

*Virginia Council of Mathematics Specialists  
Conference*

*Advocating Appropriate Applications*

Virginia  
Mathematics Specialists A<sup>3</sup>



**September 25 – 26, 2014**

**Germanna Community College, Daniel Technology Center  
1821 Technology Drive  
Culpeper, Virginia 22701**

This conference is made possible by partnerships with Germanna Community College  
and The Virginia Mathematics and Science Coalition

## 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.*

## 2014 Virginia Council of Mathematics Specialists Conference

### *Advocating Appropriate Applications*

#### Conference Goals

Promote the purposes of the Virginia Council of Mathematics Specialists, VACMS.

- To support Mathematics Specialists as mathematics leaders.
- To advocate effective, rigorous, and equitable mathematics instruction and assessments.
- To promote collegial collaboration among organization members.

#### Conference Themes

- Mathematics Specialists advocating Virginia Process Goals in aligned and rigorous instruction.
- Mathematics Specialists advocating higher order thinking in cognitive development.
- Mathematics Specialists advocating appropriate assessments to increase student success.
- Mathematics Specialists advocating continued professional development for mathematics leaders.

#### 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 for participants at the conclusion of the Conference. Participants will complete registration 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 and other special events at this conference. <http://www.germann.edu/>

**The Virginia Mathematics and Science Coalition (VMSC)** is an alliance of education, corporate, and public policy leaders who provided the original impetus and offer continuous support for Virginia's Mathematics Specialists Initiative. This conference is made possible by their ongoing dedication to supporting the work of Mathematics Specialist. Various documents, journals, and research reports about Virginia's Mathematics Specialists can be located at their website, <http://www.vamsc.org/>.

**The Virginia Council of Teachers of Mathematics (VCTM)** as a professional group of mathematics teacher educators supports this conference as well on-going efforts for Specialists to establish their professional development through an affiliated organization. The VCTM has recognized this emerging professional group and established an elected position for a Mathematics Specialist Representative on their Executive Board and each year they solicit nominations to recognize an outstanding Mathematics Specialist with a William C. Lowry Mathematics Educator of the Year. In addition, the fall 2012 issue of the Virginia Mathematics Teacher Journal was dedicated to the work of Virginia's Mathematics Specialist. Additional information about this organization can be found at [www.vctm.org](http://www.vctm.org).

*The Virginia Council of Mathematics Specialists  
2014 VACMS Board Members*

<b>President</b>	Contina Martin	Portsmouth Public Schools
<b>President-Elect</b>	Tonya Field-Hines	Portsmouth Public Schools
<b>Secretary</b>	Sebrina Davis	Richmond Public Schools
<b>Treasure</b>	Kelli Huntley	Culpeper Public Schools
<b>Webmaster</b>	Jamey Lovin	Virginia Beach Public Schools
<b>Historian</b>	Nancy Jones	Retired Richmond City Schools
<b>Advisor</b>	Vickie Inge	Retired Teacher Educator

*Conference Committee Chairs*

<b><u>Conference Chair</u></b>	Contina Martin	Portsmouth City Schools
<b><u>Speaker Liaison</u></b>	Corinne Magee	Alexandria City Schools
<b><u>Registration</u></b>	Jane Grove	Fauquier Schools
<b><u>Conference Evaluation</u></b>	Sebrina Davis Tonya Fields-Hines	Richmond Public Schools Portsmouth Public Schools
<b><u>Banquet Arrangements</u></b>	Kelli Huntley	Culpeper Schools
<b><u>Lunch Arrangements</u></b>	Tonya Fields-Hines	Portsmouth Public Schools

*Keynote*

Michael Bolling, Director, Office of Mathematics and Governor's Schools  
Virginia Department of Education

*Banquet Caterer*

Luigi's Italian Restaurant Catering

*Virginia Council of Mathematics Specialist Website*

*<http://www.vacms.org>*



## *Making the Most of Your Conference*

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

Please join us for networking in Room 104A and our Conference Kick-Off at 12:15 P.M. During the Conference Kick-off be sure to complete and turn in the Germanna Community College registration form so that a Certificate of Attendance and Continuing Education Points can be ready for you to pick up at the conclusion of the conference on Friday.

