Christopher entered a marshmallow eating contest at the county fair. Determined to win, Christopher went into training for 6 days. Each day he ate 4 more marshmallows than the day before. Christopher ate 114 marshmallows while in training. How many marshmallows did he eat each day?
Thank you for the great turnout at the first meeting of the school year at Daniel Boone High School. Your support of our council and your peers shows the dedication we have come to be known for in Upper East Tennessee.

The presentations by Lynn Whitaker, Denise Cox, Cindy Hayes, Lisa Armentrout, Amy Rigsby, and Tina Hill were very entertaining and informative. I walked into one session just in time to dance the Macarena while skip counting. I also enjoyed a few minutes after a session to discuss organic gardening and bread making with Scott Reis and Kris Krautkremer. I look forward to many other lesson overviews in the upcoming months as well as time to get to know my fellow mathematics educators.

The first nine weeks of the school year have sped by quickly, and I am confident that the students in our region have enriched their math capabilities due to the outstanding perseverance of dedicated teachers such as you. I would like to hear any feedback or challenges you have faced this year in your curriculum or daily lesson plans.

Please keep in mind the annual TMTA meeting that we are hosting next fall. We need volunteers in various capacities, as well as opportunities to present your favorite lessons, projects, and teaching strategies. I would like to see a
minimum of one lesson presentation from each county and city system in our region. Let’s showcase how we are motivating students and giving them the skills needed to succeed at higher level mathematics!

Due to the work and coordination required to host a state meeting, we will not be having our monthly meetings in the Fall of 2011, but we will still communicate via our

⇒ Monthly Newsletter
⇒ New Wiki Space!
⇒ UETCTM Webpage
⇒ Facebook Page

Please let me know if you have any questions, comments, or concerns.

Sincerely,

Ryan Nivens

MATH TRIVIA

1. Why should you never mention the number 288 in front of anyone?
2. Which weighs more? A pound of iron or a pound of feathers?
3. How is the moon like a dollar?
4. What is alive and has only 1 foot?
5. When do giraffes have 8 feet?
6. What coin doubles in value when half is deducted?
7. What is the difference between a new penny and an old quarter?
8. If you can buy eight eggs for 26 cents, how many can you buy for a cent and a quarter?
9. Where can you buy a ruler that is 3 feet long?
10. If there were 9 cats on a bridge and one jumped over the edge how many would be left?
11. If you take three apples from five apples, how many do you have?

ANSWERS ON PAGE 15
Adolescents are spending less time outdoors than in previous generations. (Lidberg, 2007) This is due to a variety of factors including busy and structured lives that reduce free time, decreased access to natural spaces due to development, greater focus on electronic activities, and safety concerns associated with unsupervised time away from the home. (Clements, 2004; Lindberg, 2007) Why does this matter? If, as the research suggests, adolescents are spending less time in natural environments, what does this mean for adolescents? What are the implications of adolescents spending less time in natural environments and more time on school, work, computers, and TVs?

Natural environments have several positive outcomes on adolescents, including stress relief (Ulrich, 1983), positive well-being and health (Doucette, 2004), and improved cognitive functioning (Berman, Joindes, & Kaplan, 2008). Natural environments also have a restorative affect on individuals of all ages (Kaplan, 1995).

Current research shows the benefits that natural environments can provide. However, based on current literature, one is only able to infer the implications of spending less time in natural environments. There is little to no research that focuses specifically on the implications of adolescents spending less time in natural environments. While natural environments appear to be a valuable resource for individuals of all ages, it is difficult to compare the benefits of spending time in natural environments with the benefits of other activities; although, many individuals may find that a leisurely walk through the park or even a gaze out of the window can help them stay attentive to the task at hand.


READING AN ANALOG CLOCK

By Crystal Peak
Avoca Elementary School
Bristol Tennessee City Schools, 3rd Grade

I often find that, in third grade, my students still struggle to read the analog clock in the classroom, especially at the beginning of the school year.

In order to help them and to increase their familiarity with analog time, I create our class schedule with a clock picture beside each item that shows what time we will do each activity. This way, students can learn to recognize the times when they see them, and it cuts down on the questions that I get asking if it is time to go here or there.

By the time we get to our unit on telling time, the students have a good head start at reading analog clocks.
MATH FOOTBALL

By Tim Smith
Vance Middle School,
Bristol Tennessee City Schools
7th & 8th Grades

Ongoing review is crucial for students to retain what is being taught. One game I have found to be successful is math football. I use it the first half of the school year throughout the college football season. I have found that students who are not very athletic as well as students who do not like sports in general seem to enjoy this activity. It is a game in which any student can feel as if they are as athletic as the biggest jock in the class and learn math at the same time.

