Metropolitan Mathematics Club of Chicago

CONFERENCE OF WORKSHOPS

Register online at www.mmcchicago.org

Saturday February 10, 2018

Benet Academy
Lisle, IL

INCLUDING

FREE BONUS POST-LUNCH SESSION!!!
(See inside for details.)

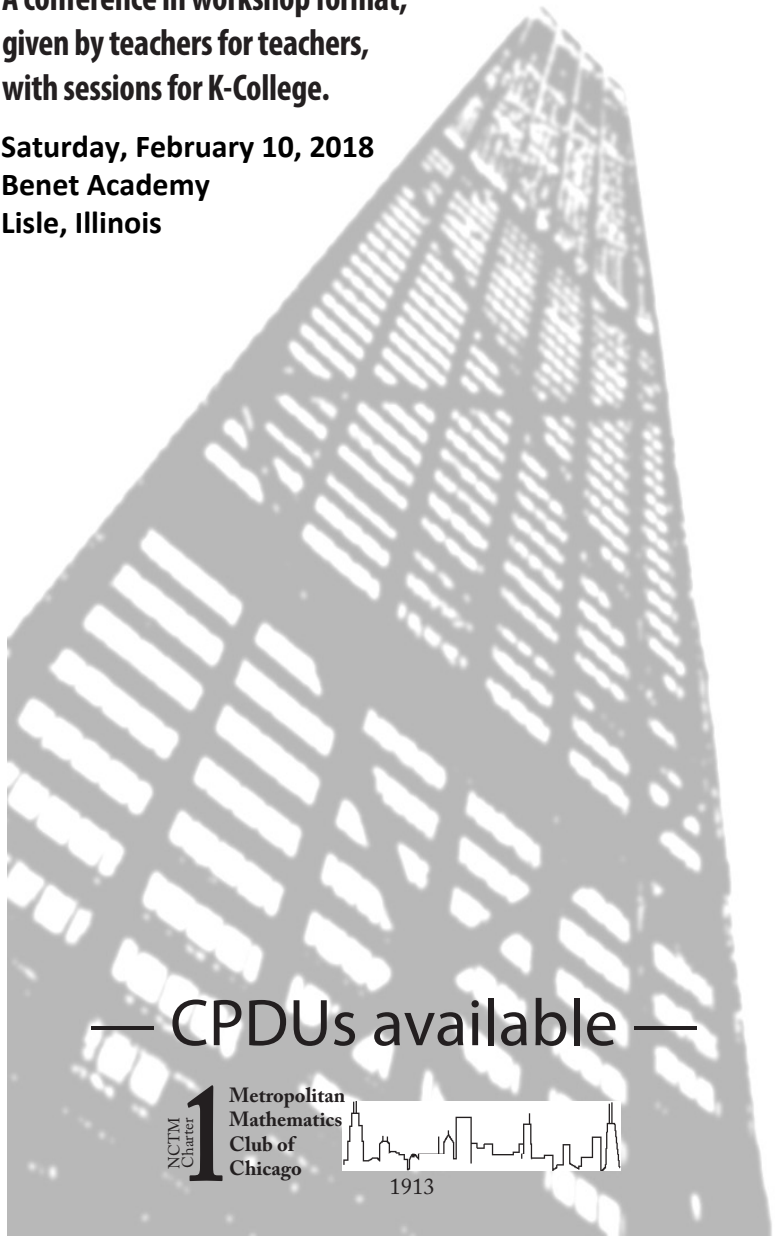
FOR TEACHERS OF ALL GRADES K-14

The Metropolitan Mathematics Club of Chicago invites you to attend its

Conference of Workshops

A conference in workshop format, given by teachers for teachers, with sessions for K-College.

Saturday, February 10, 2018
Benet Academy
Lisle, Illinois



— CPDUs available —

NCTM Charter 1 Metropolitan Mathematics Club of Chicago

1913

MMC CONFERENCE OF WORKSHOPS
PROGRAM

7:45 – 8:30	**Pick up registration packets (No on-site registration)**
8:30 – 9:45	**Session One**
10:00 – 11:15	**Session Two**
11:30 – 12:45	**Session Three**
12:45	***Lunch (optional/prepaid)**
1:30 – 2:45	**FREE Bonus Session (optional)**

*** Additional fee required**

Individuals may register online and pay with a credit card at **www.mmcchicago.org**.

Groups with a single check must complete an individual registration form for each participant and pay by mail. No purchase orders can be accepted.

For registration information, please contact:

Peter DeCraene 847-424-7415
mmcconfregistrar@gmail.com

For conference information, please contact:

Nicolette Norris 708-557-3580
nickianorris@gmail.com
Rose Sterr 630-648-0984
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Karen Lopez 630-640-5207
karenlopez@u-46.org

MMC Conference of Workshops 2018

Benet Academy

2200 Maple Ave,
Lisle, IL 60532

****Do not mail registrations to the above address.**

Register online at www.mmcchicago.org
or mail to the address on the registration page.
Registration deadline is January 24, 2018.

Workshop placement will be done in the order in which registration is received, so register early!

Your workshop information will be emailed by February 3, 2018.

