M Meredith Mathematics and Science Institutes Summer 2017

MMSI focuses on the mathematics content in each grade’s Standard Course of Study, formative assessment strategies, and pedagogy that supports student learning. Join colleagues from across North Carolina for professional development led by master teachers.

July 26-27  Kindergarten

Have You Heard? Kindergarten Math Is Where It All Begins!

Who wouldn’t want to spend two days engaged in the world of Kindergarten mathematics? We will explore, investigate, analyze, and lay the foundation for number sense. This includes: deepening our understanding of the content standards, making sense of the Standards for Mathematical Practices, increasing the amount of high-quality math talk among students, using games to deepen conceptual understanding, and more! Bring a smile, an open mind and energy to explore!

Lynne Allen
is a math coach at Wakefield Elementary School in Wake County.

She has 23 years of classroom experience in teaching grades K, 1, and 1-2 Multi-Age. She is a NBCT with a Master’s Degree in Curriculum and Supervision. Lynne enjoys leading math professional development and writing curriculum lessons and assessments. Her ultimate goal is for teachers and students to develop a passion for mathematics and to see math as a puzzle, not a pain!

July 24-25  Grade One

Find Your Place and Make It Count in First Grade Math

How do we keep first graders enthusiastic and excited about math? We let them do what they do best – talk. Join me and discover a variety of discourse-based tools – ways in which students can clarify their own thinking and learn from others through math talk. We will explore meaningful tasks and activities as we dig deeper into the content standards, the Standards for Mathematical Practices, and assessment. Bring energy and enthusiasm and “Let’s talk math”!

Tery Gunter has devoted 30 years to elementary education. She has been an Elementary Mathematics Specialist and is currently working with second grade students at Duke School.

A talented educator who has facilitated professional development through Math Matters and other programs, Gunter will be working with each grade level K-5 at MMSI. She served as a district leader for a National Science Foundation project in Durham Public Schools and has been a consultant for the Partners and Tap Math Mathematics-Science Partnership grants.

July 24-27  Grades K-5

Developing an Understanding of Number Across Elementary Grades

Working with consultants in the sessions for grades K-5, Gunter will focus on children’s development of number sense. She will share strategies for helping students learn number facts and discuss games that engage students at every level to develop number fluency.

Tery will provide guidance to participants who are part of school-based teams in ways to coordinate their efforts in implementing the North Carolina Standard Course of Study. She will also share suggestions for different ways to engage parents in helping children learn facts and share formats for Family Math Nights.
July 26-27  Grade Two

Mindful Mathematics for Second Graders

Find out what it takes to facilitate mindful lessons that develop understanding of the standards and promote mathematical thinking by engaging students in relevant tasks. Participants will learn how to use grade level and mathematical practice standards as they work in collaborative teams to plan lessons that motivate all students to participate. There will be a focus on developing place value understanding and other second grade standards through the use of story problems, effective questioning, formative assessment strategies, and targeted resources.

Amanda Gosek has been involved in mathematics education at various levels, including a classroom teacher and mathematics curriculum coach.

She is currently a doctoral student at North Carolina State University pursuing a PhD in Teacher Education and Learning Sciences. She continues to work part-time as a mathematics curriculum coach for Johnston County Schools at Selma Elementary.

Her areas of interest purposefully combine mathematics education, social justice, and motivation to develop advancements in instructional methods for teacher and student education.

July 24-25  Grade Three

Mindful Mathematics in Grade 3

This interactive workshop will facilitate participants in supporting stronger student engagement in mathematics in their classrooms through experiences that meet the needs of each learner. Working in collaborative teams, teachers will choose and personalize lessons that challenge students while developing a strong conceptual understanding of multiplication and other content for third graders. The workshop will emphasize questioning techniques that facilitate student-centered learning and will engage participants in discussions about critical content.

