

November 7 Sessions Feature DOE and Local Math Educators

Dr. Marcia Perry to describe the process of creating SOL tests and evaluating their difficulty

From Test Item to SOL Test: What are the many steps along this two- to-three-year process from test item to Standards of Learning test? Who are the groups responsible at each stage, and what are their roles? How do we assure that the tests match the Standards of Learning and are fair? How do we assure that tests are of equal difficulty from year to year? What mathematics is involved? These are some of the questions that will be addressed in this presentation by Dr. Marcia Perry, lead specialist for mathematics and science in the Division of Assessment at the Virginia Department of Education. You'll find that this entire process is a great example of applied mathematics.

Dr. Marcia Perry has taught mathematics at the high school and college levels and developed mathematics tests for grades 3 through 12 and for college students. She earned her BA degree in mathematics from Georgia College and an MA degree in mathematics education from Florida State University. Since earning her PhD in statistics, measurement, and evaluation from the University of Georgia, Marcia has worked in a local school division, two state assessment departments (GA and VA), and with three test development companies (ETS, CTB, and Measured Progress). Currently she is the Lead Assessment Specialist responsible for SOL tests in mathematics and in science.

Teachers Share How SMART Their Classrooms Are

SMARTBoards™ are impacting the teaching and learning process at many schools, especially Pleasant Valley Elementary School. PVES was recently awarded a \$30,000 grant from the SMART company to supply



classrooms with interactive whiteboard products. Interactive whiteboards appeal to students of all ages and address a variety of learning styles. The computer's screen image is projected onto the whiteboard, making it a huge, interactive touch screen. Students participate actively in lessons by manipulating objects or using its electronic tools to write on the board. Several teachers will show you examples of math lessons they have taught this year using the SMARTBoard. There will be one session for K-2 teachers led by 1st grade teachers Patty

Burchill and Lucinda Swartzentruber and 2nd grade teachers Cristin Iwanicki and Carolyn Miller. The 3-5 session will be led by 3rd grade teacher Katie Ameigh, 4th grade teacher Kim Van Benschoten, and 5th grade teacher Katrina Eberly. Patty, Carolyn, Lucinda, Cristin, Kim, and Katie all teach at Pleasant Valley Elementary; Katrina teaches at Mountain View Elementary School.



JMU Profs to Share Project Ideas for Math/Science Fairs

Peter Kohn, Carla Martin, and Laura Taalman are faculty members in the Department of Mathematics and Statistics at James Madison University who have served as judges at the Shenandoah Regional Science Fair and the Virginia Junior Science and Humanities Symposium. At such events the number of mathematical projects, posters, and presentations is historically low. They will present a number of ideas suitable for both middle school and high school student projects, with the goal of increasing the number of mathematical presentations at science fairs and symposia. This session will be of interest to middle and high school math teachers.

News from Virginia Department of Education

- Debbie Bliss, Mathematics Coordinator in the Office of Middle and High School Instruction informs us that the Department will likely begin the process of reviewing the K-12 Mathematics Standards of Learning early in 2008. The DOE mathematics specialists would like for mathematics people in the field to begin to think about the mathematics SOL and changes that need to be made, should be made, etc. Send any ideas you may have to Debbie at Deborah.Bliss@doe.virginia.gov.
- The new mathematics specialist for elementary and middle education endorsement is now official. To possess this endorsement, you must have:
 - Completed at least three years of successful classroom teaching experience in which the teaching of mathematics was an important responsibility; and
 - Graduated from an approved mathematics specialist preparation program (master's level); or completed a master's level program in mathematics, mathematics education, or related education field with 30 semester hours of graduate coursework including at least 21 hours of coursework in undergraduate or graduate-level mathematics.
- New middle school video clips are available on the DOE website. There are more than two dozen clips done by Virginia educators to demonstrate strategies and activities that can be used to teach the sixth- and seventh-grade mathematics Standards of Learning. The topics selected for these videos, though not comprehensive, represent key concepts from the sixth and seventh grade SOL. The complete set of streaming videos can be found at <http://www.doe.virginia.gov/VDOE/middle-math-strategies/>.

VCTM to Host Spring Academy in Lieu of Conference

March 14-15 at Virginia Tech

The 2008 VCTM Annual Spring Conference will take on a different look this year. Hosted at the Skelton Conference Center at Virginia Tech, it is designed as an Academy with various professional growth workshops being held simultaneously, each with limited enrollment. Registration is available through the VCTM website, www.vctm.org. The registration fee is \$100 and the deadline is December 1, 2007. The sessions to be offered are:

- Designing Effective Math Lessons, a session intended for high school audience with an enrollment limit of 50. The instructor will be a McRel consultant.
- AP Calculus Workshop, a workshop for 30 high school teachers. Session leaders are Patricia Gabriel and Ed Anderson.
- AIMS K-2 Problem Solving, a workshop for 40 participants. Ann Lewis will be the AIMS trainer.
- AIMS 3-5 Problem Solving, a session for 40 participants, led by Linda Pond.
- Geometry for 6th-8th grade classrooms with Collaborative Settings, a workshop for 40 participants led by Margie Mason.
- K-8 Mathematics Specialist Leading Mathematics Professional Development for up to 40 Math Specialists led by Vicki Inge.

There is also a Friday-only workshop, Math Education Research in Virginia, intended for college audiences. The annual awards dinner will be held on Friday evening.