Reminder: this conference is by pre-registration only – there is no on-site registration.

Join us in the cafeteria for breakfast treats from 7:45 – 8:30 a.m.

101 STRUCTURES FOR THOUGHT: DEVELOPING STUDENTS' MATHEMATICAL MODELS

Sylvia Glassco **K-6**

Mathematical models, which students first use to record strategies, soon become tools for new thinking that shape understanding. Work with carefully selected K-6 contexts, exploring how they generate models such as the number line or ratio table and how these models can grow with students.

102 10 MATH MISCONCEPTION WEEDS THAT GROW FROM ELEMENTARY YEARS

Matthew Foster **K-8**

Math Misconceptions are like weeds that seem to start harmless enough, but end up crowding out strong mathematical reasoning. This session teases out 10 of those misconceptions and suggests ways to weed them out.

103 WE'RE ALL MATHEMATICIANS!

Barbara Hammerand **1-8**

Math and Language Arts are both spoken and written systems of communication about the physical world and the people on it. This session will make connections between the systems of Math and ELA and explore the Common Core Math practices using group activities to promote using the language of math.

104 GEOMETRY, MEASUREMENT & GAMES FOR THE CLASSROOM

Katie Courtney **K-8**

Do you have tangrams, pentominoes, geoboards? Do you use patty paper to construct properties of shapes? Do you have games to help students see shapes, symmetry, sets, and area? All of this and more will be covered in this fun hands-on workshop.

105 OER: OPEN EDUCATIONAL RESOURCES FOR MATH EDUCATION

Christina Bennett, Kristen Hoch **1-12**

Math teachers no longer need to be constrained by the content of their textbooks. Open Educational Resources unleash the power to teach your content exactly how you want. Find resources to supplement or replace your current curriculum. Design the course of your dreams with free online resources

106 DIFFERENTIATE! HOW?

Asma Akhras **3-12**

This session will support teachers in learning how to differentiate for their students in math class using NWEA's MAP data and through the support of Khan Academy. Help your students meet their MAP growth target by differentiating for their needs.

107 THE DISTRIBUTIVE PROPERTY- YOUR NEW BFF!

Janelle Chisholm **3-8**

Come and see how you can use the distributive property to help students learn their multiplication facts and solve real-world problems! You will be amazed how easy it is, and there is nothing to buy! Handouts and plenty of practice time will be included.

108 DON'T SLOW ME DOWN WITH THAT CALCULATOR: MENTAL MATH METHODS

Cliff Petrak **3-8**

Let's change our usually bottom third finish in the global mental math competition. We'll derive and learn several computational mental math methods for addition, subtraction and fractions. They're faster than not only our slow algorithmic methods, but faster than a calculator as well!

109 IT'S IN THE CARDS: REPRESENTING DATA

Karen Togliatti **5-8**

Join me for an engaging card sort activity designed to explore data representations such as bar graphs, pie charts, line graphs and scatter plots. Various strategies will be modeled, including collaborative sense-making and kinesthetic knowledge-sharing. Additional card sort examples provided.

110 TEACHING PROBLEM SOLVING THROUGH PROBLEM SOLVING

David Spangler **5-8**

We will discuss guiding questions to pose with each phase of George Pólya's problem-solving process -- Understand the Problem, Plan, Carry Out, Look Back. Then we will work in groups to solve classic problems that are guaranteed to promote perseverance and productive struggle for your students.

111 USING TECHNOLOGY FOR MATH FORMATIVE ASSESSMENTS

Susan Calder **5-9**

I will demonstrate how to create your own videos, or use videos from You Tube, to upload to edpuzzle and have the ability to include questions as a quick assessment. I will include time to play around with and use quick assessment tools like Google Forms, Quizlet, and Go Formative as well.

112 ALGEBRA: LET'S MAKE IT STICK!

Eric Thor **5-14**

Many students don't really grasp certain "slippery" Algebra topics. Which topics cause the most trouble? How can we help? Bring your short-list of issues, and any suggested fixes. (Fixes could be stories, graphics, manipulatives, etc.) Leave this share-session with some tools you can use.

113 YOU HAVE QUESTIONS, WE HAVE ANSWERS

Matt Almon **6-14**

Have you ever attended a workshop or conference and just wanted to get some questions answered about how to do things on TI-84 or the TI-Nspire? Well here is your chance: come speak with us. We will discuss some of the FAQs and have a handout with them outlined.

114 REFRAMING STUDENT STATUS

Kate Carter, Ginna Roach **6-12**

Join us as we examine techniques for developing growth mindsets around math ability, focusing especially on disrupting math status hierarchies that develop in classrooms. We will share our strategies for building equitable math communities through small-group and problem-based learning.

115 STANDARDS THAT BRIDGE THE WHOLE CURRICULUM

Jeff Harding **6-12**

Are you looking for some cohesion between courses? Using the Mathematical Practices, we will explore how to connect all of your courses through a handful of overarching standards. Current evaluations factor in growth. This a great way to measure growth within the school year as well as year to year.

