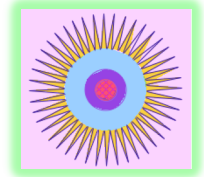


# AMTNJ's 2018 Summer Institutes



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

## 1.) **Flipped Classroom in Algebra**

Grades 5 – 9 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors

Date: Wednesday July 11, 2018

Location: Montclair University, Montclair, NJ

Presenter: Nicole Ealey

Technology is everywhere and flipped learning has become essential in student engagement. Flipped Teaching allows students to learn the basic concepts at home, and then expand on their knowledge and focus classroom time on deeper understanding, making connections, and applications. This workshop will help teachers create a plethora of flipped classroom resources and tools to utilize throughout the school year.

## 2.) **Statistics and Social Studies (SASS) – Tools to Promote Quantitative Reasoning**

Grades 5 – 8 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors

Date: Thursday, July 12, 2018

Location: Montclair University, Montclair, NJ

Presenter: Mark Russo

This session will focus on how teachers can develop students' quantitative reasoning skills through social studies contexts. The presenter will share his experiences creating and implementing QR lessons in social studies and mathematics classes, and participants will have an opportunity to dialogue about, and engage in interdisciplinary collaboration.

## 3.) **Equity in the Mathematics Classroom**

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

Date: Friday, July 13, 2018

Location: Montclair University, Montclair, NJ

Presenter: Mark Russo

Mathematics classrooms have a reputation for privileging certain types of students and alienating others, but it doesn't have to be this way. In this session, we will discuss equity efforts that seek to give every student, and all groups of students, a real chance to develop their full potential as learners and doers of mathematics. We will consider the nature of intelligence, the availability of opportunity contexts, the role of race, and the importance of language in schools. In addition, we will share activities and classroom structures that support an equitable classroom environment.

## 4.) **Math Task Design with Desmos Activity Builder**

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

Date: Monday, July 16, 2018

Location: Rancocas Valley High School, Mt. Holly, NJ

Presenter: Bob Lochel

Participants will play the role of students in examples of rich math tasks facilitated through Desmos Activity Builder, and discuss guidelines for designing effective, engaging technology-based activities. In small work teams, the group will build their own "first" Activity Builder lessons and consider how tech-based activities support student learning. This workshop is designed for grade 6-12 educators, with tools for ongoing support shared for learning after the workshop. Bring your laptop!

**5.) Integrating STEM Lessons in the Math Classroom**

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

Date: Tuesday, July 17, 2018

Location: Kent Place School, Summit, NJ

Presenter: Dianna M. Sopala

This workshop will provide teachers with the opportunity to create some STEM lessons for Algebra 1, Geometry, Algebra 2 and Trigonometry. Teachers will receive lesson plans containing the Mathematics Common Core Standards and the Next Generation Standards. They will receive a suggested grading rubric. Teachers will work in groups to ensure the best possible product emerges. Bring your laptop and calculator.

**6.) Visualizing Problem Solving Through Proportional and Spatial Reasoning in Grades 3-5**

Grades 3–5 Teachers, Specialists, Math Coaches, Supervisors, School & District Administrators

Date: Wednesday, July 18, 2018

Location: Byram Township School, Stanhope, NJ

Presenter: Angelo DeMattia

Help students remember their Math concepts well beyond their elementary school years. This workshop will help teachers develop more visually based lessons that will include the use of strip (or bar) models, double line models, and spatial reasoning models such as paper-folding. Research has shown that spatial thinking is a predictor of success in STEM, and that this emphasis will help students, including SE & ELL – make an effective transition from the concrete/visual to the abstract. The emphasis will be on applying the PAW process, a problem-solving strategy that employs: P is for Pictures, A is for Abstract, and W is for Words. Ample hands-on lessons will highlight the process that helps teachers to help students attain a higher level of achievement on PARCC Assessments as well as to gain a better understanding of the Common Core Standards. Time will also be reserved for sharing ideas as well as your questions/concerns. Bring a laptop.