This activity can be interactive with all class periods by having them compete against one another for the Math Championship. The game runs as follows:

1. Have a model football field or draw one on the board
2. Have each class come up with a team name
3. Break the students into groups of 2-3.
4. One student from each pair comes up and draws out a football scenario (one at a time, of course); e.g., 10 yards, 5 yards, etc. If they draw out a fumble or interception they must go on defense until they answer four consecutive questions to get the ball back.
5. Once the student pulls out the scenario, they are presented with a math problem. If they solve it correctly they get the yardage. If they answer incorrectly they lose a down. Once it is 4th down they can go for it or punt.
6. If a team scores a touchdown the person who scored must throw the ball through the field goal post for the extra point.
7. They must then go on defense and earn their way back to offense by answering four questions in a row correctly. They can also get the ball back by pulling out a fumble or interception and answer the question correctly.
8. The total score is kept weekly. At the end of the semester, the two top teams play in the Championship Bowl game. (You may vary this and have a playoff game and use the total scores as seeding)
9. The winning team gets their team name engraved on a plaque and a party of some kind.
This is a great game to play on Fridays as a way to review what has been taught throughout the week and throughout the year. Typically, the students will be able to work through 20-25 problems in a given class period. I usually use 15 problems to cover the topic I am currently teaching and 10 problems covering other topics that have been previously taught.

5 yards  5 yards  5 yards  5 yards  5 yards
5 yards  5 yards  5 yards  5 yards  5 yards
5 yards  5 yards  5 yards  5 yards  5 yards
10 yards 10 yards 10 yards 10 yards 10 yards
10 yards 10 yards 10 yards 10 yards 10 yards
20 yards 20 yards 20 yards 20 yards
25 yards 25 yards
50 yards
Fumble  Fumble  Interception
Interception
5 yard sack  10 yard sac
OH THE QUESTIONS WE ASK OURSELVES!!

By Rebecca Faidley
Anderson Elementary School
Bristol Tennessee City Schools, 5th Grade

Did I explain that well enough? Do my students understand? Have we practiced this skill enough? Will my students know this material next week? What else can I do to help them remember this? These are some of the questions we as teachers ask ourselves every day. We want to do the best job we can do, we want to have the best students we can have, but most importantly these days we want the best test scores we can get. What are we doing to our students? Is this the best way to educate our students for the future?

Having been in education for over thirty years, I have seen the pendulum swing back and forth a couple of times. In the eighties we did “Basic Skills First”. These were similar to the SPIs of today. We were given the basic skills that students should learn in each grade level and those were emphasized and tested. The big difference in what we did then and what we are doing today is that we were not as concerned about test scores as we were the fact that students were actually getting the skills. Today we teach skill out of context in most circumstances and just hope students can remember them until they are tested on them.

We teach students skills that they have no foundation for; therefore, the skill really makes no sense to them in most circumstances. We give the students little practice once we have taught the skills because we have no time, and we have to keep up with the pacing guide.

The most important question we should be asking ourselves is “Are we really doing what is best for our students in the long run?” We are doing a lot of good things in education, but I feel the need to use test scores as the only indicator of success is a failure of our educational system.
Elementary school teachers have the monumental task of laying the foundation for a child's mathematics career. Even in Kindergarten, elementary school teachers are beginning to establish practices and habits that will continue on with a student throughout their life. Don't believe me? How many times have you done an algorithm because that is the way one of your teachers in third or fourth grade assured you that you should do it and you didn't need to question it.....just do it? When you think about it, how many processes can you think of that you don't know why it works....it just does?

As an elementary school math teacher, it is your charge to teach your students math, but more importantly, to help your students understand why they do what they do. Concrete experiences are important at every elementary school grade level. The more concrete or real you make your students’ math experiences, the more they will understand the process that is behind the algorithms. This is your most important job: understanding.

There are lots of ways to provide concrete experiences for your students. Manipulatives are a concrete way to help your students understand abstract concepts. Drawing pictures is also an excellent way for students to work out problems that are too abstract for them to grasp. By drawing out pictures, students can see what is actually happening in the problem and it makes the problem more concrete. Another strategy is to have students break problems that are too difficult down into smaller more manageable pieces (as in multiplication or division). Having students use different strategies to enhance their understanding gives them lots of opportunities to “get it.”