116 RESOURCES & ROUTINES FOR BEGINNING AND PRE-SERVICE TEACHERS

Amanda Hughes **6-12**

This workshop is designed for new or pre-service teachers. We will cover proven routines to manage the classroom environment and engage all levels of students. You will leave this session with creative ideas and resources ready for immediate implementation in your classroom.

117 CREATING BETTER CLASSROOM DISCUSSION WITH DESMOS

Scott Leverentz, Heather Bolur, Scott Miller **6-12**

Looking for ways to integrate technology into your classroom and build rich discussions? Come see how Desmos Activity Builder can have your students thinking, talking, and learning. We'll explore resources and instructional approaches you can use in class next week! No Desmos experience required.

118 TILTED SQUARES

George Marino **6-12**

Using simple dot grids, cutting and pasting, you will discover great math theorems. I would tell you what theorems, but then you wouldn't be discovering them, would you?

119 GOATS, CARS AND MONTY HALL

Mark Fritz **7-12**

We will investigate conditional probability, focusing on the 2 goats and one car problem from Let's Make a Deal aka The Monty Hall problem. Many iterations of Monty will appear.

120 MATH AND CODING WITH THE LEGO MINDSTORM

Merle Green **7-12**

Using LEGO Mindstorm robots, students can learn to do computer programming that may or not use math operations. The advantage of using robots in these projects is that the students can see an application of mathematics where they can put a basic robot that they have built into motion.

121 CENTROID...2:1 RATIO..WHAT'S THIS ALL ABOUT?

Ray Klein **8-12**

The "real Michael Keyton" says that "whenever you find a Centroid, it seems to divide something in the ratio of 2:1." In this hands-on workshop we will look at 3 such situations using the Geometry capabilities of the TI-Nspire. Some clever proofs and some surprising results will be presented.

122 PROBLEM SOLVING: ALL-TIME RICH GEOMETRY THRU PRECALCULUS LESSONS

Tom Reardon **8-12**

Activities that incorporate technologies into the solutions and utilize good problem-solving techniques. We will tailor the problems based upon the audience that attends: The Great Applied Problem, Midpoint Polygon, Maximize Rectangle Area Under Parabolas, Solve the Quadrilateral. Get all materials.

123 STANDARDS-BASED LEARNING AND GRADING

Renu Bhargava Massa, Donna Hill **9-12**

The Standards-Based Learning and Grading workshop will focus on teacher-implemented methods that encourage student ownership of their math learning. These methods include discussions of teacher-provided feedback, student self-reflection data opportunities, and standards-linked assignments.

124 LET THE SUN SHINE...USING TRIGONOMETRY TO MODEL DAYLIGHT DATA

Scott Knapp **9-10**

Math is EVERYWHERE! Participants will collect and model data for hours of daylight using trig functions. Comparisons between the results of various world cities lead to some interesting discoveries and discussion. Leave with an activity proven to motivate and engage student learning!

125 RELEVANT TRANSDISCIPLINARY LEARNING

Dale Leibforth **9-12**

Evanston Township High School has used out of the box thinking to create transdisciplinary innovation in their school. Innovative courses will be discussed including Geometry in Construction, Algebra in Entrepreneurship, & STEAM Design Thinking & Innovation.

126 FUNCTIONS: FINDING, EXPLORING, AND APPLYING

Adam Mocogni, Rebecca Schwartz **9-12**

Come learn about modeling the real world with functions! We will be using technology and a hands-on investigation involving functions. Our Advanced Mathematical Functions course offers students a semester of pre-calculus skills. Participants will leave with classroom ready activities

127 PEER COACHING: WE ARE FAMILY

Chelsea Moorman, Vanetia Colon **9-12**

Create a culture fostering a love of math and learning through peer to peer coaching. Methods on how to encourage students to engage in mathematical discourse will be discussed. Participants will engage with sample data to evaluate roles of students and role play conversations with students.

128 CAN WE TALK ABOUT LEARNING?

Tina Nocella Gary Chu **9-12**

How can we help our students focus more on learning and less on grades? Join us to discuss ways in which we can create a "gradeless" classroom where students see school as more than a letter producer.

129 ONE HUNDRED YEARS OF MATHEMATICS EDUCATION?

Steve Viktora, John Benson **9-13**

We have many years of teaching mathematics. John taught at Evanston, and Steve taught at Kenwood Academy and New Trier. We believe that students and teachers learn by working on good problems. We would like to share some of our favorites.

130 ADJACENCY MATRICES: HOW THE WORLD IS CONNECTED

Jordan Hasler, Steven Condie **10-16**

Adjacency matrices can be used to model social networks, travel between cities, and spread of disease. We will look at several interesting examples. We will also take a look at powers of matrices and see how this is connected to our examples.

131 BREAKING DOWN THE SAT MATH EXAM FOR RELUCTANT LEARNERS

Jamie Burbano **11-12**

Students who frequently struggle in their math classes dread taking the SAT exam. Come see the approach used in my classroom of reluctant juniors and seniors in Algebra Two.

Remember:
Register early to have the best chance of getting your first choice of workshops.
Final registration deadline is January 24!

