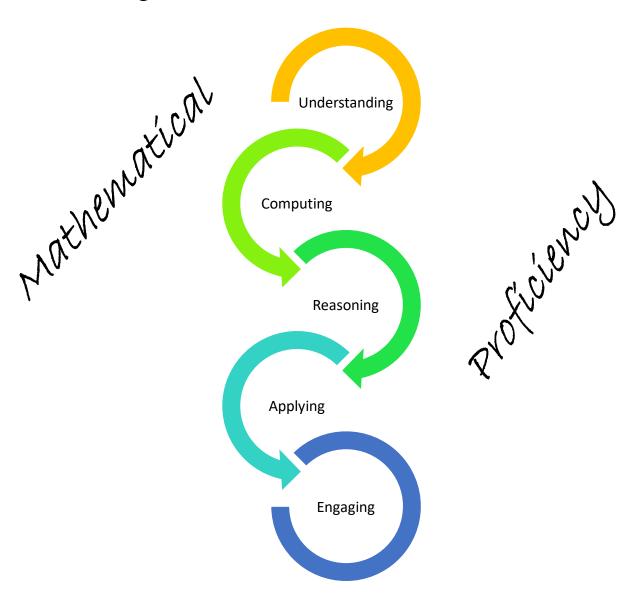
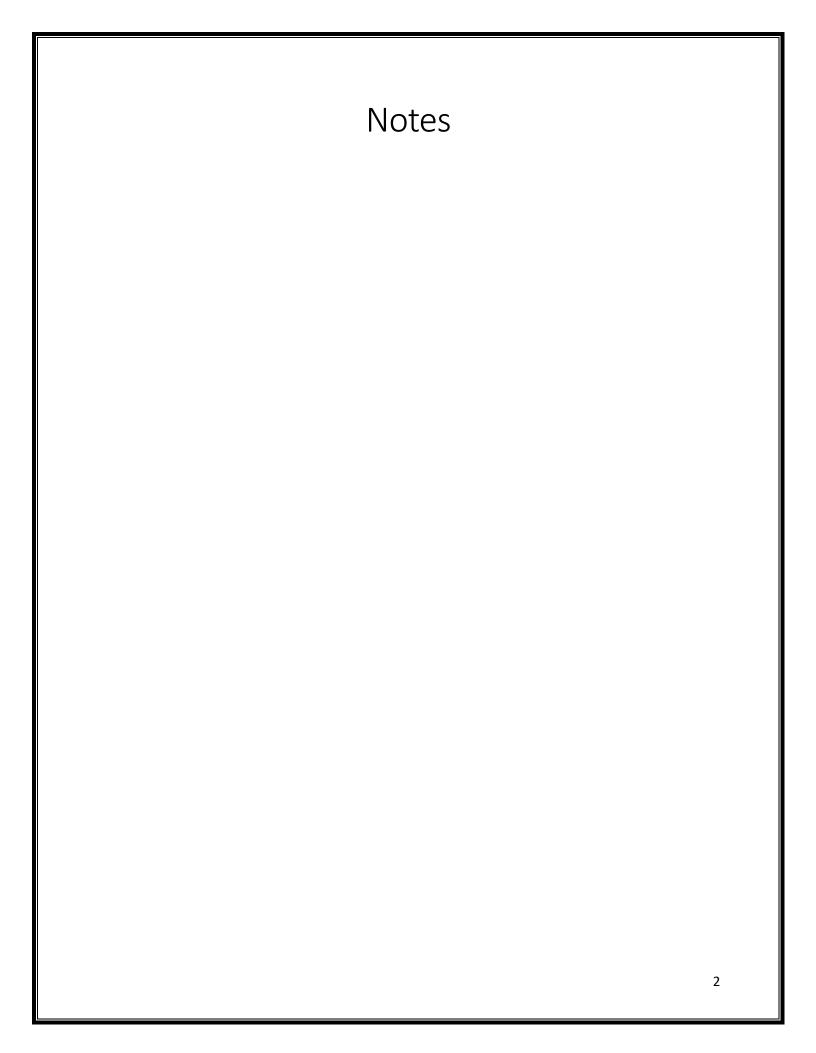
# 5<sup>th</sup> Annual Virginia Council of Mathematics Specialists Conference