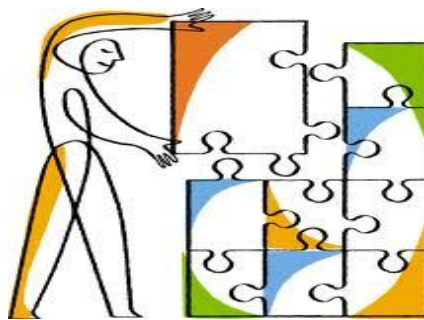
Thursday sessions begin at 12:30 P.M. and conclude at 4:45 P.M. All are welcome to join us in Room 104A at 4:45 P.M. for a social and networking prior to dinner. Following dinner there will be a Keynote address by Michael Bolling, Virginia Department of Education.

Friday morning continental breakfast begins at 8:30 A.M. Friday morning. Conference sessions begin at 9:00 A.M. The final sessions conclude at 1:15 P.M. Following the last session pick up your Certificate of Attendance and Continuing Education Points in Room 104A and enjoy a Sit-and – Chat or Grab-and-Go lunch. Jamey Lovin will be sharing the new VACMS website which we are very excited about during lunch.

We have made every attempt to provide adequate seating for participants during the conference. 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 meeting rooms. We appreciate your cooperation in helping us comply with this regulation.

Please remember:

- All seats are available on a first-come, first-served basis.
- In compliance with fire codes, sitting on the floor or standing is not permitted.
- As a courtesy to the speakers and your colleagues, please silence your cell phone during all presentations.
- We appreciate your taking some time to complete the conference evaluation form to aide in planning for next year.
- **We Need You! GET INVOLVED:** We appreciate your taking some time to complete the conference evaluation form to aide in planning for next year. Please indicate on your survey if you would like to take an active role in leading the organization or helping with next year's conference.



### Thursday at a Glance, September 25, 2014

Room Number/ Seating	A Sessions 12:30 PM – 1:45 PM	B Sessions 2:00 PM – 3:15 PM	C Sessions 3:30 PM – 4:45 PM
<b>104 B (30 seats)</b>	Ideas for Structuring Grade Level Meetings in the Elementary School (Fitzgerald and Lee)	Multiples, Factors, and Primes... OH MY! (Patton and Kemble)	Promoting the Use of Representations and Making Connections in the Elementary Mathematics Classroom (Delozier)
<b>104 C (30 seats)</b>	How Do We Know What Middle School Students Know? ( Morton)	Increasing Teacher Content Knowledge and Pedagogy through Collaborative Team Planning (Abdeljawad)	Using Performance Tasks for Formative Assessment K-8 (Crawford and Burner)
<b>123 (36 seats)</b>	Assisting Middle School Teachers in Adding Rigor to Their Instruction and Assessments ( Lauffer and Huntley)	Turning Mathematical Strugglers into Mathematical Thinkers (Person)	Promoting the Use of Representations and Making Connections in the Secondary Mathematics Classroom (Bolling)

**Social – Banquet – Keynote Address  
Room 104 A Beginning at 4:45 PM**

### FRIDAY at a Glance, September 26, 2014

Room Number/ Seating	D Sessions 9:00 AM – 10:15 AM	E Sessions 10:30 AM – 11:45 AM	F Sessions 12:00 PM – 1:15 PM
<b>104 B (30)</b>	Developing Multiplicative Thinking: The Power of Grouping in K-2 (Standley and Brink)	Using Lesson Study to Support Teacher Development (Hose and Wells)	Using Cross-Curricular Activities to Promote Rigorous Lessons (Hose and Wells)
<b>104 C (30)</b>	Modifying Textbook Tasks to Increase Rigor in 6-8 Classrooms (Inge)	Realizing Rigor in the Elementary Mathematics Classroom (Harbin Miles)	Realizing Rigor in the Elementary Mathematics Classroom ( Harbin Miles)
<b>123 (36)</b>	Growing a Mindset for Mathematics (Meadows and Kerr)	A Progression for Teaching Proportional Reasoning ( Averett and McGehee)	Modifying Textbook Tasks to Increase Rigor in K-5 Classrooms (Inge)