Excited about MMC opportunities?
Can't wait until February 10?
Join MMC at one of our monthly dinner meeting. See the schedule on the inside back cover.

201 MATH INTERVENTION: IDENTIFYING AND SUPPORTING EARLY MATH LEARNERS

Judith Campbell, Chi Quach, Tany Tabic **K-2**

Come learn how to create an early math intervention program. We will give you practical tools to identify students' early numeracy needs and share a Number Fluency Developmental Pathway that can guide you in creating an instructional plan for intervention.

202 COVER 60% MATH CONTENTS IN K-3 WITH JUST ONE GAME--WEIQI/GO

Ximming Guo, Xiywen Wu **K-3**

During this hand-on session, attendees will learn how to play Go game and integrate it into math classrooms. Participants will observe video clips from classrooms to evaluate the relationship between Go game and Math standards. Suggestions will be provided on how to use Go in math classrooms.

203 THE IMPORTANCE OF DEVELOPING STRONG NUMBER SENSE AND UNDERSTANDING PLACE VALUE

Eileen Quinn Knight, Dimitra Georganas **K-4**

Research shows that a thorough development of number sense and understanding of place value has a positive correlation with overall mathematics achievement and provides a stronger foundation for later arithmetic and algebra learning. We will create and use manipulatives and engage in Math talks to better understand how numbers behave.

204 THE 100 CHART- MORE THAN A WALL ORNAMENT!

Janelle Chisolm **1-3**

Come and use the 100 chart to solve real-world addition and subtraction problems with and without regrouping! Your students will no longer fear subtraction, I swear! I have used this strategy in dozens of classrooms with huge success, and you can too! Handouts, practice time and fun included.

205 THE ART OF MATH/THE MATH OF ART

Glory Jurich-Sarna **2-6**

Spatial reasoning, measurement, geometry, and more will be introduced through Art. Tessellations, tangrams, and optical illusions can be used to teach 2-dimensional figures, area, and angle measurements. A supplement to any Math program.

206 DEVELOPING CHILDREN'S MULTIPLICATIVE REASONING

Cathy Kaduk **3-5**

The number sense that children need to comprehend multiplicative reasoning will be explained using array multiplication examples. Ways to assess your students' abilities will be shared, along with suggestions for moving students' forward.

207 MATH CAMP 101

Dane Camp **3-16**

Bring a favorite lesson and a computer with PowerPoint. We'll discuss methods of creating a lesson library to use in your classroom or for a substitute teacher. Also upload them to YouTube so that teachers around the world may use them for free e.g.:
www.youtube.com/channel/UCehPa2vFdjGOM-5Cs6lk0fg

208 DIVISIBILITY TESTS

Mark Fritz **5-12**

We will investigate divisibility tests for powers of 2 and 5 (easy). We will then delve into divisibility tests for 9, 11 (not what you are thinking of), 37 and 2017 and look at how to create a divisibility test for any number. Participants will make grade-appropriate problems. Concepts used will be basic, with occasional advanced extensions.

209 OPENING PROBLEMS TO UNLOCK STUDENT THINKING

Kelly Rooney, Amy Nusser **5-12**

Join our session to analyze and construct Open Problems that will push students to deeper thinking and higher participation. Teachers will analyze different ways to create tasks to elicit broader reasoning strategies. Bring problems to be transformed into open invitations to richer learning.

210 POSITIVE CLASSROOM MANAGEMENT THROUGH ENGAGING STRATEGIES

Margaret Navolio **6-8**

Learn ways to engage your middle school math students in problem solving while encouraging positive behavior through the use of various learning stations.

211 CULTURALLY RELEVANT PEDAGOGY IN ALGEBRA

Jennifer Dao, Dana Braun **6-9**

How does a student's culture and identity shape their journey in mathematics education? How does pedagogy impact a student's engagement and success in mathematics? We will share resources, examples, experiences, projects and structures of how to incorporate CRP.

212 MY FAVORTIE GSP ACTIVITIES

Thomas Canright **6-11**

I will share several of my favorite GSP activities that I have acquired over the past thirty years. I have used these in high school geometry courses as well as part of geometry units in middle school math classes

213 MODELING, ACCURACY, THINKING, HIERARCHY: A LOOK AT STRUCTURE

Jeff Harding **6-12**

This session introduces you to a way of thinking about organizing your curriculum. We will explore splitting up your learning objectives into four major standards. These standards can be used to compartmentalize your current curriculum and measure growth in your current class and from class to class

214 INTERESTED IN THE KHAN KLASSROOM?

Derek Swierczek **6-12**

If you're new to Khan Academy or haven't used it in a while, come learn how to set up your class or explore the new features! Please come with a laptop to maximize our learning time together. Some new features are: Assigning skills, SAT or MAP testing plans, and Personalized Learning Plans!

215 GEOMETRY THAT HONORS THE CCSS AND THE WORLD IN 2018

Scott Leverentz **7-11**

Come explore how we can support students to experience meaningful learning in geometry through middle and high school using today's tools. We'll look at the expectations of the Common Core, new tech tools, and the broader development of student understanding of geometry. Bring a laptop or tablet.