Ana Floyd is the District K-5 Mathematics and Science Lead Teacher for the Randolph County School System. As a lead teacher, Ana’s duties include providing professional development, developing curriculum materials, modeling lessons, and coaching classroom teachers. Before becoming a lead teacher, Ana was a fourth grade teacher in her district.

She has been an educator for the past twenty years and has assisted with several state mathematics projects including TEAM II, Math Matters, and Partners.

Floyd has been an active member of the

July 26-27  Grade Four

Developing Mathematical Understanding, Reasoning, and Fluency in Fourth Grade

Two central milestones of students’ work in upper elementary grades are becoming fluent and flexible in solving whole number computation problems and gaining a strong foundational understanding of fractions and decimals. Participate in two days of engaging professional development designed to help teachers address these two critical areas and meet the expectations of the fourth grade mathematics Standard Course of Study.

This session will allow teachers to learn a variety of multiplication/division algorithms for multi-digit problems and gain an understanding of the properties underlying each of these operations. Additionally, the workshop will assist teachers in designing instruction to promote understanding and reasoning for the meaning of fractions and decimals.
North Carolina Council of Teachers of Mathematics and has served on numerous committees for the organization.

She recently completed her Ph.D. in teacher education at UNC-Greensboro and plans to utilize her degree to provide professional development in the area of elementary mathematics.

Ana Floyd

July 24-25  Grade Five

*Developing Competence, Fluency, and Flexibility*

A central part of students’ work in fifth grade is becoming fluent and flexible in solving computation problems with both whole numbers and fractions. Participate in two days of engaging professional development designed to help teachers address computational fluency and meet the expectations of the fifth grade mathematics standards.

In this session, teachers will gain a better understanding of fraction computation and learn strategies for teaching multiplication and division of fractions. Additionally, teachers will learn how student discourse and constructive arguments in the mathematics classroom help students learn and achieve.

Amanda Northrup

is an award-winning educator with 13 years of teaching experience. She frequently leads dynamic professional development across North Carolina in mathematics, science, and technology. Amanda is a recipient of the Presidential Award for Excellence in Mathematics Teaching and the Burroughs Wellcome Career Award for Science and Mathematics Teachers.

July 26-27  Grade 6

*Rockin’ 6th Grade Mathematics*

In this fun, interactive workshop you will participate in a variety of strategies for meeting sixth grade North Carolina Standard Course of Study, strengthening understanding, and engaging students. We’ll explore ways to help students move beyond memorizing rules and procedures. Come join colleagues for ideas on how to make your classroom come alive with motivated learners.

Alisan Royster

is the Math Facilitator at Concord Middle School in Cabarrus County. She draws upon her 15 years of classroom experience and her “online PLC” (math teachers’ blogs and Twitter) to expand teachers’ content knowledge and teaching strategies, guide lesson and unit planning, and customize instruction based on student data. Inspired and energized by new teaching methods and resources, her favorite mathematics concept to teach is the one she’s currently teaching. Alisan has led professional development sessions for NCCTM, Partners for Mathematics Learning, TAP Math, and MMSI.

July 24-25  Grade 7

*Creating a Vibrant 7th Grade Mathematics Classroom*

Learn practical ideas for creating a productive active classroom atmosphere to maximize student learning. Materials and resources shared in this session will focus on increasing students’ conceptual understanding as well as improving procedural fluency through active student participation. Join us as we look closely at the seventh grade Standard Course of Study as well as content critical for these students.

Alisan Royster

is the Math Facilitator at Concord Middle School in Cabarrus County. She draws upon her 15 years of classroom experience and her “online PLC” (math teachers’ blogs and Twitter) to expand teachers’ content knowledge and teaching strategies, guide lesson and unit planning, and customize instruction based on student data. Inspired and energized by new teaching methods and resources, her favorite mathematics concept to teach is the one she’s currently teaching. Alisan has led professional development sessions for NCCTM, Partners for Mathematics Learning, TAP Math, and MMSI.
Dan Wicks has 13 years’ experience teaching in grades 6-8 and Math 1. He has a Master's Degree in Elementary and Middle School Mathematics. Known for his calm demeanor and innovative lessons, Wicks has taught at MMSI since 2009.