Coaching for Balance and Connected Mathematics



September 29 and 30, 2016 Germanna Community College Culpeper, Virginia





## **Virginia's Mathematics Specialist Initiative**

#### **Definition of a Mathematics Specialist**

Mathematics Specialists are teacher leaders with strong preparation and background in mathematics content, instructional strategies, and school leadership. Based in elementary and middle schools, mathematics specialists are former classroom teachers who are responsible for supporting the professional growth of their colleagues and promoting enhanced mathematics instruction and student learning throughout their schools. They are responsible for strengthening classroom teachers' understanding of mathematics content, and helping teachers develop more effective mathematics teaching practices that allow all students to reach high standards as well as sharing research addressing how students learn mathematics. The overarching purpose for Mathematics Specialists is to increase the mathematics achievement of all the students in their schools. To do so, they

- Collaborate with individual teachers through co-planning, co-teaching, and coaching;
- Assist administrative and instructional staff in interpreting data and designing approaches to improve student achievement and instruction;
- Ensure that the school curriculum is aligned with state and national standards and their school division's mathematics curriculum;
- Promote teachers' delivery and understanding of the school curriculum through collaborative long-range and short-range planning;
- Facilitate teachers' use of successful, research-based instructional strategies, including differentiated instruction for diverse learners such as those with limited English proficiency or disabilities;
- Work with parent/guardians and community leaders to foster continuing home/school/community partnerships focused on students' learning of mathematics; and
- Collaborate with administrators to provide leadership and vision for a school-wide mathematics program.

On December 3, 2004 School Divisions participating in NSF-MSP Grant and University Partners agreed upon this working definition of Mathematics Specialists.

#### **VACMS Goals**

The purpose of the Virginia Council of Mathematics Specialists shall be to:

- Support mathematics specialists as professional school-based mathematics leaders.
- Advocate for effective, rigorous, equitable, mathematics instruction.
- Promote collegial collaboration among the organization members.
- Collaborate with mathematics organizations at the local, state, and national levels to provide professional learning opportunities for mathematics specialists.

#### **2016 Conference Goals**

The goal of the 2016 VACMS conference is for mathematics specialists and teacher leaders to enhance their toolkit so they can support teaching for *Mathematical Proficiency*; understanding, computing, reasoning, applying, and engaging.

#### **2016 Conference Strands**

- Implementing Revised SOL: Providing Support for Teachers in a Transition Year
- Applying Learning Progressions: Guiding Instructional Practices and Formative Assessment
- Refining Coaching Skills: Optimizing Mathematics Specialist Roles

#### **2016 Conference Partners**

**Germanna Community College** (GCC). Germanna's Center for Workforce and Community Education has generously welcomed the Mathematics Specialist Conference to the Culpeper campus. GCC is facilitating the Certificate of Completion and Continuing Education Units (CEU) for participants at the conclusion of the Conference. Participants will complete registration for CEU forms at the Conference kick-off Thursday at 12:15 PM. Special thanks go to the GCC staff for their assistance with the onsite logistics for the sessions. http://www.germanna.edu/

The Virginia Mathematics and Science Coalition (VMSC) is an alliance of education, corporate, and public policy leaders who provided the original thrust and continue to offer continuous support for the Virginia's Mathematics Specialists Initiative. Various documents, journals, and research reports about the Virginia's Mathematics Specialists Initiative can be located at their website, http://www.vamsc.org/.



# The Virginia Council of Mathematics Specialists 2016 VACMS Board Members

# Officers

President	Corinne Magee	<b>Arlington County Public Schools</b>
Past-President	Tonya Fields-Hines	Portsmouth City Public Schools
President-Elect		
Secretary	Sabrina Davis	Richmond City Public Schools
Treasurer	Contina Martin	Portsmouth City Public Schools
Membership	Candy Standley	<b>Culpeper County Public Schools</b>

# Regional and University Representatives

ty

# **2016 Conference Committee Chairs**

Conference Logistics Chair	Candy Standley	Culpeper County Public Schools
Program Chair	Corinne Magee	Arlington County Public Schools
Conference Registration	Jane Grove	Fauquier County Public Schools
Conference Evaluation	Vickie Inge	Retired Mathematics Educator
Webmaster	Jamey Lovin	Virginia Beach City Public Schools

# Making the Most of Your Conference

The Virginia Council of Mathematics Specialists welcomes you to an exciting conference designed to support your work as a mathematics specialist or school based leader providing professional learning to support classroom teachers.

