, how to look for the silent symptoms and how to address them in your classroom.

|  |  |  |  |
| --- | --- | --- | --- |
| 6 | **MQI Coaching: video-based reflection routines** | **Rm 274** | **General** |

*Claire Gogolen, Education Researcher, Harvard Graduate School of Education*

This session tells the story of how an instrument designed for research, the Mathematical Quality of Instruction rubric (MQI), has become a valuable tool for improving instruction. Participants will experience components of the MQI Coaching model by discussing classroom video and will learn about research findings from a randomized trial.

|  |  |  |  |
| --- | --- | --- | --- |
| 7 | **Why Models Matter!** | **Rm 276** | **(K-5)** |

*Paul Schwarz, Lead Designer of Symphony Math*

Visual mathematics encourages brain activity that promotes greater understanding. This approach has been validated over and over, but requires a shift in thinking in our math classrooms. Symphony Math is an online program for K-5 that uses visual models as a primary means of understanding mathematical quantities and relationships.

### 9:45 – 10:15 AM – SPARK Academy Tour – Sign up @ Booth

### 9:00 – 9:45 AM

|  |  |  |  |
| --- | --- | --- | --- |
| 8 | **Talk Nerdy to Me: Routines to Ignite Discussion in the Math Classroom** | **Rm 306** | **(9-12)** |

*Donna Brink, Lead Mathematics Teacher, Pinkerton Academy*

*Co-Presenters: Tracey Moulaison, & Ben Winchell - Pinkerton Academy*

Experience classroom routines that build confidence and encourage student-directed problem solving through think time, questioning techniques, and conversation structure. Learn how these practices born out of Continuous Process Improvement cycles are suitable for any stage in the learning process and applicable to both small and large groups.

|  |  |  |  |
| --- | --- | --- | --- |
| 9 | **Examining the 8 ÷ 2 (2+2) Debate: Limitations of PEMDAS and other mathematical mnemonics** | **Rm 310** | **General Session** |

*Teresa Magnus, Professor of Mathematics/Director of Mathematics Programs, Rivier University*

Mnemonics, short cuts, and rules are powerful tools for memorizing; in fact, students remember these long after they have left our classroom. Unfortunately, as evident in recent viral social media posts, some common mathematics rules can be misapplied and misunderstood. This talk will examine PEMDAS, repeated multiplication, invert and multiply, butterfly method, and other "rules" that can lead to issues later in a student's mathematical education.

|  |  |  |  |
| --- | --- | --- | --- |
| 10 | **Using Mathmagic to Teach Introductory Algebra** | **Rm 312** | **General Session** |

*Joseph Spadano, Professor, Rivier University*

This presentation uses mathmagic to teach basic algebra skills and practices. Participants will explore some of my favorite activities to puzzle students and peak their curiosity. Attendees will experience how mathematics tricks advance reasoning and conceptual perspectives that influence and enhance the teaching and learning of mathematics.

### Visit Exhibits

### 10:15 – 11:15 AM

|  |  |  |  |
| --- | --- | --- | --- |
| 11 | **KEYNOTE: Teaching Mathematics is ELLementary** | **MPR** | **KEYNOTE** |

*Kees de Groot, Ph.D, University of Rhode Island*

Much work with ELLs is focused on overcoming *knowledge gaps*. This focus does not seem to produce much fruit in advancing ELL’s learning of mathematics. It leads to a lot of frustration and even desperation in the classroom for both students and teachers. The case will be made to shift this focus toward overcoming *communication gaps*. We will look at some concrete ways to accomplish this shift in your classrooms.

### 1:00 – 1:45 PM

|  |  |  |  |
| --- | --- | --- | --- |
| 12 | **Journal Writing in Secondary Mathematics: Our Experiences So Far** | **Rm 312** | **(6-12)** |

*Michael Shore, Mathematics Teacher, Exeter High School*

*Co-Presenter: Michelle Morton-Curit - Exeter High School*

In an effort to encourage our students to be more reflective learners, we’ve engaged them in journal-writing exercises. We’ll share several journal prompts and rubrics that we’ve developed for error analysis and reflection journals. We’d love to learn from you as well. Bring your ideas!

### 1:00 – 2:30 PM

|  |  |  |  |
| --- | --- | --- | --- |
| 13 | **Instructional Strategies for Teaching Mathematics to ELLs in the Secondary Classroom** | **Rm 100** | **Secondary** |

*Kees de Groot, Ph.D, University of Rhode Island*

In this session you will experience what it is like to be an ELL by being taught a short lesson that uses ELL based practices in a language foreign to you. Then we will investigate several instructional strategies based in the SIOP model of instruction, such as using realia, explicit teaching of math language, and rewriting math tasks for ELLs.

|  |  |  |  |
| --- | --- | --- | --- |
| 14 | **Improving Long-term Retention of Math in the Classroom -- Get More Math!** | **Rm 236** | **(6-12)** |