Wicks helped to create and deliver middle grades workshops for the statewide MSP projects Partners for Mathematics Learning and TAP Math professional development.

July 26-27 Grade 8
Using Data to Improve Student Growth
Eighth grade mathematics teachers will learn strategies for using student data in a meaningful way to drive instruction that maximizes student growth. In addition to using data, methods to improve perseverance and mindset for individual students will be incorporated in content surrounding the most vital 8th grade content. Come and enjoy this hands-on professional development and lively discussions about mathematics classroom environments that prepare students for entering high school. Eighth grade teachers will explore strategies for using student data in meaningful ways to drive instruction that maximizes student growth. In addition to using data, methods to improve perseverance and a positive, can-do mindset for individual students will be incorporated in content that addresses the most vital 8th grade concepts, the Standards for Mathematical Practice, and North Carolina’s eighth Grade Mathematics Standards.

July 24-25 Math I
Catapult Through Math I
Catapult your students into a world of investigations, collaboration and hands-on learning. Deepen their depth of understanding of quadratics through rich tasks that require high levels of cognitive demand.

During this engaging two-day session, you will submerge yourself in tasks that have been designed to support learning for students at every level. Through these activities, you will explore pedagogical strategies that have the power to transform the way you interact with your students.

You will learn how to listen for understanding, and use your students to guide your instruction. Join us as we "Catapult Through Math 1" together!

Christen VanNewkirk has taught 8th grade math and Math I for 10 years. With a Bachelors of Arts degree in Mathematics and a minor in Biology through Michigan State University, she is certified in Mathematics (6-12), Science (6-8) and Biology (9-12).

She has earned a Masters of Arts in Education and has National Board Certification. VanNewkirk is a member of the leadership cohort in Project LEAD. In the 2010-2011 and 2014-2015 school years, Van Newkirk was selected as Coats-Erwin Middle School’s Teacher of the Year.

Christina Pennington has 20 years of experience teaching math in 8th grade through high school. She currently teaches Math I and Discrete Mathematics at Ashe County High School.

She was honored to obtain the NCCTM Outstanding Secondary Mathematics Teacher of the Year Award in 2012 and served on the board of NCCTM as Vice-President of the Western Region for High Schools. Pennington has a M.A. in Curriculum and Instruction and enjoys the opportunity to share with other teachers at professional developments.
July 24-25  Math II

As students “step up” from Math 1 to Math 2, increasing their fluency of algebra and number in operations, how do we get their brains to come with them? Come join us as we engage in two days of investigative learning that transitions the topics of Math 2 seamlessly as we explore the NC Math 2 Standards and resources. These hands-on activities are designed to help students’ problem solving skills and build fluency in numbers and reasoning as they build connections between Math 1 to Math 2 and beyond!

Lauren Baucom is a graduate of the University of North Carolina at Chapel Hill with a Masters from Wake Forest University in Secondary Mathematics Education. Lauren currently teaches in Union County Schools. A 2015 North Carolina awardee for the Presidential Excellence in Mathematics Teaching, she has also been recognized as the 2015-2016 Forest Hills High School Teacher of the Year, the Wake County School Teacher of the Year in 2012-2013, and 2012 NCCTM Outstanding Secondary Mathematics Teacher. Baucom is a National Board Certified teacher and has taught Math I through Calculus. Mathematics is her joy and she hopes to spread that joy throughout the world exponentially! It’s contagious!

Tina Robinson is a mathematics teacher at East Lincoln High School. She has been teaching for 13 years. She began her career at Cherokee High School. After teaching in Cherokee for two years she left to attend East Carolina University, where she received her MA in mathematics. Having completed her degree, she returned home to Asheville to teach at Asheville High School for 9 years. While at Asheville High, she also held an adjunct position with Shaw University at their Asheville Campus. Tina co-teaches Math II with her husband, Stuart Robinson. She enjoys finding new and innovative ways to bring the learning and enjoyment of mathematics to students.