#### Conference Closing Session

**Room 104A**

**1:15 PM – 2:15 PM**

**Lunch: Sit- and- Chat or Grab-and-Go Lunch  
Lunch Presentation on the Roll-out of the VACMS Website!**

**Pick Up Attendance Certificates and Continuing Education/Recertification Points**

**Thursday, 12:30 – 1:45 PM, Sessions A1- A3**

**Session A1**

**Room 104B**

***IDEAS FOR STRUCTING GRADE LEVEL MEETINGS in ELEMENTARY SCHOOLS***

Tasha Fitzgerald, Pearl Sample Elementary, Culpeper Public Schools  
Gina Lee, Yowell Elementary, Culpeper Public Schools

Participants will be exposed to ideas for structuring grade level meetings. Presenters will begin by sharing models they utilize in leading their weekly/monthly meetings with grade levels. Participants will then be involved in activities and discussions aimed at gaining knowledge about these methods and how to apply them in their own schools.

**Session A2**

**Room 104C**

***HOW DO WE KNOW WHAT MIDDLE SCHOOL STUDENTS KNOW?***

Fanya Morton, Mathematics Specialist, King George Public Schools

"Focusing the lens as a Mathematics Specialist or Math Coach," materials will be shared and utilized to determine best practices in assessment for student understanding and setting instructional goals. The materials from the VDOE 2013 Fall Institutes will provide sources for professional development focused on the relationship between curriculum, instruction, and assessment, by targeting the processes of analysis and modification of existing resources to match student learning expectations and promote problem solving.

**Session A3**

**Room 123**

***ASSITING MIDDLE SCHOOL TEACHERS IN ADDING RIGOR TO THEIR INSTRUCTION AND ASSESSMENTS***

Stacey Lauffer, Floyd T. Binns Middle School, Culpeper Public Schools  
Kelli Huntley, Culpeper Middle School, Culpeper Public Schools

We will share ideas and discuss how to assist middle school math teachers as they are working to improve their instruction by incorporating more rigor. We will also examine and adapt assessment items by focusing on both their level of Bloom's and of the Depth of Knowledge.

**Thursday, 2:00 – 3:15 PM, Sessions B1- B3**

**Session B1**

**Room 104 B**

***MULTIPLES, FACTORS AND PRIMES... OH MY!***

Traci Patton, Sycamore Park Elementary, Culpeper Public Schools  
Nancy Kemble, Farmington Elementary, Culpeper Public Schools

Participants will explore the connections between factors and multiples in fourth grade and the characteristics of prime and composite numbers in fifth grade.

**Session B2****Room 104C*****INCREASING TEACHER CONTENT KNOWLEDGE AND PEDAGOGY THROUGH COLLABORATIVE TEAM PLANNING***

Che' Abdeljawad, Barrett Elementary, Arlington Public Schools

Learn how to coach teachers to align their adopted curriculum with the Virginia Standards of Learning, the Process Standards for Mathematics, Enduring Understandings, Essential Questions, and e thSOL Blueprint documents. Learn to coach teachers to set up an effective math community of learners during the first month of school and to write specific content and language objectives to raise student achievement for the range of learners, including students with special needs and highly able students.

**Session B3****Room 123*****TURNING MATHEMATICAL STRUGGLERS INTO MATHEMATICAL THINKERS***

Sharon W. Person, Mathematics Specialist, Portsmouth Public Schools

One of the many challenges of today's math classroom is the growing number of students who struggle with mathematical concepts. It is critical that math teachers are equipped with strategies and resources that promote developmental instruction that guides students to critical-higher level thinking. This presentation will provide math leaders with research-based discoveries that have been proven to help math teachers turn math strugglers into math thinkers.

<b>Thursday, 3:30 – 4:45 PM, Sessions C1- C3</b>
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**Session C1****Room 104B*****PROMOTING THE USE OF REPRESENTATIONS MAKING CONNCTIONS IN THE ELEMENTARY MATHEAMTICS CLASSROOM***

Debra Delozier, Mathematics Specialist, Virginia Department of Education

As leaders in your school or division, how do you support teachers as they strive to help students make connections and use effective and appropriate representations in the mathematics classroom?