The 5<sup>th</sup> Annual Conference begins with lunch at 11:00. There will be a few opening remarks at 11:50 to kick off the conference. During the conference, be sure to complete the Germanna Community College Registration form located in your conference checkin packet and drop off at the Registration Table as soon as you can Thursday. Then, complete the Germanna Evaluation form, also located in your registration packet, at the conclusion of the conference Friday. Turn in the evaluation form at the Registration table and pick up your Certificate of Attendance.

Thursday, a social hour with a cash bar begins at 5:00 p.m. and for those who purchased a ticket, dinner and short business meeting will begin at 6:00 pm; the buffet line will open at 6:10. These events will be held at a local eatery, *Peppers Grill* which is located at the Culpeper Best Western, 791 Madison Rd, Culpeper, VA 22701.

Friday morning will begin with a light continental breakfast and networking. Sessions begin at 9:00 and will conclude at 1:15. Boxed lunches will be available at 1:15. Feel free to stay and network during lunch or grab and go if you need to "hit the road".

Conference planners have made every effort to provide adequate seating during sessions. The room capacity for each presentation is listed on the day at a glance page. For your safety and because of fire regulations, only those with seats will be allowed in the presentation room. During breakout sessions, room 104A will be limited to 40 participants.

#### A few reminders...

- All seats are available on a first-come, first-served basis.
- Fire codes do not permit sitting on the floor or standing during breakout sessions.
- Visit the vendors!
- Please take time to fill out the brief but important conference evaluation form using the link sent to you in the post-conference email blast.

# Thursday At-a-Glance September 29, 2016

# EXPLORING THE CHANGES TO THE MATHEMATICS STANDARDS OF LEARNING AND CURRICULUM FRAMEWORK

The Virginia Department of Education's Mathematics Team, Debbie Delozier, Christa Southall, and Tina Mazzacane, will highlight the revisions to the 2016 Mathematics Standards of Learning and Curriculum Frameworks by grade level or course. Participants will engage in activities and discussions around the following topics:

- Timeline for implementation
- Resources for implementation
- Specific changes by grade level or course
- Roles (state and local level)
- Implications



# Thursday Schedule of Events

Lunch 11:00-11:50

Conference Kick-Off: Corinne Magee 11:50 Opening Remarks: VDOE Math Team 12:00

Session A: Kindergarten – Second Grade 12:30-1:45

Session B: Third Grade – Fifth Grade 2:00-3:15 Session C: Sixth Grade – Algebra I 3:30-4:45

The social hour with a cash bar begins at 5:15 p.m. and for those who purchased a ticket, dinner with a short business meeting will begin at 6:00 pm. The events will be held at a local eatery, *Peppers Grill*, which is located at the Culpeper Best Western, 791 Madison Rd, Culpeper, VA 22701.

# Presentations, Seating Capacity, and Session Descriptions Friday, September 30, 2016

# Session A 9:00 AM-10:15 AM

Room 104 A	Room 104 B	Room 104 C	Room 123
40 seats	30 seats	30 seats	36 seats
EFFECTIVE TEACHING	CREATING MATHEMATICAL	MEASUREMENT, IT'S NOT	WHAT CAN I DO?: THE
PRACTICES FOR PRINCIPLES	THINKERS	JUST FOR MATH CLASS	Role of Mathematics
TO ACTIONS		ANYMORE!	SPECIALISTS IN PROMOTING
	Heidi Demasi		EQUITY AND EXCELLENCE
Dr. Robert Berry, III	Jenna Katuzienski	Justin Hose	
Kindergarten-Grade 5	Kindergarten-Grade 5	Tres Wells	Dr. Toya Jones Frank
		Grades 6-8	Grades 6-8 and Algebra
Room 209	Room 211	Room 224	227 Computer Lab
30 seats	30 seats	30 seats	24 seats
PROMOTING STUDENT	GUIDED GROUPS WITHOUT	K-5 Discussion Forum	CO-CREATE ACTIVITIES
SUCCESS IN ALGEBRA I	TEARS		WITH RIGOR AND
THROUGH PROFESSIONAL		Contina Martin	COHERENCE WITH THE
DEVELOPMENT AND	Marilee Ward	Connie Shephard	Numbers 5 and 10 as
Coaching	Rose Burwell	Carol Walsh	Benchmarks
Kirk Walters	Kindergarten- Grade 5	Kindergarten- Grade 5	Ann Holdren-Kong
Kerstin Le Floch			Kindergarten-Grade 2
Grades 6-8 and Algebra			