**7.) Tips for Math Coaches, Math Supervisors, and Math Leaders**

Grades K – 12 Math & Teacher Leaders, Teachers/Educators, Specialists, Math Coaches, Supervisors,  
School & District Administrators

Date: Thursday, July 19, 2018

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

Presenter: Angelo DeMattia

How can math teachers be supported on their journey to provide quality learning for their students? This workshop will help participants explore various support structures that will help attain the above goal. If you are new to math leadership, this session will help clarify this enormous task and will help you gain confidence as to where to begin. If you are experienced, this session will help you rethink the educational approaches and your training. Ultimately, you will improve as a knowledgeable practitioner, capable of using your extensive math understanding and teaching experiences to help children from varied cultural backgrounds become convincing mathematicians.

**8.) Visualizing Algebra**

Grades 7– 12 Teachers, Specialists, Math Coaches, Supervisors, School & District Administrators

Date: Monday, July 23, 2018 Location: West Windsor – Plainsboro, West Windsor Township, NJ

Presenter: Angelo DeMattia

Too few students can demonstrate a deep conceptual understanding of algebraic relationships. This workshop will assist teachers in developing a more visually based lesson format. More visually based lessons create opportunities for students – including SE & ELL – to effectively make transitions from concrete ideas/visual to abstract concepts. The emphasis will be on applying the PAW process: P is for Pictures, A is for Algebra, and W is for words. Ample hands-on lessons will highlight the process that helps students attain a higher level of achievement on the new PARCC assessments and help teachers experience a new connection to the Common Core Standards. Bring your laptop and graphing calculator.

**9.) Developing Mathematical Habits of the Mind - Thinking the Math as Well as of Doing the Math - Grades 9-12**

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

Date: Tuesday, July 24, 2018

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

Presenter: Tom Beatini

This workshop will provide you with resources that engage students in meaningful learning experiences to encourage students to think mathematically. Topics in Algebra I, Geometry, and Algebra II will be addressed that shift the focus of teaching around rich tasks. 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 as it will be used to demonstrate techniques of upside-down teaching!

**10.) Culturally Relevant Leadership - Continuing the Conversation on Pathways to Success in 6-12 Math**

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

Date: Wednesday, July 25, 2018 Location: Montclair State University, Montclair, NJ

Presenter: Jennifer Goforth

This workshop is for district and school leaders in 6-12 Math. It is a follow up session for the AMTNJ Winter Conference but attendance to the winter session is not mandatory. We will be continuing the conversation on Pathways to Success in 6-12 Math and discuss ways to support culturally relevant instruction in your schools. Please bring your laptop.

**11.) Teaching Algebra 1, Geometry, Algebra 2, and Trigonometry with Technology**

Grades 9 – 12 Teachers, Pre-Service Teachers, Specialists, Math Coaches, Supervisors, and Administrators

Date: Tuesday, July 31, 2018

Location: Parsippany – Troy Hill School District, Parsippany, NJ

Presenter: Dianna M. Sopala

This workshop will provide ideas on how to teach Algebra 1, Geometry, Algebra 2, and Trigonometry using technology in the classroom from a teacher who teaches in a Future Ready School. Bring your computers or Chromebooks.

**12.) Polyhedra Euler's Formula and 3-D Constructions**

Grades 5 – 8 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors

Date: Tuesday, July 31, 2018

Location: Clifton Public Schools, Clifton, NJ

Presenter: Coshetty Vargas

Participants will create paper models from over 90 net choices from [www.korthalsaltes.com](http://www.korthalsaltes.com) Strategies for cutting, folding, and gluing will be discussed and sample models will be shown. Great selection of convex and concave paper models as well as applications of Euler's formula in different variation forms. Excellent project to allow students to work at different levels.

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

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

Date: Wednesday, August 1, 2018

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 is the first step. Random walks, eating M&M's, building colorful towers, and other event-full activities motivate students to pose questions and pursue them long after the last coin is flipped. We'll look at ideas and lessons that grow across grades 5 through 10 and connect to Algebra, Geometry, and beyond, and you'll leave feeling confident of your students' likelihood of success.