216 THE MATHEMATICS OF DEMOCRACY

Marianne Kerr **7-12**

How does a group decide where to go to lunch? How many nurses should be assigned to each shift at a hospital? How can a family fairly divvy up the family heirlooms? The mathematics of democracy is part of a math elective course for high school seniors, but could be used with other levels.

217 STEM CONNECTIONS, WHERE IS THE M?

Matt Almon **8-12**

Where does STEM fit into the mathematics curriculum? This session will highlight an activity or two that can be used in any math classroom. We will also highlight areas where teachers can connect concepts in STEM to the math curriculum.

218 BREAKING THE ICE WITH NEW GROUP TEAM BUILDERS

Cory Gilroy **8-12**

Experience some short team builders to help new groups get to know each other and make talking math more comfortable and productive. We will share a variety of activities that can be used at any time of the year to help students learn and remember the names of the people in their new team.

219 EXPLORING THE WONDERFUL WORLD OF GEOMETRY THROUGH PROBLEM SOLVING

Chris Jeuell **8-12**

It is often eye-opening when we encounter a problem that is harder than it appears at first glance and/or lends itself to multiple elegant solutions. We'll look at a variety of intriguing geometry problems with at least one of these properties, including geometry problems from math contests.

220 MODELING KEY SOCIAL ISSUES WITH DATA: OPIOID OVERDOSES IN THE US

Tom Reardon **8-12**

Students mathematically model this shocking real data using graphing calculators. Create a function or piece-wise functions (linear or quadratic) to model the data and also discuss how to calculate and interpret percent change. Works with all graphing technologies.

221 MATH ISN'T ABOUT THE NUMBERS... JUST ASK EUCLID

Dane Stier **8-14**

Ask a student "What is math? Why is it important?" and you'll probably get an answer about "counting money" or "math is everywhere." Learn how readings and activities involving history, philosophy, and science can enhance understanding of math as a subject and leave them wanting to learn more!

222 ESCAPE THE TRACKING STIGMA - TARGETED DOUBLE PERIOD MATH COURSES

Kurt Vonnahme, Sarah Porod, Kelly Griffin **9-11**

To expand opportunities for students who haven't taken Algebra 1 in middle school, we identify freshman students likely to be successfully in double period math during sophomore year. Hear about the process we use, the coursework we offer, and the success we've had.

223 ENGAGING GENSTEM THROUGH CODING & THE TI-INNOVATOR ROVER

Robin Gapinski, Debbie Dicker **9-12**

Join us for a session on creating engaging STEM experiences that develop students' abilities to collaborate, think creatively and solve problems using the TI-Innovator Rover. Activities discussed in this hands-on session center on converting students' curiosity and creativity into understanding.

224 EXAMINING PRODUCTIVE STRUGGLE THROUGH RECURSIVE SEQUENCES

Daniel Kang, Matthew Rosenberg, Benjamin Walker **9-11**

In this workshop, teachers will re-engage as students of mathematics, looking at recursive and Fibonacci sequences, and reflecting upon what a teacher can do to promote and maintain the productive struggle.

225 FUNCTION FUNDAMENTALS

Carlo Ordonez **9-12**

This session will highlight some of the nuances of functions with less formal, non-formula driven examples with which students can expand their understanding

226 PROJECT- AND PROBLEM-BASED LEARNING FOR SENIORS

Dan Stone **9-12**

To maintain engagement for students we'll explore project- and problem-based learning through a teacher's first year work at incorporating these into every unit. An emphasis is placed on mathematics application to build student confidence and fluency in math skills they will need for college.

227 STANDARDS-BASED LEARNING: WHY I SWITCHED AND HOW YOU CAN TOO!

Derrick Tiveron **9-12**

I converted to a standards-based learning model because it improved my instruction, grading, and reporting of student achievement. I will share my researched-based strategies I use to write standards, craft and grade assessments, manage reassessments, and calculate grades.

228 DRAW IT, MEASURE IT, GET REAL CAS RESULTS

George Marino **9-16**

With the TI-Nspire CX CAS we will create fascinating figures and measure segments, angles, areas, and volume in correct CAS format. We will work with 2-D figures and 3-D figures. All vertices will be recorded in CAS on a spread sheet.

229 HANDS ON TRIGONOMETRY

Avani Khandhar, Margaret Petrof **10-12**

Are you teaching trig for the first time or for the first time in a long time? Looking for ways to make trig more hands-on and fun? Come join us as we lead you through various interactive trigonometry activities that will engage your students while solidifying basic trig concepts.

230 THE TOP 10 PROBLEMS FOR YOUR AP CALCULUS CLASS

Sheila Hardin, Mary Wiitjer **11-14**

Looking for some great problems for your AP Calculus class? This workshop is the place to be. We will go through 10 problems that will challenge your students while helping them master the topics.

Join us for refreshments in the cafeteria between sessions!

301 TAKE THE NUMBER SENSE JOURNEY

Lynn Rule, Jeanine Crockett **K-2**

Participants will identify, experience, assess, and reflect the interrelated aspects of early numerical knowledge and the number relationships which will establish a strong foundation for number operations through deep understanding.