So What's the Future of Algebra I, Part 1?

by Joe Hill

SUPTS. MEMO NO. 139 (July 20, 2007) was sent out to remind school divisions that The No Child Left Behind Act of 2001 requires annual testing of mathematics achievement in grades 3 through 8 and once in high school. But there was one sentence in that Memo that caught my eye: "Please be advised that the Algebra I, Part I, course was never intended for middle school students and may be phased out as a standard credit-bearing course in future years." As a math supervisor, I took offense at this statement and quickly sent a reply to Debbie Bliss. Part of my reply is copied below:

- 1) When we consider what variables school divisions can work with in terms of graduation credits for high school students, TIME is the only variable left for us. The standards are not variable and the achievement level measured by SOL tests is not variable. But, up until now, time has been the one non-constant we could use to take into consideration different abilities among our students. For example, in RCPS we have double-blocked Algebra I, Part 1 and Algebra I, Part 2 classes which are taken by students who do not perform satisfactorily in the courses immediately preceding these. Thus, some of our students take four times as long to complete Algebra I as our highest achieving students. Some, who single-block these courses, take twice as long as our most accelerated students. And it has worked marvelously as is evidenced by this SOL test data:

Algebra I	
Year	RCPS % Passing
1998	44
1999	59
2000	58
2001	87
2002	93
2003	91
2004	92
2005	95
2006	95
2007	96

Can you tell which year we began double blocking? An easy question. What you see are dramatic changes when we are allowed to use the variable of time. We didn't make drastic curriculum nor personnel changes beginning in 2001, we simply gave students the extra time and support they needed to pass Algebra. This program has far exceeded our expectations. As a division we have accepted the extra costs in additional faculty this puts on us because the results are so overwhelmingly positive. PLEASE DO NOT CONSIDER DOING ANYTHING TO CHANGE THIS!! We have double blocked Geometry and Algebra II classes, too, with even higher pass rates in these classes. Allowing more time works and works well.

- 2) In addition to being very displeased about the last part of this sentence from the Sups Memo, "Please be advised that the Algebra I, Part I, course was never intended for middle school students and may be phased out as a standard credit-bearing course in future years.", I am also bothered about the first part of the sentence. We have been successfully teaching Algebra I, Part 1 in Grade 8 for a decade. This Sups Memo was the first hint I have ever heard about this not being appropriate. Our 8th graders in Part 1 take the Math 8 test and have been very successful at it. If it is OK to teach Algebra I in Grade 8 to some of our students, why is it inappropriate for us to teach Part 1 to others in the same class?
- 3) I am very concerned about the push to teach the full Algebra I course at earlier and earlier grade levels. We have numerous 7th graders taking it and even one 3rd grader this coming year! My concern isn't that the material is beyond their comprehension, it's that what happens to these students by the time they are juniors or seniors. We had 183 students in our four middle schools take Algebra I last year. Will we have 183 students enrolled in a senior level math course in four years? Guaranteed not. We offer lots of options for these students who finish Analysis by Grade 11: AP Calculus, Discrete Math/Statistics, and Computer Math. But half of them will take NO MATH their senior year. What good have we done in accelerating them? Consider this thought--just because students can pass a course and EOC test is not sufficient enough

reason to put them in it. Why do our best 8th graders only take Algebra I and World Geography? They could certainly take and pass EOC Biology and English RLR in those grade levels. Apparently the science and language arts community understands that there's more to education than acceleration. In all classes, there is mathematics to be learned beyond the scope of the SOLs. Why not have good 7th graders study bases other than ten (not a current SOL) instead of pushing them into solving equations? I once took a course in how to teach AP Computer Science. The last night of class, the JMU professor stopped teaching for a few minutes, breathed a long sigh, and told us, "If I had a son eligible to take this course I wouldn't let him." He went on to ask why do we push more and more into the first 18 years of a kid's life with life expectancy longer than ever? I have never forgotten that lesson. But those first 18 years should be filled with math every year and that just does not happen when a student can finish his requirements for an advanced diploma by the time he finishes the 11th grade or his requirements for a standard diploma by the time he finishes grade 10.

- 4) Where's the push coming from to do away with Part 1? Are some people bothered by the fact that some students get two credits for passing Algebra I and others who take the full course only get one credit? In my opinion, they need to get over it. We should celebrate the fact that all students are graduating from VA schools with Algebra under their belt, not trying to find ways to undo the mechanism by which we've been able to accomplish this.

Debbie thanked me for the comments and promised she'd share them with other decision makers at DOE.

Upcoming Meetings

Virginia Council of Supervision of Mathematics

Fall meeting

October 25-26, 2007

Crowne Plaza – Richmond West

Richmond VA 23230

Contact: <http://www.vcmsonline.com>

National Council of Teachers of Mathematics

86th Annual Meeting: "Becoming Certain about Uncertainty"

April 9-12, 2008

Salt Lake City, Utah

Contact: <http://www.nctm.org>

Virginia Council of Teachers of Mathematics

2008 Math Academy

March 14-15, 2008

Virginia Tech

Blacksburg, Virginia

Contact: <http://www.vctm.org>

Virginia Council of Teachers of Mathematics

Annual Meeting

March 13-14, 2009

James Madison University

Harrisonburg, Virginia

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V²CTM Fall 2007 Meeting Registration

Return this registration form to Joe Hill, Rockingham County Public Schools,
100 Mount Clinton Pike, Harrisonburg VA 22802. Better yet, register on the web at
<http://www.rockingham.k12.va.us/register>
You may pay at the door on November 7.

Name _____

School _____

School Address _____

Home Address _____

Annual Membership & Dinner Dues (\$10.00) Enclosed _____

E-mail Address _____

See you at Pleasant Valley on Nov 7!

V²CTM Reflection
Joe Hill, Editor
Rockingham County Public Schools
100 Mount Clinton Pike
Harrisonburg VA 22802

**PLEASE SHARE THIS NEWSLETTER WITH ALL MATHEMATICS TEACHERS,
GRADES K-12**