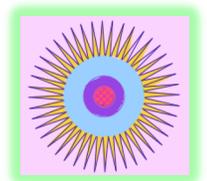




# AMTNJ's 2019 Summer Institutes



Learn to model mathematics in the classroom, assess students formatively, create new lesson plan ideas, and much more!

## 1.) **Two-Day Mathematics Institute**

Grades 6– 12 Teachers, Specialists, Math Coaches, Supervisors, School & District Administrators

Date: July 9, 2019 – July 10, 2019

Location: West Windsor – Plainsboro, West Windsor Township, NJ

Presenters: Dianna Sopala & Jennifer Goforth

### Day 1: Supporting Stressful Students and Taxing Teachers in the Secondary Mathematics Classroom – Tuesday, July 9, 2019

Stress can infiltrate your classroom in many ways and affect learning mathematics. Fixed mindsets, and pressure from outside sources can cause anxiety for both teachers and students. Participants will explore ways to manage teacher and student stress. Learning mathematical mindsets and time saving structures help alleviate the stress surrounding state assessments and other stressful situations in the mathematical classroom.

### Day 2: Mathematics for ALL – Wednesday, July 10, 2019

Teachers are expected to differentiate instruction, provide rich tasks for all students at every level while preparing students for the state examination. Technology, projects, and analyzing data to drive instruction are some of the topics that will be covered.

## 2.) **Multiplication Running Records – Like Literacy, but Even Better!**

Grades Pre-K - 5, Pre-Service Teachers, Pre-Service Educators, Specialists, Math Coaches, Mathematics Educators, Supervisors, School & District Administrators

Date: Wednesday July 10, 2019

Location: Clifton Public Schools

Presenter: Dawn Rawding

Fluency is so much more than memorizing facts. In this session, you will learn to identify the strategies students use to solve multiplication problems and strategies that you can use to move students forward in their acquisition of multiplication facts. You will learn how to administer a running record and use the results to support students as they learn the facts. Resources to extend your learning and activities to use with students will also be discussed and provided.

## 3.) **Developing Mathematical Habits of the Mind – Thinking the Math Instead of Doing the Math**

Grades 6 – 12 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors, District Administrators

Date: Thursday, July 11, 2019

Location: Rancocas Valley High School

Presenter: Tom Beatini

This workshop will provide you with resources that engage students in meaningful learning experiences to encourage them to think mathematically. Topics in Algebra I, Geometry, and Algebra II will be addressed that utilize an upside-down teaching approach which can better prepare students to be strong problems solvers. Pedagogical strategies and techniques that help students develop and foster mathematical habits of the mind through problem solving, modeling, and making mathematical connections will be discussed. Classroom-ready hands-on materials that focus on the development of conceptual and procedural knowledge utilizing these methods will be shared. Don't forget to bring a graphing calculator or laptop!

#### **4.) Three-Day Mathematics Institute on Fridays**

**Grades 3 – 8 Teachers, Specialists, Math Coaches, Supervisors, School & District Administrators**

**Date: July 12, 2019 – July 26, 2019**

**Location: Rutgers University Hill Room 525, New Brunswick, NJ**

**Presenters: Debra Gulick**

**Day 1: Number Sense & Operations: Algorithms – Friday, July 12, 2019**

**Day 2: Number Sense & Operations: Fractions – Friday, July 19, 2019**

**Day 3: Number Sense & Operations: Problem Solving – Friday, July 26, 2019**

This series of workshops is designed to address standards based instruction in the upper elementary and middle school grades. The first session will focus on the development of addition, subtraction, multiplication and division algorithms, and the connection between a student's number sense and the visual representations of the traditional algorithms. The second session will focus on the visual representation of operations with fractions, and ratio and proportional reasoning. The third session will focus on problem solving strategies and practices that can be embedded into every day instruction in order to foster the development of the mathematical practices in your students. You may participate in one, two or three sessions.

#### **5.) Using Desmos to Teach Algebra 2 and Pre-Calculus – Rancocas Valley**

**Grades 6– 12 Teachers, Higher Education, Pre-Service Teachers, Supervisors and Coaches**

**Date: Tuesday, July 16, 2019**

**Location: Rancocas Valley High School**

**Presenter: Kathleen Carter**

Participants will play the role of students in examples of rich math tasks utilizing the Desmos Calculator and Desmos Activity Builder. Activities for topics such as quadratics, polynomials, and rational functions will be shared. Participant will learn to customize Activity Builder lessons and how to use the Desmos Activity builder for assessments. This workshop is designed for grade 9-12 educators with tools for ongoing support shared for learning after the workshop. Bring your laptop!