302 FIND TIME EVERY DAY TO DEVELOP CONCEPTUAL UNDERSTANDING IN MATH

Sara Curran, Jackie Murawska **K-5**

Learn ways you can build your students' conceptual understanding in math by using mini-tasks, bell ringers, stations, investigations, and changing procedural problems into open-ended tasks. Let's dispel myths of why we don't have time for these. K-5 resource list provided. Ideas you can use Monday!

303 BURN YOUR FLASH CARDS! A REDEFINITION OF FACT FLUENCY

Capri Paluch, Josh Minsley **K-6**

Have you ever complained about your students lacking their "facts"? Come join us and learn how to build number sense and fact fluency through strategies embedded in the Practice Standards. We will engage you with activities focused on Number Talks, CRA model, and Progression of Fact Fluency.

304 VISUALIZATION IS THE KEY FOR MATH COMPREHENSION

David Hernandez **3-5**

Does " I don't have the math brain" sound familiar? We will explore teaching methods to help students understand math concepts by using visual clues. We will utilize special education in combination with ELL teaching strategies to develop a smoother assimilation of math concepts for our students.

305 DATA INFORMED MATH STATIONS

LaVerne Wright, Jennifer Hey-Lewis, Latiya Magee **3-8**

This workshop will provide strategies, tools and resources to make data informed decisions to create math stations which will promote student collaboration and student to student discourse. These will lead to increased student engagement, math academic language and improved student scores.

306 HANDS-ON FRACTION DIVISION

Janelle Chisholm **5-7**

Participants will construct paper fraction circles to solve problems like this: Jacob has 1/2 pound of fudge. A serving is 3/8 of a pound. How many servings can he make? By using the models, students are able to solve the problems conceptually. Handouts, practice and fun will be included!

307 FLIPPING THE MATH CLASSROOM

Sylvia Dziubinski **5-12**

Join me to discover the benefits of flipping a math classroom. I will show you different ways of creating videos, creating activities, and share the philosophy of a flipped classroom.

308 FISH TANKS, SCHEDULING AND COLORING

Mary McMahon **5-14**

Coloring is a stress reducer. Let's look at the mathematics of coloring: Camille Jordan's Two Color Theorem, Four Color Problem, maps, vertex graphs, fish tanks and scheduling. A discrete mathematics topic appropriate for middle school through college.

309 BETTER MATH THROUGH BETTER QUESTIONING

Jill Farrell, Will Zambole **6-12**

Learn about the importance of differentiating levels of questions in math and strategies for taking those old questions and recreating them to higher levels of understanding.

310 LESSON PLANNING 1:1 IN MATHEMATICS

Angela Marshall **6-12**

This workshop will ignite teachers to write lesson plans with creativity and efficiency based on researched principles that work. Participants will gain new skills and ideas through interfacing with some of the most popular and engaging apps in education. Bring your tablets & enthusiasm!

311 REFRESHED REVIEW

John O'Malley **6-12**

Tired of using the same old review materials? Want to learn about different ways to engage your students while you practice concepts? Come experience, and walk away with, several different activities to get your students working, talking, moving, and practicing material in your classroom.

312 EXPLORING INFINITY USING HANDS-ON ACTIVITIES

Nicole Resnick Ross **6-12**

Students often desire concrete examples or real-world connections to concepts, which are difficult to provide when dealing with abstract concepts, such as infinity. Join us as we explore techniques designed to provide concrete connections that help make the concept of infinity easier to understand.

313 FLIPPED CLASSROOM FOR THE AT-RISK STUDENT

Samantha Bloomfield, Jillian Kroot, Gregory Janczak 7-12

We will discuss a way to use a Learning Management System for organizing a flipped classroom for the at-risk student. This workshop will explain how to set up and run this style of classroom. It will cover how to make the videos, setting up the LMS, and different ways of assessing student understanding.

314 MATH TEAM PROBLEMS THAT YOUR STUDENTS (AND YOU) SHOULD KNOW

Michael Caines, Sara Heiberger 7-12

Hey, you! You like doing math problems, right? Well, come do some math with us. We'll work through some classic problems and learn the reasoning behind the "tricks." You can take these problems back to your team or to your classroom. Our talking will be minimal; the focus will be on the math.

315 FINANCIAL LITERACY

Eileen Quinn Knight, Christine Lobidiong, Kevin Huey 7-12

We will investigate the societal aspects of financial literacy that students should know and understand.

316 SOME THOUGHTS ABOUT TEACHING GEOMETRY

John Benson 8-10

I taught Geometry for forty-one years and would like to share some of the things I learned about how children learn. Participants will do some good Geometry problems and have a discussion about them.

317 USING CODING TO EXPLORE ALGEBRA AND GEOMETRY

Curtis Brown **8-12**

Coding is a skill that is in high-demand. But did you know it can also improve computational thinking when applied to math problems? See how to promote critical thinking and boost engagement by using programming in your algebra and geometry classes.

318 DESIGNING PATHS FOR STUDENT SUCCESS

Neva Curry **8-12**

Learn to create a practice quiz on Google Forms to give your students immediate feedback on their strengths and weaknesses and to inform their study choices. Through these practice quizzes students take ownership of their learning through reflection and deliberate action.