# Session A Room 104 A

# **EFFECTIVE TEACHING PRACTICE FROM PRINCIPLES TO ACTIONS**

Dr. Robert Q. Berry, III, Professor, University of Virginia

This session will use vignettes and the voices of students, teachers, and other school personnel to highlight the effective teaching practices in NCTM's *Principles to Actions*. Specifically, the session will unpack four teaching practices: (a) Implement tasks that promote reasoning and problem solving; (b) Build procedural fluency from conceptual understanding; (c) Use and connect math representations; and (d) Pose purposeful Questions. (*Grades K-5*)

Session A Room 104 B

#### **CREATING MATHEMATICAL THINKERS**

Heidi Demasi, Mathematics Specialist, Williamsburg James City County Schools Jenna Katuzienski, Mathematics Specialist, Williamsburg James City County Schools

We will share how, why, and when we use *Exemplars* in our classrooms. Attendees will learn how to implement *Exemplars* with teachers they work with. They will complete one *Exemplar* as a "class" and experience firsthand the power in sharing our thinking and strategies. Participants will learn how to guide teachers to guide students through self-assessment of their work and use the information gathered as a formative assessment. (*Grades K-5*)

Session A Room 104 C

# MEASUREMENT, IT'S NOT JUST FOR MATH CLASS ANYMORE!

Tres Wells, Mathematics Teacher, Albemarle County
Justin Hose, Mathematics Specialist, Frederick County Public Schools

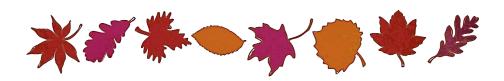
Measurement can be taught in so many fun ways that extend outside of the mathematics classroom. Come explore activities that help teachers teach measurement in natural contexts instead of isolated to the mathematics classroom. (Grades 6-8)

Session A Room 211

#### **GUIDED GROUPS WITHOUT TEARS**

Marilee Ward, Mathematics Specialist, Williamsburg James City County Schools Rose Burwell, Mathematics Specialist, Williamsburg James City County Schools

In this session we will look at what needs to be done in order to successfully implement guided groups in the classroom. We will discuss how to help your students learn to become independent workers and how to focus lessons that meet your students' differing needs. (*Grades K-5*)



Session A Room 224

## KINDERGARTEN-FIFTH GRADE DISCUSSION FORUM

Contina Martin, Mathematics Specialist, Portsmouth City Public Schools Connie Shephard, Retired, Williamsburg-James City Public Schools Carol Walsh, Division Mathematics Specialist, Middlesex County Schools

This session provides an opportunity to dialogue on issues specific to K-5 specialists, coaches, and math leaders. Participants will have the chance to share their practices, as well as take away possible solutions to questions such as the incorporation of professional development in their building, communication with teachers and administrators, as well as time management.

#### Session A

Computer Lab Room 227

# CO-CREATE ACTIVITIES WITH RIGOR AND COHERENCE- USING THE NUMBERS 5 AND 10 AS BENCHMARKS

Ann Holdren-Kong, Classroom Resource Teacher, NCTM

Join a rich professional development opportunity to help finish a subset of NCTM's newest set of classroom resources — ARCs (Activities with Rigor and Coherence). Working as a group, we will polish a series of lessons that help students build the numbers 5 and 10 as a benchmark. (*Grades K-2*)