**Session C2****Room 104C*****USING PERFORMANCE TASKS FOR FORMATIVE ASSESSMENT***Debbie Crawford, Supervisor, Fredrick Public Mathematics  
Larry Burner, James Wood Middle School and Fredrick County Middle, Frederick Public Schools

Are you interested in increasing the cognitive demand of the tasks that your students experience? Wondering where to get rich tasks and how to modify them? Are you using tasks to identify misconceptions to plan next instructional steps? Experience the entire learning cycle from task selection, analysis, and modification to implementation and analysis of student work using the VDOE rubric. Access the Frederick Public K-8 site of over 100 tasks!



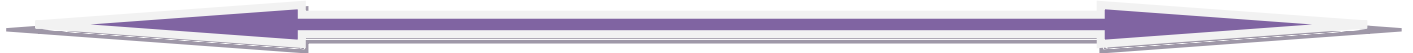
**Session C3**

**Room 123**

***PROMOTING THE USE OF REPRESENTATIONS AND MAKING CONNECTIONS IN THE SECONDARY MATHEMATICS CLASSROOM***

Michael Bolling, Director, Office of Mathematics and Governor's Schools,  
Virginia Department of Education

As leaders in your school or division, how do you support teachers as they strive to help students make connections and use effective and appropriate representations in the mathematics classroom?



*Virginia Council of Mathematics Specialists Conference*  
Thursday Social and Banquet

Germanna Community College, Daniel Technology Center  
Room 104A



**Mathematics Specialists Social**

Beginning at 4:45 PM

**Banquet and Keynote Address**

Beginning at 5:45 PM

**Introduction of Keynote Speaker**

Contina Martin, President  
Virginia Council of Mathematics Specialists

**Keynote Address**

Michael Bolling, Director,  
Office of Mathematics and Governor's Schools  
Virginia Department of Education

**Join us Friday morning beginning at 8:30 a.m.  
for continental breakfast.**

**Friday, 9:00 – 10:15 PM, Sessions D1 – D3**

**Session D1**

**Room 104 B**

***DEVELOPING MULTIPLICATIVE THINKING: THE POWER OF GROUPING IN K-2***

Candy Standley, AG Richardson Elementary, Culpeper Public Schools  
Kristen Brink, Emerald Hill Elementary, Culpeper Public Schools

Participants will explore the importance of providing opportunities for children to develop multiplicative thinking in the early grades. Participants will also discuss the effectiveness of various activities and how those activities can be shared with teachers in their schools.

**Session D2**

**Room 104C**

***MODIFYING TEXTBOOK TASKS TO INCREASE RIGOR IN 6-8 CLASSROOMS***

Vickie Inge, Retired Teacher Educator

How can Mathematics Specialists and teacher leaders help classroom teachers to modify textbook tasks to incorporate the Process Goals and create a more rigorous learning opportunity for students? Participants will learn simple and efficient modification strategies so that the task has a low threshold-high ceiling and provides multiple points of entry to students. In addition, the modified tasks provide students more and different opportunities to reason and prove than the original tasks.

**Session D3**

**Room 123**

***GROWING A MINDSET FOR MATHEMATICS***

Mary Meadows, Grafton Village Elementary School, Stafford Public Schools  
Sarah Kerr, Winding Creek Elementary School, Stafford Public Schools

**Need Description**



**Session E1**

**Room 104 B**

***USING LESSON STUDY TO SUPPORT TEACHER DEVELOPMENT***

Justin Hose, Redbud Run Elementary, Fredrick Public  
Tres Wells, Stoney Point Elementary, Albemarle Public Schools

Lesson study is a method of professional development originating from Japan. It is a rigorous opportunity for teachers to collaborate, read research, and reflect on their own teaching. The real power in lesson study is that it is teacher-driven. This allows teachers to be vested in their own development. Lesson study is a great way for teachers to explore the process standards more in depth and to learn about research-based teaching strategies.