319 LEVERAGE CLASSROOM INSTRUCTION TO MAXIMIZE ACHIEVEMENT ON THE SAT

Tom Reardon **8-12**

Focus on conceptual understanding of the “big ideas”: linear equations, quadratics, multiple representations, thinking graphically, mathematical modeling, transformations, arithmetic of functions, sin and cos relationships, creative technology integration. Obtain 50+ pages of activities and ideas.

320 MATH ISN'T ABOUT THE NUMBERS... JUST ASK EUCLID.

Dane Stier **8-14**

Ask a student "What is math? Why is it important?" and you'll probably get an answer about "counting money" or "math is everywhere." Learn how readings and activities involving history, philosophy, and science can enhance understanding of math as a subject and leave them wanting to learn more!

321 PUTTING SOME LIFE BACK INTO 9TH GRADE ALGEBRA

Jana Sebestik, George Reese **9**

This workshop will be part discussion and part exploration. 9th graders in Algebra I struggle. Why? What can we do about it? We will share our experiences and activities and learn from attendees.

322 MAKE YOUR CLASSES FANCASTIC FOR YOU AND YOUR STUDENTS

Debbie Dicker, Robin Gapinski **9-12**

Learn how we transformed our classes into more meaningful and engaging classroom environments for all learners through the use of CAS and the TI-Nspire calculators. We will share teaching techniques, activities, and formative assessments using TI-Navigator technology you can use immediately.

323 EXPLORING LINEAR REGRESSION WITH THE TI-84

John Diehl **9-12**

Use a data set and a calculator to explore scatterplots, regression lines, residuals, minimizing sum of squared residuals, and residual plots. Intended for teachers with little or no experience with linear regression, or for experienced teachers looking for a new activity.

324 USING TI-NSPIRE CX OR 84 CE IN AP COMPUTER SCIENCE PRINCIPLES

Todd Graba **9-12**

TI Codes materials are great starting points to using the NSpire CX or 84 CE for coding, and when incorporating in the Innovator Hub, the limits are your imagination. Great for teaching coding and reinforcing a variety of STEM concepts, these are also great for creating artifacts for AP CSP.

325 CO-TEACHING STRATEGIES FOR HIGH SCHOOL GEOMETRY

Paul Kim, Dyan Marich **9-12**

In this workshop, our aim is to share with you our experiences on how to effectively plan, execute, and assess curricular goals as a co-teaching pair. We will talk about our workflow, provide example materials, and discuss some of the activities we do in our geometry class.

326 IMPROVING CLASSROOM FUNCTIONING!!

Scott Knapp **9-12**

Looking for activities to motivate students in their initial study of functions? This session will present ideas for how to engage students in exploring function topics including domain & range, piecewise functions, compositions, inverses, and transformations. TI Nspire activities/Desmos included!!

327 UNDERSTANDING WHITE FATIGUE AND MATH'S ROLE IN SOCIAL JUSTICE

Joseph Flynn **9-16**

White fatigue is when white students who understand the immorality of racism seem to get tired of talking about racism or assume one no longer needs to learn about it. Math, when engaged interdisciplinarily, can offer learning opportunities to help advance these students.

328 BIG IDEAS FOR THE NOVICE AP STATISTICS TEACHER

Russ Kerr **10-12**

I will go over a few of the big topics that appear on the AP exam and have participants go over past AP problems and their rubrics.

329 DON'T BE FOOLED!

Micah Fogel **10-16**

Many sequences have patterns that look like they will persist forever. But it doesn't always work out the way we want. We'll have fun looking at a bunch of sequences and trying to decide whether the patterns are real or not.

330 THE TANGENT RAY AND OTHER WAYS TO SEE CALCULUS

Steve Starr **11-13**

We need many ways to introduce students to the concepts of calculus, not only because one way may not work for them, but also to help them make connections and deepen their understanding. Considering the tangent ray along with the tangent line is one example we'll explore in this workshop.

331 HINTS ON TEACHING TAYLOR SERIES

Ruth Dover **11-14**

For BC Calculus teachers, I'll offer suggestions for teaching Taylor series. We'll look at the development of the series, intervals of convergence, we'll even tackle Lagrange error. We'll also look at expectations for the AP exam, Participants are encouraged to share their own ideas.

LUNCH WILL BE SERVED IN THE CAFETERIA FOLLOWING SESSION THREE FOR THOSE WHO PRE-REGISTERED FOR LUNCH.

CHOOSE THE LUNCH OPTION WHEN REGISTERING TO JOIN US FOR LUNCH.

EVERYONE IS WELCOME TO THE FREE POST-LUNCH SESSION AT 1:30 – DON'T MISS IT!

Free Post-Lunch
Special Session
1:30 – 2:45

See each of these six speakers share
(in 10 minutes precisely)
their favorite idea, lesson, or activity.

- John Diehl
- Mark Fritz
- Barbara Hammerand
- Erin Holland
- Matthew Moran
- Mary Wiltjer

No choices to be made!
See all 6!

