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### **MATH FUN**

### Worries While Flying

Two statisticians were travelling in an airplane from LA to New York. About an hour into the flight, the pilot announced that they had lost an engine, but not to worry, as there were 3 left. However, instead of 5 hours it would now take 7 hours to get to New York. A little later, he announced that a second engine failed, but they still had two engines left, which would keep them in the air, but, it would take now 10 hours to get to New York. Somewhat later, the pilot again came on the intercom and announced that a third engine had died. He reassured the anxious passengers by explaining that though it would now take 18 hours to reach their destination, the plane could fly on a single engine. Hearing this, the first statistician turned to the other and said, "I hope we don't lose that last engine, or we'll be up here forever!"



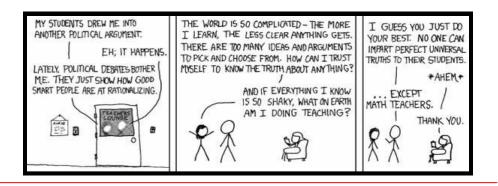
March 2012

#### Vacation Time!

March greets us with some warm weather, and a much needed Spring Break. To celebrate, try this brain teaser about vacation time on one of your days off! The solution will appear at the end of this issue.

It was vacation time, and so I decided to visit my cousin's home. What a grand time we had! In the mornings, we both would go for a jog. The evenings were spent on the tennis court. Tiring as these activities were, we could manage only one per day, i.e., either we went for a jog or played tennis each day. There were days when we felt lazy and stayed home all day long.

Now, there were 11 mornings when we did nothing, 17 evenings when we stayed at home, and a total of 12 days when we jogged or played tennis. For how many days did I stay at my cousin's place?



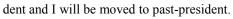


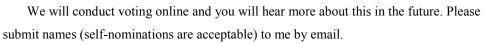
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# President's Message

This spring we are looking for nominees for the next UETCTM President. At the last meeting this spring Tara Harrell from Hawkins County will assume the role of presi-





Check out the article by Nivens, Peters, & Nivens in the February issue of Teaching Children Mathematics. I am sure you will find it interesting.

Don't forget that the NCTM annual meeting is just around the corner. I hope to see you there.

Ryan Nivens





- ★ National Pi Day is March 14, at 1:59. (3/14 1:59)
- **The largest currently known prime number (as of March 23, 2012) is 12,978,189 digits long; it is 2^{43,112,609}-1.**
- $\star$  111,111,111 x 111,111,111 = 12,345,678,987,654,321
- ★ You would have to count to one thousand to use the letter "A" in the English language to spell a whole number.







# Standardized Testing in Mathematics S.U.C.K.S.

By Mary Alice McClellan

Scott Co., VA Schools



Standardized Testing in Mathematics **SUCKS.** In other words, Standardized Testing in Mathematics **Stifles** Understanding mathematical Concepts beginning in **K**indergarten and continuing through a student's **S**econdary education. This prevailing problem inhibits a K-12 student's ability to explore varied approaches to problem solving. This situation is a mathematical woe, and this woe results primarily from the No Child Left Behind Act and from new state mandated mathematical standards of learning.

Now, greater emphasis is being placed on teachers to attain high standardized test scores in Mathematics, and teachers are feeling the pressure. This pressure is forcing more and more teachers to "drill and kill" or "teach to the test" which, in turn, is creating less and less learning in Mathematics. The truth is there is little to no time built into a school's day curriculum for teachers to model those real-life applications of grade level specific mathematical concepts. Teachers are forced to quickly move on to new mathematical concepts before students have the chance to truly internalize concepts or actually attain conceptual understanding. So, given time constraints and the stress related to high standardized mathematical test scores, Mathematics teachers are unduly "drilling and killing" or "teaching the test" which ultimately is sacrificing quality for quantity.

Sacrificing quality for quantity inevitably requires remediation of basic mathematical content skills. To alleviate the need for an enormous amount of remediation from year to year, teachers need to think outside the box and change their teaching methods. Teachers need to begin early, as early as kindergarten, laying a strong mathematical problem solving foundation for students to build upon and continuously from K-12 build upon that foundation. With the foundation in place and the yearly building, teachers will no longer see the need for "drilling and killing" or "teaching the test" because good Mathematics will have been taught.

As a result of good mathematical teaching, students will develop, through investigation and self-discovery, critical thinking skills and conceptual understanding that is essential for solving mathematical problems and essential for high standardized mathematical test scores. Thus, the dreadful belief that "Standardized Testing in Mathematics SUCKS" will no longer exist.