**Session E2**

**Room 104C**

***REALIZING RIGOR IN THE ELEMENTARY CLASSROOM***

Ruth Harbin Miles, Falmouth Elementary, Stafford Public Schools and Mary Baldwin College

To realize rigor in elementary classrooms, teachers must transform instruction requiring students to think and reason mathematically. This session will explain why rigor is necessary for today's classrooms and include examples of problems and games to promote a shift in thinking. Rigor analysis tools will be included.

**Session E3**

**Room 123**

***A PROGRESSION FOR TEACHING PROPORTIONAL REASONING***

Rose Averett, Gayle and Wright Middle Schools, Stafford Public Schools  
Kimberly McGehee, Dixon-Smith and HH Poole Middle Schools, Stafford Public Schools

Proportional reasoning is the cornerstone of higher mathematics, and yet so difficult for students (and some adults) to comprehend. As a mathematics specialist, help your teachers understand the layering of ideas and activities that will aid their students with proportional reasoning. Prior to tackling a proportion algorithm, experience some tasks that will support your teachers in building their students' understanding of ratio relationships

When the winds of change  
blow, some people  
build walls and  
others build windmills.  
-Chinese proverb

**Friday, 12:00 – 1:15 PM, Sessions F1 – F3**

**Session F1**

**Room 104B**

***USING CROSS-CURRICULAR ACTIVITIES TO PROMOTE RIGOROUS LESSONS***

Justin Hose, Redbud Run Elementary, Fredrick Public  
Tres Wells, Stoney Point Elementary Albemarle Public Schools

Time is always an issue for teachers. Cross-curricular activities make it easier to cover content while helping students make connections to other subjects and topics. We will look at how language, science, and social studies can be integrated with math to make a more meaningful experience for students

**Session F2**

**Room 104C**

***REALIZING RIGOR IN THE ELEMENTARY CLASSROOM***

Ruth Harbin Miles, Stafford Public Schools, Falmouth Elementary, Mary Baldwin College

To realize rigor in elementary classrooms, teachers must transform instruction requiring students to think and reason mathematically. This session will explain why rigor is necessary for today's classrooms and include examples of problems and games to promote a shift in thinking. Rigor analysis tools will be included.

**Room 123**

**Session F3**

***MODIFYING TEXTBOOK TASKS TO INCREASE RIGOR IN 6-8 CLASSROOMS***

Vickie Inge, Retired Teacher Educator

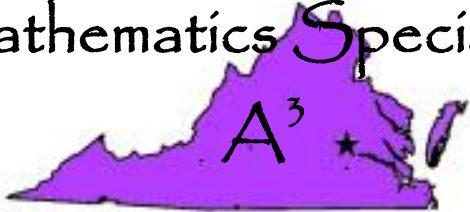
How can Mathematics Specialists or Coaches and mathematics teacher leaders help classroom teachers modify textbook tasks to incorporate the Process Goals and create a more rigorous learning opportunity for students? Participants will learn simple and efficient modification strategies so that the task has a low threshold-high ceiling and provides multiple points of entry to students. In addition, the modifications provide students more and different opportunities to reason and prove than the original tasks.



*Children who are successful at making sense of mathematics are those who believe that mathematics makes sense.*

*Lauren Resnick*

Virginia Council of  
Mathematics Specialists



**Thank you for Participating in the  
Virginia Council of Mathematics Specialists  
2014 Conference!**

**We truly appreciate our presenters who inspired us to  
reflect, to gain new knowledge, and  
empowered us to be exceptional leaders in our  
respective school divisions.**

**The Board for the Virginia Council of Mathematics Specialists  
Extends a Special Thank You to**

*Ms. Vickie Inge*

**For your continued support with establishing and maintaining the  
organization over the past six years!**

*Upcoming Exciting Professional Development  
and Networking Opportunities*

**Mark Your Calendar for the Next  
VACMS Conference  
September 24-25, 2015**



**NASA Langley Conference Center  
Hampton, VA**

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*Roll out of the VACMS website!  
<http://www.vacms.org>*

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**Upcoming VCTM Conference  
SPRING ACADEMY  
MARCH 6 – 7, 2015  
VA BEACH RESORT HOTEL  
and CONERENCE CENTER**