# Session B 10:30 AM-11:45 AM

Room 104 A	Room 104 B	Room 104 C	Room 123
40 seats	30 seats	30 seats	36 seats
APPLYING PRINCIPLES TO	COLLABORATIVE COACHING	MEANINGFUL MARBLES	GROWTH MINDSET
ACTIONS TO THE WORK OF			COACHING IN THE
a <b>M</b> athematics	Jackie Davis	Christine Belcher	MATHEMATICS
Specialist	Will Tad Johnston	<b>Brian Domores</b>	CLASSROOM
Dr. Pamela Bailey	Kindergarten-Grade 5	Grade 6-Algebra 1	Jamey Lovin
Kindergarten-Grade 8			Grades K-12
Room 209	Room 211	Room 224	227 Computer Lab
30 seats	30 seats	30 seats	24 seats
PROMOTING STUDENT	IMPLEMENTING MATH	CAN YOU TEACH ME	BLENDED LEARNING:
SUCCESS IN ALGEBRA I	STATIONS IN THE	Now?	USING TECHNOLOGY TO
	ELEMENTARY CLASSROOM		PERSONALIZE EDUCATION
Kirk Walters		Sallie Dodson	
Kerstin Le Floch	Lynn Good		Cindy Sypolt
	Ashley Overstreet	Kindergarten-Grade 5	Jennifer Wolfenbarger
Grades 6-8 and Algebra	Grades 3-5		Kindergarten-Grade 5

Session B Room 104 A

## APPLYING PRINCIPLES TO ACTIONS TO THE WORK OF THE MATH SPECIALIST

Dr. Pamela Bailey, Assistant Professor, Mary Baldwin University

Principles to Actions (PtA) by NCTM is about the effective practices of a mathematics teacher: what the teacher and student should be doing. We will work on adding a new dimension to what is presented in this text, the actions and best practices of mathematics leaders that will support PtA. What will you, the mathematics leader, do to support teacher growth in their transformation to a facilitator of knowledge and inquiry? (Grades K-8)



Session B Room 104 B

#### **COLLABORATIVE COACHING**

Jackie Davis, Lead Instructional Coach, Lynchburg City Schools Will Tad Johnston, Mathematics Coach, American Institute for Research

Teachers often have multiple supports: district supervisors and coaches, contracted coaches, school coaches, and teacher leaders. While each may bring unique expertise to a school, it is important that all players work together to ensure maximum teacher growth and improvements in student learning and achievement. We'll share our teachers' perspectives about working with multiple coaches and our ways of coordinating our work to utilize our individual skills and experiences while maximizing our collective impact. (*Grades K-5*)

Session B Room 104 C

## MEANINGFUL MARBLES

Christine Belcher, Teacher, Math Science Innovation Center Brian Domroes, Teacher, Math Science Innovation Center

Are you looking for a meaningful way for your students to develop the equation of a line from a graph? This STEM-based activity uses graduated cylinders and marbles to generate data that can be graphed and analyzed. Students will investigate the similarities and differences of the graphed data to determine the factors that influence the positioning of a line on a graph (slope and y-intercept), and determine the equation of the line using these factors. Participants will discuss supporting teachers to implement this and other STEM based activities. (*Grade 6 through Algebra I*)

Session B Room 123

# GROWTH MINDSET COACHING IN THE MATHEMATICS CLASSROOM

Jamey Lovin, Mathematics Specialist, Virginia Beach City Schools

Failure is the catalyst of many learning experiences. Learners with a growth mindset are capable of making mistakes, facing their mistakes with resilience, and persevering toward a goal. How do educators help learners develop a growth mindset? How do coaches and teacher leaders help educators infuse this idea into their pedagogy and content? In this session, we will look at what growth mindset is, what it looks like in a mathematics classroom, and how to be a growth mindset coach. (*K*-8)

Session B Room 209

# PROMOTING STUDENT SUCCESS IN ALGEBRA I THROUGH PROFESSIONAL DEVELOPMENT AND COACHING

Kirk Walters, Managing Researcher, American Institutes for Research Kerstin Le Floch, Managing Researcher, American Institutes for Research