MMC CONFERENCE SPEAKERS
2018

Capri Paluch	303	Steve Starr	330
Cliff Petrak	108	Dane Stier	221, 320
Margaret Petrof	229	Dan Stone	226
Sarah Porod	222	Derek Swierczek	214
Chi Quach	201	Tanya Tabic	201
Tom Reardon	122,220,319	Eric Thor	112
George Reese	321	Derrick Tiveron	227
Nicole Resnick Ross	312	Karen Togliatti	109
Ginna Roach	114	Steve Viktora	129
Kelly Rooney	209	Kurt Vonnahme	222
Matthew Rosenberg	224	Benjamin Walker	224
Lynn Rule	301	Mary Wiltjer	230
Rebecca Schwartz	126	LaVerne Wright	305
Jana Sebestik	321	Xiuwen Wu	202
David Spangler	110	Wil Zambole	309

Acknowledgements

Benet Academy
Rose Sterr, Site Coordinator

Co-Chairpersons
Karen Lopez, Nicolette Norris, Rose Sterr

Registrar
Peter DeCraene

Program Book
Nicolette Norris

REGISTRATION INFORMATION

- Individuals may register online and pay with a credit card at **www.mmcchicago.org**. Groups with a single check must complete the registration for each participant and pay by mail.
- Only pre-paid registration can be accepted. There is no on-site registration.
- To register, please go to **www.mmcchicago.org** or complete the form on the following page.
- Registrations (both online and by mail) must be **received** by January 24, 2018.
- No refunds will be available after January 1, 2018. There will be a $5 processing fee for all refunds. However, we will allow someone to replace the original participant (with the same workshops) at no cost until January 24, 2018.
- **For registration by mail, only checks made payable to MMC will be accepted. No purchase orders can be accepted.**
- Workshop placement will be done in the order in which registration is received. We will try to honor your workshop selections. Register early!
- Workshop registrations will be sent by
- Lunch is an additional $9.75 above the cost of registration.
- BACK BY POPULAR DEMAND!! A free, bonus session will be given after lunch. 6 great presenters will each share one great idea, lesson or activity (in exactly 10 minutes each). See all 6 for no additional cost.

For further information about registration, please contact:

Peter DeCraene mmcconfregistrar@gmail.com
847-424-7415

Registration Receipt Deadline: January 24, 2018

Send form and check (payable to MMC) to:

Peter DeCraene
1837 S. Harvey Ave.
Berwyn, IL 60402

****Please note: If you are an individual completing registration and payment online, you SHOULD NOT complete and mail in this form.**

Name

Preferred Mailing Address ☐ Home ☐ School

City State ZIP

Daytime Phone Evening Phone

School/Affiliation (for nametag)

E-mail address (Required)

Please list your first four choices for each session by NUMBER.

Session 1 8:30–9:45 AM	Session 2 10:00–11:15 AM	Session 3 11:30–12:45 PM
1: _____	1: _____	1: _____
2: _____	2: _____	2: _____
3: _____	3: _____	3: _____
4: _____	4: _____	4: _____

FEES: Make checks payable to "**MMC**." ***Purchase Orders cannot be accepted***.

Registration Fee (choose one)	_____	$32 for MMC member conference $38 for non-member conference $20 for student conference $67 conference & 1 yr membership (new members only)* $42 for student conference & 1 yr e-membership* *complete membership form on next page
Lunch (optional)	_____	$9.75
TOTAL	_____	Make check payable to **MMC**. (No purchase orders.)

Do you plan to attend the free post-lunch, bonus session? ☐ Yes ☐ No

Questions about registration? **Peter DeCraene at 847-424-7415**
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(required)

☐ **Electronic-only membership***
(receive emails rather than paper copies)

* All student memberships are electronic-only memberships.

Which address do you prefer for us to use?

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Job Title **choose one**	**Level** **choose one**
____ **Teacher**	____ **Elementary**
____ **Department Head**	____ **Middle School**
____ **Administrator**	____ **High School**
____ **Student Teacher**	____ **College**
____ **Other**	

Metropolitan Mathematics Club of Chicago

2017–2018 Program

September 8, 2017—Po-Shen Loh
Math and Creativity

October 27, 2017—Rico Gutstein
Reading and Writing the World With Mathematics

December 15, 2017—Eugenia Cheng
How to Bake Pi:
Making Abstract Mathematics Palatable

January 19, 2018—Paul J. Karafiol
Let Us Teach Wondering

February 10, 2018—Benet Academy; Lisle, IL
MMC Conference Of Workshops

March 16, 2018—Esther Song
Math and Identity:
How Our History Shapes Us

May 11, 2018—Zalman Usiskin
Mathematics and Diamonds:
The Many Facets of Mathematics

5:30 p.m. Doors Open; 6:00 p.m. Social Hour; 7:00 p.m. Dinner and Talk
Fountain Blue Banquets & Convention Center, 2300 Mannheim Rd., Des Plaines, IL
Make your reservations and special meal requests no later than the Monday before the meeting if possible.
Reservations can be made online at **WWW.MMCCHICAGO.ORG** or by phone at (847) 486 - 4291

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