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# People Versus Programs

By Jane Laoo

Bristol, TN City Schools

6th Grade Math



March 2012

It can seem like a quick fix to buy the latest program or technological gadget out there for our classrooms, but does it really help the students? Call me old-fashioned, but I believe in people over programs when it comes to really helping students grow and improve.

After teaching 2<sup>nd</sup> and 3<sup>rd</sup> grade for six years, I found myself in a completely new environment, a 6<sup>th</sup> grade math class, in a new state with curriculum that I had not seen since my 8<sup>th</sup> and 9<sup>th</sup> grade years of high school. I was also in a school with a high poverty rate and working with students that had severe gaps in their learning. I quickly realized that what my students needed was not another computer to sit at or another game to play, they needed me. They needed me to sit with them, explain, practice, and help them discover their math strengths. The problem was there was only 1 of me and 70 of them.

To be proactive and help students make gains in math, the math teachers at my school decided to try something new. We planned to hire math tutors in each math testing grade to work with us from January until the TCAP tests were given. The tutors had to be certified teachers. The tutors would plan with the teachers daily. It was important for us to hire certified teachers, because we felt they would be better equipped to handle classroom management, assessment of students, and to provide better instruction to the students. It was also important that this not be a volunteer position. Volunteers tend to not be as reliable as employees, especially employees who hope to gain a permanent position in the school system.

My math tutor was a veteran teacher who had moved to the area and was trying to get into the school system. Her background was in middle school math, so she was well equipped to handle the curriculum and my students. Our plan was simple; she was going to run three small tutoring groups for twenty minutes each day on a 10 day rotation. The tutoring groups met before homeroom, during the first part of special area classes, and during the first part of recess. During the tutoring sessions, the students were working on skills from the first and second Benchmark tests. The students were retested on the Benchmarks and if they showed growth, they were dismissed from tutoring. If the students did not show growth, they stayed in tutoring for the next 10 day session. I grouped my stu-



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dents based on the RTI tiers. I tried to keep the number of students in each session low to provide more individual instruction.

My math tutor was also with me during regular class time. To make the most of her time I changed the normal routine of my class. We divided the class in half and were able to provide whole group direct guided instruction in a small group setting. Co-teaching in this fashion was very helpful because we could hear each other's instruction. If one of us provided a different way to solve a problem, we could copy what we had just heard. Once our direct instruction was over, we put the students back into their groups and allowed the math captains to lead the independent practice. This provided us time to walk around and assess the students' progress. We would then come back and decide who needed some extra help and make sure to put them in our guided math groups for that day. Finally, the students would be working in stations. I was able to have two guided math stations with the help of the math tutor. In those stations, the math tutor and I worked with students on the SPI from that day. In the independent stations, students worked on the SPIs from the previous week. This ensured that the students would not need our help to successfully complete the stations, but if they did, there was a math captain in every group to provide extra support.

To be honest, it can be difficult to have a math tutor in your classroom. Lead teachers must be willing to give up some control and math tutors must be willing to follow the instructions of the lead teacher. It is so very important to plan together from the very first day and have open communication. It is not a competition. Both teachers are there for the very same reason, the students.

Having a math tutor in my classroom gave my students the individual attention that they needed and deserved. It gave them another resource to turn to. It gave them someone else who was cheering for them, who cared about them, and it gave them another opportunity to succeed. For me, I will always prefer people over programs.



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But...I don't like kids...

Vol. 11, Issue IV

By Misty Armstrong
Hawkins CountySchools
Math Teacher
Grades 7-9



I know what you're thinking, a teacher that doesn't like kids?!?

I'm embarrassed to admit it, but, yes, that was me. I love my own two boys, but other people's kids... not so much. So in my first semester of teaching I wasn't thinking about building relationships with students. It was all about me. I wanted to have that perfect classroom that I had pictured in my mind, students sitting in perfectly straight rows with me in front. They would all be waiting patiently for my instruction and would do exactly as I said. I thought I had to be perfect and everything had to go perfectly. I couldn't relax, and the kids could sense it. It was me against them. We didn't interact much. I was on one side of the room, and they were on the other. To be honest it was painful for all.

The next semester was a little easier. I lightened up a little and began to see that these kids were individuals and had personalities; not the blob that had to be controlled. Hey, some days I was kind of enjoying myself! Then one day a student who had worked so hard to prepare for the Gateway test, found out she had passed and was so happy she gave me a hug. I was stunned! Hugging? Oh no, no bodily contact of any kind, I might lose my job or get sued.