Strong professional development and coaching can support efforts to improve instruction and student success in algebra. Presenters will highlight strategies examined in the research and connections to what teachers and math specialists described implementing in schools and districts. Team members of the Promoting Student Success in Algebra I project, funded by the U.S. Department of Education, will provide written and online materials and facilitate interactive discussions in which participants can share strategies and challenges. (*Algebra*)

Session B Room 211

#### IMPLEMENTING MATH STATIONS IN THE ELEMENTARY CLASSROOM

Lynn Good, Mathematics Specialist, Halifax County Public Schools Ashley Overstreet, Teacher, Halifax County Public Schools

Once math stations are up and running, they are an excellent means to incorporate independent learning, meaningful practice, and teacher-directed instruction for small groups into the regular math block. Successful implementation of math stations requires both clear rules and expectations for students along with meaningful activities presented within an easy-to-follow format. Attendees will participate in two routines demonstrating this instructional practice. (*Grades 3-5*)

Session B Room 224

# CAN YOU TEACH ME NOW?

Sallie B. Dodson, M.S. Ed., Miller-Motte Technical College

Building on the central belief that caring is the key to effective teaching, the "why", "what", and "how-to's" of research-based classroom management strategies are the focus of this presentation. Participants will be challenged to reexamine traditionally-held assumptions about behaviors that students bring with them to the classroom and will be asked to make adjustments to their educational philosophies based on this paradigm shift. This is not an "all talk, no action" presentation. Participants will discuss how to implement these strategies with teachers.

(Grades K-5)

## Session B

# Computer Lab Room 227

## BLENDED LEARNING: USING TECHNOLOGY TO PERSONALIZE EDUCATION

Cindy Sypolt, Mathematics Specialist, Stafford County Public Schools Jennifer Wolfenbarger, Technology Resource Teacher, Stafford County Public Schools

Come hear about Ferry Farm Elementary's journey to incorporate blended learning into our classrooms. We will share how we began our process and how we supported the teachers in their classrooms. The discussion will include how we used the station rotation model, formative assessments and online resources, as well as, what our next steps are. (Grades K-5)

# Mark your calendars!



THE 2017 CONFERENCE WILL BE HELD AT JAMES MADISON UNIVERSITY MARCH 10 AND 11, 2017

HTTP://WWW.VCTM.ORG/



Date and location for the Fall 2017 Conference to be determined soon! Check the Website: https://vcoms.wildapricot.org/

# Session C 12:00 PM-1:15 PM

Room 104 A	Room 104 B	Room 104 C	Room 123
40 seats	30 seats	30 seats	36 seats
MATHEMATICAL TASKS TO	LEADING TEAMS TO WRITE,	DIFFERENTIATING FOR	BRINGING HOME THE FIVE
SKILLS	IMPLEMENT, AND ANALYZE	EARLY CHILDHOOD	PRACTICES
	EFFECTIVE COMMON	NUMBER CONCEPTS	
Dr. Betti Kreye	FORMATIVE ASSESSMENT		Dr. Theresa Wills
Dr. Jean Mistele		Leslie Laden	Grades 6-8
	Che Abdeljawad	Julie Rhoads	
Kindergarten-Grade 5	Kindergarten-Grade 5	Kindergarten-Grade 2	
Room 209	Room 211	Room 224	227 Computer Lab
30 seats	30 seats	30 seats	24 seats
BUILDING FRACTION SENSE	MATH GAMES FOR GUIDED	THE MATH DIET: AN	TOP 5 FREE NCTM
FOR MIDDLE SCHOOL	GROUPS	Instructional Framework	Illuminations Mobile
Матн		TO GROW MATHEMATICIANS	APPS FOR YOUR
	Rose Burwell	Du Katawi Thumdan	Classroom
Charlene Sebastian	Marilee Ward	Dr. Kateri Thunder Alisha Demchak	
Rose Averett	Grades 3-5	Kindergarten-Grade 5	Ann Holdren-Kong
Grades 6-8		Mildergartell Grade 5	Grades 6-8

Session C Room 104 A

# **MATHEMATICAL TASKS TO SKILLS**

Dr. Betti Kreye, Associate Professor, Virginia Polytechnic Institute

Dr. Jean Mistele, Assistant Professor, Radford University

Our hands-on session addresses how mathematics specialists can use mathematical tasks to move students to skill fluency with understanding. Guided by research, we discuss the importance of mathematics tasks and the characteristics of mathematical tasks that promote student learning with understanding. We also address teacher actions, when implementing the mathematics tasks in the classroom that keep the task at a high level. (*Grades K-5*)