#### **6.) Teaching and Learning Mathematics in the 21<sup>st</sup> Century through the Use of Technology**

**Grades 6– 12 Teachers, Higher Education, Pre-Service Teachers, Supervisors and Coaches**

**Date: Wednesday, July 17, 2019**

**Location: Clifton Public Schools**

**Presenter: Coshetty Vargas**

Teachers will use laptops / iPads to explore various instructional strategies of our evolving classrooms of the 21st century by incorporating valuable websites and apps that encourage the use of meaningful engaging activities to enhance technology use and learning in the classroom. Teachers are not limited to just using these technology tools but also involve your students to create their own personal activities such as generating QR codes, creating their own video or a game from an interactive educational website.

#### **7.) The Art of Being a Mathematical Coach or Supervisor**

**Grades 6– 12 Teachers, Specialists, Math Coaches, Supervisors, School & District Administrators**

**Date: Tuesday, July 30, 2019**

**Location: West Windsor – Plainsboro, West Windsor Township, NJ**

**Presenter: Andrea Bean and Alison Nass**

This workshop will provide resources and tools for working with teachers to improve the learning experiences for all students. We will highlight ways to build relationships, create meaningful PD experiences, tackle difficult situations, and build teacher capacity. The work and research of Jim Knight, best-selling author and president of Instructional Coaching Group, will serve as a foundation for our session.

**8.) Changing the Pathways for Math- for 6-12 Math Supervisors/Administrators**

**Grades 6– 12 Teachers, Specialists, Math Coaches, Supervisors, School & District Administrators**

**Date: Wednesday, July 31, 2019 Location: Clifton Public Schools**

**Presenter: Jennifer Goforth**

Conversations around course sequencing in math to increase equity to access for high level math, supporting teachers and closing the achievement gap.

**9.) Wonder–Full and Event–Full Probability in Grades 5 - 10**

**Grades 5 – 10 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors**

**Date: Thursday, August 1, 2019 Location: Kent Place School, Summit, NJ**

**Presenter: Ralph Pantozzi**

Chances are... that you can increase your students' odds of developing deep understanding of random events. Activities full of noticing and wondering are the first step. Take random walks, eat M&M's, build colorful towers, and experience other event-full simulation activities that will motivate students to pose questions and pursue them long after the last coin is flipped. We'll examine a sequence of lessons that in grades 5 through 10, with ideas accessible to all and connections to topics through Algebra 2 and beyond. You'll leave feeling confident of your students' likelihood of success with key ideas in probability.

**10.) Exploring Functions through Modeling and Technology in Grades 9- 12**

**Grades 5 – 12 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors**

**Date: Tuesday, August 6, 2019 Location: Kent Place School, Summit, NJ**

**Presenter: Ralph Pantozzi**

Modeling with mathematics is a multistep process that involves students in understanding phenomena in the world around them through the lens of mathematics and making decisions that honor the “messiness” of the real world, where judgment calls are needed, and the math is not the final answer. We also want students to work with prepackaged mathematical models that they find on the SAT and the AP exams. How do we meet both goals? Use technology, (Desmos, Geometer's Sketchpad, calculators, and more), along with experiments with real objects. We'll play with swings, tires, remote control cars, and mirrors, and make shadows, party hats. See how modeling in Geometry, Algebra 2, and Precalculus helps students build skills through opportunities to compare messy data with the ideal math, explore the properties of functions, and test theories back in the real world.

**11.) Creative Differentiated STEAM Projects for Middle and High School Students**

**Grades 5 – 12 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors**

**Date: Thursday, August 8, 2019 Location: North Hunterdon High School, Annandale, NJ**

**Presenter: Coshetty Vargas**

Teachers will explore, create and use sample STEAM projects to differentiate various levels within the common core standards of middle and high school students. Meaningful STEAM projects include tessellations, house scale drawings, magic squares, polyhedra models, business entrepreneur, career scavenger hunt, string art, bridges, and traveling brochures.

**12.) Using Desmos to Teach Algebra 2 and Pre-Calculus - Annadale**

**Grades 6– 12 Teachers, Higher Education, Pre-Service Teachers, Supervisors and Coaches**

**Date: Wednesday, August 14, 2019 Location: North Hunterdon High School, Annandale, NJ**

**Presenter: Kathleen Carter**

Participants will play the role of students in examples of rich math tasks utilizing the Desmos Calculator and Desmos Activity Builder. Activities for topics such as quadratics, polynomials, and rational functions will be shared. Participant will learn to customize Activity Builder lessons and how to use the Desmos Activity builder for assessments. This workshop is designed for grade 9-12 educators with tools for ongoing support shared for learning after the workshop. Bring your laptop!