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Jump ahead to my fourth year of teaching, I love my job now, and I love my students. My thinking has done a complete 180 since I first started teaching. Now I know I have to be myself and it's okay to make mistakes. I'm never going to have a perfect class. I'm learning that the valuable time I spend getting to know my students and building relationships with them will pay off big time later in the year. They will work harder for me if we have a good relationship rather than "you are the student, I am the teacher so do what I say". And as far as hugs, yes! Sometimes my students just need to know they are loved and cared about. Maybe they are having a really bad day and need someone to talk to. I also have fun now, tell jokes, laugh, high five, if I'm having fun they will have fun. And yes, I not only like my students, but I love them too.



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# **UETCTM News**

Getting off on the Right Foot in Math with a Beginning of a New Year

> By Penny M. Salyer Kingsport City Schools 4th Grade Teacher



All of us in education are well aware of the changes in curriculum and rigor in mathematics education. Unfortunately, many parents are not. With so much emphasis on high-stakes testing, it is our responsibility to educate them about the changes and the effect these changes will have on their children.

Due to this, my grade-level teaching colleague and I decided to hold a parent meeting during the first week of school. In her book *A Framework for Understanding Poverty*, educational consultant Dr. Ruby Payne states that parent involvement of low-income children is virtually nonexistent due to a number of factors. This was certainly the case at our Title I (92.4 % free and reduced price lunch)1 school. We brainstormed with other teachers and our administrator for a way to ensure that we reached all parents. Past experience showed that offering refreshments resulted in a better turnout, so we used Title I parent involvement funds to purchase cookies and lemonade. In addition, we decided to offer one session immediately after school and another in the evening. Next, we sent home an invitation to all parents. The invitation included the where, when and the why was: "It is important for at least one parent/guardian of each child to come to one of these sessions. If you can't make it, we will be calling to schedule a time for you to come in or for us to make a home visit." A list of items to be discussed followed at the end of the invitation.

The meeting was held in my classroom for a more informal, relaxed ambiance than in the auditorium. After welcoming parents, my colleague and I explained how the math curriculum had changed and offered examples of new standards for our grade level. We also discussed old TCAP cut scores and compared them with the new TCAP cut scores. To further highlight how our world and educational needs were changing, we showed a snippet of the video, "Did you Know?" which can be found and downloaded from YouTube. We also showed an excerpt from a Marilyn Burns video entitled, "Mathematics: What Are You Teaching Our Children?" We even briefly shared some alternative algorithms for mathematical computation.



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Amazingly, almost every 4th grade child had a parent or guardian present. For those who did not, we called and arranged an appointment for them to come in or for us to go to them. Once parents realized that we were serious about coming to their home if necessary, they agreed to come to school.

Parents were very positive about the meeting and acknowledged that they appreciated being informed about the changes in educational requirements for their children. Once they became aware, we experienced increased support with homework return, afterschool tutoring, and any other opportunities for the children. There was almost a 100% daily return on math homework in my classroom (unheard of in past years!) and parents seemed more comfortable writing notes or asking for help for their children.

Overall, this initial meeting during the first week of school paid off with high dividends! We plan to continue this routine and will, hopefully, experience continued involvement on the part of parents and guardians in the education of their children.

# Problem Solved!

How'd you do on the brain teaser from page 1? The answer is 20 days. Get a different answer? Try this:

-Let x represent the number of days mornings were spent doing nothing. (11)

-Let y represent the number of evenings spent at home. (17)
-Let z represent the number of days on which either tennis was played or a jog was taken. (12)

$$(x+y)+(x+z)+(y+z) = (11)+(17)+(12)$$

$$2x+2y+2z = 40$$

Divide each side by two to get:

$$x+y+z=20$$



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# "Who Moved my Cheese?"

By Holly Moffit
Washington County Schools
6th Grade Math



Recently I had the opportunity to read a book entitled *Who Moved My*Cheese? by Spencer Johnson. Johnson uses the characters, Sniff and Scurry, to show that how a person deals with change affects how they perform in the workplace, as well as every day life. Sniff and Scurry do not fear change; they deal with it when it presents itself. When a new situation arises, they quickly try to find a new way to overcome the change. Hem and Haw are hesitant to change and adapt only when necessary. The book uses this idea of the mice and little people in a maze to show that there are different ways to deal with change and still be successful. However, those that know change is inevitable and plan for it will best equipped to turn change into a positive situation while others will not.