Session C Room 104 B

# LEADING TEAMS TO WRITE, IMPLEMENT, AND ANALYZE EFFECTIVE COMMON FORMATIVE ASSESSMENTS

Che Abdeljawad, Mathematics Coach, Arlington County Public Schools

When teams collaboratively design, implement, and analyze common formative assessments, a shift occurs from lesson planning to learning planning, while informing interventions and teacher practice. Learn the process one professional learning community is currently using to implement and sustain this important work. (*Grades K-5*)

Session C Room 104 C

## **DIFFERENTIATING FOR EARLY CHILDHOOD NUMBER CONCEPTS**

Leslie Laden, Stafford County Public Schools Julie Rhoads, Stafford County Public Schools

Participants will examine the complexities of early childhood number concepts in order to differentiate learning tasks. Participants will use questioning and scaffolding techniques to adapt activities to meet the needs of all students and discuss how they can implement this with teams and teachers they support. (*Grades K-2*)



Session C Room 123

#### Bringing Home The 5 Practices of Math Discussions

Dr. Theresa Wills, Assistant Professor, George Mason University

Participants will simulate The 5 Practices of Math Discussions by analyzing modeling the practices using a plethora of unique student work. Emphasis will be placed on explicitly connecting these 5 Practices with the mathematical teaching practices of NCTM's *Principles to Actions*. Math specialists will walk away with a ready to use PD that can be given to administrators, teachers, and coaches. (*Grades 6-8*)

Session C Room 209

#### **BUILDING FRACTION SENSE FOR MIDDLE SCHOOL MATH**

Charlene Sebastian, Retired Mathematics Specialist, Stafford County Public Schools Rose Averett, Mathematics Specialist, Stafford County Public Schools

Experience activities that your teacher teams can use to help students reason with fractions through various models: area, linear, and set. Time spent on these fraction tasks (which can be adapted for daily warmups) will also have middle school students reasoning about proportions and creating a firm foundation as they solve algebra problems with fraction coefficients. (*Grades 6-8*)

Session C Room 211

### MATH GAMES FOR GUIDED GROUPS

Rose Burwell, Mathematics Specialist, Williamsburg James City County Schools Marilee Ward, Mathematics Specialist, Williamsburg James City County Schools

The purpose of this session is to provide math specialists with meaningful independent math activities and games which can easily be integrated into math instruction.

This session will:

- Demonstrate basic math fluency games using a regular deck of playing cards and permit practice time.
- Offer instruction on using manipulatives in independent math practice.
- Supply information on incorporating math movement activities in the classroom. Time will be provided for participants to discuss how they can support teachers to use these games as part of their strategies toolbox. (*Grade 3-5*)

Session C Room 224

# THE MATH DIET: AN INSTRUCTIONAL FRAMEWORK TO GROW MATHEMATICIANS

Dr. Kateri Thunder, Ph.D., Teacher, Charlottesville City Schools Alisha Demchak, M.Ed., Teacher, Charlottesville City Schools

The metaphor of a balanced diet is used to describe the vital components of literacy instruction to grow readers and writers. Similarly, the Math Diet (© 2012) provides an instructional framework to grow mathematicians. The Math Diet includes five components. In this presentation, participants will examine each component, its importance for mathematical growth, ways to use the Math Diet to plan math units and lessons, and instructional strategies to implement the components in K-5 classrooms. (*Grades K-5*)

# Session C

# Room 227 Computer Lab

# TOP 5 FREE NCTM ILLUMINATIONS MOBILE APPS FOR YOUR CLASSROOM

Ann Holdren-Kong, Classroom Resource Teacher, NCTM
Come and explore how to use NCTM Illuminations' top 5 (or more) mobile apps for your middle school math classroom. Pedagogical, conceptual, and concrete mathematical discussions will be had on how to extract the most out of all these mobile-friendly interactives and games and how you can support teachers to implement them. (*Grades 6-8*)