**14.) Creating High School Math Curricula with Career Pathways in Mind**

Grades 9 – 12 Teachers, Math & Teacher Leaders, Teachers/Educators, Specialists, Math Coaches, Supervisors, School & District Administrators

Date: Thursday, August 2, 2018

Location: Rancocas Valley High School, Mt. Holly, NJ

Presenter: Dianna M. Sopala

The current curriculum will not prepare students for the career minded students. Participants will review their current curriculum. High school math curriculum guides should include activities, technology, practice, and assessments that address careers in the medical field, business field, law, forensics programming, and engineering. They will have the opportunity to work on curriculum.

**15.) Project Based Learning for Algebra Students**

Grades 6 – 10 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors

Date: Tuesday, August 7, 2018

Location: Clifton Public Schools, Clifton, NJ

Presenter: Nicole Ealey

Thinking of new ways to implement inquiry based learning in your Algebra I classroom? This workshop will help to prepare Algebra I teachers to create and implement Project Based Learning in their classrooms. Project Based learning is a student-centered pedagogy that involves a dynamic classroom approach in which it is believed that students acquire a deeper knowledge through active exploration of real-world challenges and problems. Participants will explore the 4C's-Collaboration, Communication, Creativity, and Critical Thinking and develop lessons and tools to implement these skills in their everyday teaching. This workshop is ideal for middle school math teachers through Algebra I teachers.

**16.) Understanding Quadratics: Analyzing Data, Writing Equations, and Modeling with Technology**

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

Date: Wednesday, August 8, 2018

Location: North Hunterdon High School, Annadale, 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.

**17.) Flipping the Math Classroom Grades 6-12**

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

Date: Tuesday, August 14, 2018

Location: Montclair State University, Montclair, NJ

Presenter: Jennifer Goforth

This is an interactive workshop on a blended learning strategy known as Flipping the Classroom. You will learn some tips, how-to's and ways to increase student engagement. Please bring a laptop.

**18.) Memorable Hands-On Activities for the Middle School Classroom**

Grades 5 – 8 Teachers, Pre-Service Teachers/Educators, Specialists, Math Coaches, Supervisors

Date: Wednesday, August 15, 2018

Location: Montclair State University, Montclair, NJ

Presenter: Coshetty Vargas

Explore the different areas of common core standards by using hands on manipulatives to engage students in your math lessons in a fun memorable way. Apply Algebra, Geometry, Number Sense, Ratios, Proportions, Data and Probability by using basic materials such as post its, spaghetti, marbles, sugar cubes, skittles, monopoly boards... to name a few.

## AMTNJ's 2018 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 Fees:

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).)

- 1.) Flipped Classroom in Algebra Memorable Hands-On Activities for the Middle School Classroom
- 2.) Statistics and Social Studies (SASS) – Tools to Promote Quantitative Reasoning
- 3.) Equity in the Mathematics Classroom
- 4.) Math Task Design with Desmos Activity Builder Grades 9-12
- 5.) Integrating STEM Lessons in the Math Classroom
- 6.) Visualizing Problem Solving Through Proportional Reasoning in Grades 3-5
- 7.) Tips for Math Coaches, Math Supervisors, and Math Leaders
- 8.) Visualizing Algebra
- 9.) Developing Mathematical Habits of the Mind – Thinking the Math as Well as Doing the Math – Grades 9-12
- 10.) Culturally Relevant Leadership - the Conversation on Pathways to Success in 6-12 Math
- 11.) Teaching Algebra 1, Geometry, Algebra 2, and Trigonometry with Technology
- 12.) Polyhedra Euler's Formula and 3-D Constructions
- 13.) Wonder – Full and Event– Full Probability in Grades 5 – 10
- 14.) Creating High School Math Curricula with Career Pathways in Mind
- 15.) Project Based Learning for Algebra Students
- 16.) Understanding Quadratics: Analyzing Data, Writing Equations, and Modeling with Technology
- 17.) Flipping the Math Classroom Grades 6-12
- 18.) Memorable Hands-On Activities for the Middle School Classroom

*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 **cancellations**, 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.