As teachers, we must be willing to change our way of thinking and teaching in order for our students to understand and achieve. We must change our attitudes and be willing to try new hands-on approaches to learning. After completing the first week of the Mathletes program, I have quickly learned that I need to incorporate MORE hands-on activities that engage my students. This "change", although a bit scary, is necessary for students to not only understand the concept, but the "why" of the concept.

With school starting in a few short weeks, I am excited, yet nervous, to incorporate new ideas and activities presented throughout this program. I feel confident that by changing my thinking and my approach to math, there will be an increase in student achievement.



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Teaching & Learning Elementary Mathematics Conference -St. Louis, MO, May 2-4, 2012

We would like to make all mathematics educators, administrators, and University students aware of this professional development event and available discounts.

Teacher knowledge has a profound impact on student achievement. The National Math Recovery Conference draws on the research and practice of educators, teachers and administrators interested in promoting research-based k-5 programs that address intervention from a one-to-one, small group and whole class perspective.

US Math Recovery is a non-profit organization internationally recognized for its early mathematics learning approach that augments classroom curriculum, giving teachers the tools to identify numeracy problems in their students. Years of both academic and case studies have proven the efficacy of the program.

This professional development event features top notch key-note speakers including Dr. Michelle Stephan, North Carolina University; James Burnett, Origo, Australia; Dr. Charles Munter, University of Pittsburgh; Dr. Fran Roy, Fall River Schools. The conference will feature over 30 break-out sessions and a materials show case to take a look at class room resources. Discounts are available for administrators and full time university students. Please check out our 4-day conference program at-a-glance.

http://www.mathrecovery.org<http://www.mathrecovery.org/>



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# Registration is open! Hurry- Space is LIMITED for this new event!

July 31-August 2, 2012 Atlanta, Georgía

Algebra Readiness for Every Student: An NCTM Interactive Institute for grades 3-8 with Extended Online Professional Development

### Professional Development for the Whole Year

You need the right tools to build a strong math foundation for your students— and NCTM's Interactive Institute for grades 3–8 offers the latest strategies to give your students the best preparation for high school, higher education, and beyond. Kick off your experience in Atlanta, where you'll participate in face-to-face activities and network with peers from across the country, and then reinforce, expand, and apply what you learn by participating in online keynote sessions and interactive discussion groups throughout the school year.

### Reserve Your Room

All two and a half days of face-to-face activities will take place at the Sheraton Atlanta, so you can stroll out of your room and right into the day's first presentation. A special discounted rate of \$159 is available to Institute participants, but you must book your room through NCTM to receive this special rate. The deadline to reserve your room is July 5, 2012, but you must book your room through NCTM to receive this special rate.

### Registration Information

Register by May 18 to take advantage of our lowest registration rates. Register online or Call (877) 557-5329 or (972) 349-5855 with your credit card information. Phone lines are open Monday–Friday, 8 a.m. – 6:30 p.m., Central time. Your registration will include 2 ½ days of interactive professional development from leaders in mathematics education, a welcome reception with your fellow participants, free networking lunch during two days of activities, plus online professional development for the whole year!

# **Request for Article Submissions**

e are always looking for people to contribute articles to our ongoing "Math Perspectives" series. Every month, we would like four submissions for the series: a preservice undergraduate student, a preservice graduate student, a current classroom teacher, and one of our local math coordinators. Each person will voice their opinions, concerns, or observations upon a particular aspect of teaching mathematics. There are no set topics for this series.

Another section will be included in the next issue dedicated to mathematics problems. We are looking for submissions on favorite problems focused on various grade bands.

If you or someone you know would like to contribute to this column, please contact Ryan Nivens, Newsletter Editor.

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#### Kris Krautkremer

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### **President Elect:**

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# **UETCTM**

# Membership Application

best practices among mathematics educators.

### Mail completed form to:

Jerry Whitaker Mathematics Curriculum Coordinator Washington County Schools 3089 Highway 11W Blountville, TN 37617

Membership Fee: \$10 Payable to: UETCTM



Name:
Home Address:
Home Phone: (
School:
School Address:
School Phone: ()
Email Address:

The Upper East Tennessee Council of Teachers of Mathematics is an organization for anyone involved in mathematics education from preschool through college in the greater Tri-Cities region. We meet six afternoons per year in various locations across the region. The purpose of UETCTM is to promote excellence in teaching mathematics and to share