**13.) Flipping the Classroom in Math for Teachers**

**Grades 6 – 12 Teachers, Specialists, Math Coaches, Supervisors, School & District Administrators**

**Date: Wednesday, August 14, 2019**

**Location: Clifton Public Schools**

**Presenter: Jennifer Goforth**

Are you looking for ways to integrate technology in the classroom effectively? Do you want to increase the number of students completing homework? Then Flipping the Classroom may be a strategy you want to implement in your classes. This workshop will provide a framework for flipped learning- where students watch instructional videos for homework and do the practice in class. Please bring your laptop.

**14.) Understanding Quadratics**

**Grades 8 – 12 Teachers, Specialists, Math Coaches, Supervisors, School & District Administrators**

**Date: Thursday, August 15, 2019**

**Location: North Hunderdon High School, Annandale, NJ**

**Presenter: Kathleen Carter**

This session will analyze Quadratic Functions in its various representations to help students understand the characteristics of quadratic relationships. First, the behavior of quadratic number patterns will be analyzed to facilitate writing recursive and explicit formulas. Then, the characteristics of the graph of the parent function will be discussed as a foundation for the exploration of transformations. The different forms of the equations of quadratics will be compared for purposes of graphing and modeling quadratic relationships. The session will also demonstrate how the Desmos online graphing calculator can be incorporated to stimulate classroom discussion and analysis of quadratics. Modeling with quadratics using the graphing calculator and Desmos will be presented. Please bring a laptop or tablet to participate in the Desmos part of the presentation and a graphing calculator.

## AMTNJ's 2019 Summer Institute Registration Form

Name: \_\_\_\_\_ School District: \_\_\_\_\_  
Home Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_  
School Name: \_\_\_\_\_ School Phone: \_\_\_\_\_

School Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Home Email Address: \_\_\_\_\_

Home Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

### Registration Fee

The fee is \$149 for the first institute and \$119 for each additional institute.

### Registration:

Circle the number of the summer institute(s). (Please note – you may also register online at [www.amtnj.org](http://www.amtnj.org).)

- 1a.) Supporting Stressful Students and Taxing Teachers in the Secondary Mathematics Classroom
- 1b.) Mathematics for ALL
- 2.) Multiplication Running Records – Like Literacy, but Even Better!
- 3.) Developing Mathematical Habits of the Mind – Thinking the Math Instead of Doing the Math
- 4a.) Number Sense & Operations: Algorithms
- 4b.) Number Sense & Operations: Fractions
- 4c.) Number Sense & Operations: Problem Solving
- 5.) Using Desmos to Teach Algebra 2 and Pre-Calculus – Rancocas Valley
- 6.) Teaching and Learning Mathematics in the 21<sup>st</sup> Century through the Use of Technology
- 7.) The Art of Being a Mathematical Coach or Supervisor
- 8.) Changing the Pathways for Math- for 6-12 Math Supervisors/Administrators
- 9.) Wonder–Full and Event–Full Probability in Grades 5 - 10
- 10.) Exploring Functions through Modeling and Technology in Grades 9- 12
- 11.) Creative Differentiated STEAM Projects for Middle and High School Students
- 12.) Using Desmos to Teach Algebra 2 and Pre-Calculus - Annandale
- 13.) Flipping the Classroom in Math for Teachers
- 14.) Understanding Quadratics

*All workshops will be from 8:30 a.m. – 2:00 p.m. with a half hour break for lunch. Please bring your lunch; light refreshments will be provided.*

Number of Institutes Circled: \_\_\_\_\_

Total fees for all registrations: \$ \_\_\_\_\_ PO Number: \_\_\_\_\_ or Check Number \_\_\_\_\_

Please return this form, along with payment to AMTNJ – PO Box 264 Bay Head, NJ 08742. Please make checks payable to “AMTNJ”.

Some sessions are popular and seats are limited. Therefore, payment must be received two weeks prior to the summer institute. To receive a refund for a participant's **cancelations**, AMTNJ **must receive written notice two weeks prior** to the workshop. All cancellation emails must be sent to [amtnj@juno.com](mailto:amtnj@juno.com) and [diannamsopala@yahoo.com](mailto:diannamsopala@yahoo.com). AMTNJ reserves the right to cancel one week prior to an institute if the registration number is not met. If you have any questions, please send an email to [amtnj@juno.com](mailto:amtnj@juno.com), [diannamsopala@yahoo.com](mailto:diannamsopala@yahoo.com) or call us at 201-481-2878. Our fax number is 732-399-5388.