*Josh Britton, Founder Get More Math*

*Co-Presenter: Tony Gonzales - Get More Math*

The current educational model of cram & flush is not working; the only way to drive true retention is through quality instruction, mastery of concepts, and daily math practice. We will share Josh Britton’s 20-year journey, proven model, and custom created tools to drive long-term math retention in the classroom.

|  |  |  |  |
| --- | --- | --- | --- |
| 15 | **Improving Student Achievement with Instructional Rounds** | **Rm 238** | **K - 12** |

*Mary Wilson, Assistant Superintendent, Hudson School District*

*Co-Presenter: Meredith Harrigan – Hill Garrison Elementary School*

Come learn how the Hudson School District and Hills Garrison School increased their math scores with What I Need (WIN) and Instructional Rounds.

|  |  |  |  |
| --- | --- | --- | --- |
| 16 | **Build It, Fold It, Draw It: Develop Understanding of the Attributes of Polygons** | **Rm 246** | **(3 - 5)** |

*Laurie Boswell, Author, Big Ideas Math; Independent Consultant*

*Co-Presenter: Shannon DeRosa, Pittsfield Elementary School*

Many attributes of polygons: side length, angle measure, symmetry, perimeter, and area, can be explored using paper folding, perimeter pieces, square tiles, and grid paper. We'll work through a series of tasks that help students make sense of these attributes. Tasks are designed to have entry levels for all students.

|  |  |  |  |
| --- | --- | --- | --- |
| 17 | **Guided Math in Action** | **Rm 272** | **(K-5)** |

*Dr. Nicki Newton, Author, Education Consultant - Newton Education Solutions*

In this session, participants will learn what guided math is, when to do it, how to do it and why to do it. Through a variety of hands-on activities we will explore the 6 elements that are crucial to the framework: assessment, differentiation, standards, rigor, scaffolding and engagement.

|  |  |  |  |
| --- | --- | --- | --- |
| 18 | **Tricks are NOT for Kids!** | **Rm 274** | **(3 - 5)** |

*Alison J. Mello, Assistant Superintendent, Foxborough Public Schools, MA*

Ready to ditch the tricks but need to know the fixes? Learn how to make concepts stick through sense-making and connections! Say buh-bye to rounding riddles, key words, and butterflies, and hello to a world where decimal points don't move (because they don't)

|  |  |  |  |
| --- | --- | --- | --- |
| 19 | **My Almost Perfect Mathematics Classroom** | **Rm 276** | **(6-12)** |

*Robyn Poulsen, Texas Instruments, Educational Technology Consultant/ New York State Master Teacher Emeritus*

Come experience my (almost) perfect mathematics classroom. I'll share the four key elements (interactive classroom, flipped classroom, no homework weekends/problem solving Mondays and Standards Based Grading) and strategies for successful implementation. New and veteran teachers are welcome! I wish it hadn't taken me 20 years to figure out!

|  |  |  |  |
| --- | --- | --- | --- |
| 20 | **Mathematicians at Play: Connections to the Standards for Mathematical Practice** | **Rm 304** | **(K-5)** |

*Joseph Rino, Professor, Plymouth State University*

*Co-Presenter: Elisabeth Johnston -Professor, Plymouth State University*

Come explore the ways that play can provide children the opportunity to develop key skills aligned to the Standards for Mathematical Practice. Engage in hands-on play experiences ranging from PreK-5th grade that will allow you to consider how you might implement play in your math classroom.

|  |  |  |  |
| --- | --- | --- | --- |
| 21 | **Developing a Mathematically Literate Environment: Classroom Strategies that Make a Difference** | **Rm 306** | **(K-5)** |

*David Costello, Administrator, Greenfield Elementary - Prince Edward Island, Canada*

It's important to have a mathematically literate environment if students are to become mathematicians. Within such an environment, there are opportunities for students to be thinkers, communicators, problem solvers, and collaborators. This session consists of strategies that can be applied to any classroom to support such a learning environment.

|  |  |  |  |
| --- | --- | --- | --- |
| 22 | **A Question of Balance:**  **Modeling Solving Equations** | **Rm 310** | **(6 - 8)** |

*Sue Hamilton, Senior Manager of School Partnerships, Carnegie Learning Inc.*

Solving linear equations are used in almost every topic in mathematics. So why do we have to re-teach it every year? Manipulatives and models that promote students to make sense of solving linear equations will be used to develop an understanding of inverse operations in order to avoid having to re-teach it!

### 2:00 – 2:30 PM – SPARK Academy Tour – Sign up @ Booth

### 2:00 – 3:30 PM

|  |  |  |  |
| --- | --- | --- | --- |
| 23 | **The Power and Versatility of Cuisenaire Rods!** | **Rm 312** | **(K-5)** |

*Ann Elise Record, Elementary Consultant, Ann Elise Record Consulting LLC*

Learn about how you can use Cuisenaire rods to explore so many elementary math concepts in ways that encourage strategic thought. From basic facts to multi-digit operations, those manipulatives that are probably collecting dust in your school closet will surprise you with their power and versatility!