July 24-25  Math III

Mission: Math 3

2017 is the year of the movie “Hidden Figures” and several important scientific events. Come participate in two days of content and engaging tasks for Math 3. These activities are also designed to help students develop the Standards for Mathematical Practice while maximizing their understanding of the concepts being addressed. Tasks will be aligned to the units for Math 3 that are found in the suggested pacing guide examples for North Carolina.

Britney Clubb is currently teaching math at Charles D. Owen High School in Buncombe County. She attended Mars Hill College and is in her fourth year of teaching. Britney has taught everything from Foundations of Math 1 to Pre-calculus and AFM. She participated in Project LEAD and was chosen to become part of the project’s year three leadership development program.

Carmen Wilson has taught math in Ashe County for 28 years. She has been a National Board Certified Teacher in the area of Adolescent and Young Adulthood Mathematics since 1998 and currently serves as Chair of the Math Department at Ashe County High School in West Jefferson, NC. She is also an adjunct instructor for Wilkes Community College. Carmen has a Bachelor of Science degree and a Master of Arts degree in Mathematics, Secondary Education from Appalachian State University. In 2005 she received the Presidential Award for Excellence in Mathematics Teaching. In 2001 she served as the North Carolina State Teacher of the Year.
Betty Bigney is retired after 44 years of teaching elementary education, gifted k-12, science, and STEM K-5. She is an independent consultant and spends three days a week teaching STEM and Engineering to 4th and 5th graders. Bigney is certified in Elementary Education, Science 6-12, Gifted Education K-12, Robotics, Technology Integration, and Project Based Inquiry Learning. She has worked with NASA programs: SSA (Solar System Ambassador), NEAT (Network of Educator Astronaut Teachers), SSEP (Solar System Educator Program), and NES (NASA Explorer Schools). Betty has worked with NASA, NSTA, Department of Education in Hawaii, NC Teacher Academy, MMSI, and Penn State.

July 24-25
Elementary Science
Grades 3, 4, and 5

STEM (STEAM) and Engineering Design Challenges
Learn how to make your Science classes engaging and exciting for your students using low cost STEM (STEAM) and Engineering Design Challenge activities that align with the North Carolina Standard Course of Study and national science standards. Join us and experience a new dimension of “hands-on” learning!

July 26-27
Middle Grades Science

What on (about) Earth Do You Teach to 6-8 Graders?

How do we motivate middle school students so they actively engage in learning science and have fun while they do it? Participate in two days of hands-on, minds-on activities designed to help your students meet the North Carolina Standards for Earth Science in grades 6 through 8. These activities are also designed to help students develop necessary STEM process skills while maximizing their understanding of the concepts being addressed. The following questions will be answered during the course:

* How do the position and motions of the Earth, Moon & Sun affect seasons, tides, lunar phases and us?
* Why is the Earth such a good place to live?
* What have we learned from studying space?
* How does weather work and how do climates form?
* What are some of the ramifications of climate changes?
* Where is the water on Earth and how do we protect it?
* How does the hydrosphere work as a system to support life on Earth?
* What have fossils, ice cores, and rocks taught us about the history of the Earth?

Manley Midgett has taught science for over 40 years. He has served as a Wake County Schools science coordinator, the DPI Science Specialist for Region 3, the Director of the North Carolina Science Olympiad, and Co-director of the NC Science and Engineering Fair. While at the NC Teacher Academy, he designed and conducted programs for teachers in the areas of earth and physical science. His areas of specialty in science are oceanography, geology, and astronomy.

Midgett continues to teach science methods and geology at Meredith College, assist the North Carolina and National Science Olympiads and the NC Science and Engineering Fair and is active in NSTA, NCSTA and NCSLA.