### 2:30 – 3:00 PM – SPARK Academy Tour – Sign up @ Booth

### 2:45 – 3:30 PM

|  |  |  |  |
| --- | --- | --- | --- |
| 24 | **Enhancing Mathematics with Origami:**  **Proofs by Folding** | **Rm 236** | **(6-12)** |

*Sophie Usherwood, Junior at Hanover High School*

This session explores how origami can prove mathematical concepts in an engaging and tactile way for geometry students. I will discuss my original origami geometry lesson plans that are published on OrigamiUSA’s website. These lessons foster the ability to creatively solve problems, find patterns, and conceptualize mathematical ideas.

|  |  |  |  |
| --- | --- | --- | --- |
| 25 | **STEM activities for ALL** | **Rm 238** | **(K-5)** |

*Betty Erickson, Education Consultant*

Come prepared to design a structure that will support an egg from a 10 foot ladder , next the stairwell and finally those that survive will be dropped either from a helicopter or seaplane in the spring. Participants need to bring materials and presenter will provide the eggs.

|  |  |  |  |
| --- | --- | --- | --- |
| 26 | **Using Algebra Tiles from**  **Polynomials to Factoring** | **Rm 246** | **(6-12)** |

*Heather Beiss, CPM Teacher Leader, CPM Educational Program*

Learn how to use algebra tiles to make algebra into a concrete visual experience. Teachers will be actively engaged in using algebra tiles to show what a variable is, combining like terms, writing and evaluating expressions, distributive property, and factoring. Teachers will receive materials to use in their classroom.

|  |  |  |  |
| --- | --- | --- | --- |
| 27 | **STEM and Amateur Radio: Using Radio to Collect Data and Communicate with Space** | **Rm 272** | **(6-12)** |

*Daniel Pooler, Mathematics Department Chair, Hudson Memorial Middle School*

Join us to hear how our partnership with the Nashua Area Radio Society allowed us to bring new and innovative experiences to our students as we journeyed through Science, Math, and Technology curriculum involving Amateur Radio to launch High-Altitude Balloons and talk with astronauts on the International Space Station.

|  |  |  |  |
| --- | --- | --- | --- |
| 28 | **Using Reasoning Routines To Promote Flexible Thinking And Deepen Operational Understanding** | **Rm 274** | **(3-5)** |

*Jessica Jacques, District Math Specialist, Merrimack Valley SAU 46*

Participants will explore a variety of reasoning routines that can be easily implemented into their classrooms. Reasoning routines can help to increase student engagement, generate excitement for mathematics, foster flexible thinking, as well as support student understanding of mathematical concepts.

|  |  |  |  |
| --- | --- | --- | --- |
| 29 | **Adventures in Coding and STEM in the Mathematics Classroom** | **Rm 276** | **(6-12)** |

*Robyn Poulsen, Texas Instruments, Educational Technology Consultant/ New York State Master Teacher Emeritus*

Experience the excitement and student engagement with tasks that put STEM into practice. This session will highlight coding and STEM projects using the TI-Innovator™ Hub and Rover, discuss challenges and lessons learned,share implementation strategies. Learn how to incorporate these engaging activities using TI technology into your math classrooms.

|  |  |  |  |
| --- | --- | --- | --- |
| 30 | **Mental Math Strategies as a Foundation for Number Sense** | **Rm 304** | **(K-5)** |

*Dr. Natalya Vinogradova, Professor, Plymouth State University*

This workshop will involve you in exploration of Mental Math methods and ideas. We will focus on computational strategies that are developmentally appropriate for different learners. We will discuss how to help our students develop deep understanding of numbers and arithmetic operations. You will be able to use these ideas and activities in your next math class!

|  |  |  |  |
| --- | --- | --- | --- |
| 31 | **Understanding and Teaching “Elementary” Mathematics** | **Rm 306** | **General Session** |

*Dr. Joseph Spadano, Professor, Rivier University*

This presentation debunks notions that elementary mathematics is simple. Participants will explore real questions asked by elementary grade students, such as, Why is a (-) x (-) = (+)?. Attendees will leave with an understanding of how reasoning and conceptual perspectives influence and enhance the teaching and learning of mathematics.

|  |  |  |  |
| --- | --- | --- | --- |
| 32 | **Reach and empower all students to increase access to math learning for students with ASSISTments** | **Rm 310** | **(6-12)** |

*Cindy Sparks and Dawn Peterson, Consultants, ASSISTments*

To ensure math learning for all, teachers need to know what their students know (and don’t). Figuring this out in a timely manner without correcting mountains of work is the strength of ASSISTments. Gain immediate insight into your student’s math learning and empower your students with immediate feedback!.

### 3:45 – 4:45 PM

**NHTM Business Meeting & Door Prizes –**

**Multi-Purpose Room (MPR)**