Elementary school teachers need take the time to help ensure that students have a solid understanding of mathematical concepts. Once teachers lay a good foundation for mathematical concepts, students will build on it throughout their mathematical career. The better the foundation, the farther the student will be able to go in mathematics.
What teaching strategies are you using in the classroom? As a new teacher, being hired fresh out of college, I wanted to use all the techniques we discussed in my college courses. I wanted to have the students actively engaged in each lesson by implementing hands-on activities, incorporating music and movement, creating games, and keeping them motivated throughout the learning process.

I am currently entering my third year of teaching and feel pretty confident that I use these strategies often in my classroom. However, I also find myself lecturing to the students about various algorithms needed to master specific state standards. As I teach these algorithms I am constantly explaining why we use them and why they are important in mathematics. Still, I feel as though students never fully understand the reason they are using a certain formula or following specific steps in order to solve a problem. There seemed to be a missing link and I struggled trying to figure out what it was.

This summer I have been fortunate enough to become part of a program called Mathletes. For two weeks I attended classes with other teachers in my community. I was not sure what to expect when I committed myself to this program. I figured I would learn a few new strategies and teaching techniques to use in the classroom, but the program offered so much more than I expected. I have been able to form some wonderful relationships with other teachers and create an amazing set of resources. The best part about Mathletes is that I truly believe I found a solution to my missing link: using meaningful manipulatives in the classroom.
My eyes were opened to the fact that manipulatives give visual reasoning for the algorithms we are learning in the classroom. One of my favorite activities is using base ten blocks for division. You can explain to students that division is the process of taking a large group of items and splitting them into smaller groups where each group has an equal number of items. However, it makes more sense to let students have their hands on base ten blocks and discover how to place them into equal groups. In this case, manipulatives become meaningful in the classroom and students make their own conclusions about a process. This allows students to gradually move from concrete to abstract methods of learning and they finally understand the reasoning behind algorithms.

I am certainly looking forward to beginning my third year of teaching with this new approach. I will actually pull the manipulative kits out of the closet and use them for meaningful learning purposes. I am very thankful for being given the opportunity to attend Mathletes and even more grateful that the program allowed me to find my missing link!
The role of the students of today is more exciting and challenging than in years past. Students can actively make their own choices on how to obtain information. They no longer have just teacher lectures and textbooks. They are exposed to a wealth of knowledge utilizing a variety of technological tools.

The teachers’ roles have significantly changed also. They are no longer the providers of information but stand as facilitators to assist students by giving suggestions and support.

Students are motivated by technology because they feel less threatened, and it enhances self confidence. They like to take an active role in mastering technology-based tasks and this boosts their self esteem. Technology provides additional strategies in which students can demonstrate what they understand.

Students acquire an amazing wealth of skill through the many varieties of technological devices and software for computers. It is empowering to students to learn to embrace technology and use it in ways to associate with real world situations. Students learn to collaborate with each other and work cooperatively, sometimes giving each other pats on the back for a job well done. This certainly could carry over into the regular classroom activities.

The students of today have an abundant wealth of opportunities in multimedia products generated by technology. We need to definitely keep our sights set high for keeping technology based curriculum alive and well in our classrooms.
Relating on a variety of tools to extend and practice mathematical skills taught, the Accelerated Math program is an effective approach that allows students to work at their own pace at a variety of levels on various skills. Its sister program is the Accelerated Reader program that is already widely used in the Tri Cities area which provides enhancement and practice in students reading abilities and comprehension.

The Accelerated Math program is tailored to the students’ individual skill level allowing for review and extension of skills. The Computer generated practices and assessments are determined by the students introductory STAR Math test as well as the teacher’s formal and informal assessments of students mathematical knowledge.

Using Accelerated Math gives students the opportunity to complete assignments and receive immediate feedback. By getting immediate results, teachers can provide instant praise and seize the opportunity to have individual discussion on missed problems/skills and offer peer tutoring to students of different academic abilities.

This program is user friendly and has shown to improve retention of skills taught, as well as improves students’ math scores. The independence this program fosters is another plus for learners. It has created a boost in students’ self-confidence and allowed children to find a new way to enjoy math!
NUMBER PATTERN GAME

By Jana Baker
Avoca Elementary School
Bristol Tennessee City Schools, 3rd Grade

To practice figuring the continuation of number patterns and the rule that goes along with each, we play a game. All students stand behind their desks and I give them a starting number and the rule to the pattern. We go around the room continuing the pattern. If a student should give a wrong answer, they must sit down. The last student standing is the winner. The rule can start out as easy as +2 or get more difficult, such as +1, –3, ×2, depending on the ability of your students.

This is really a fun way to reinforce number patterns as well as math facts.

ANSWERS TO MATH TRIVIA

1. Because it is too gross (2 X 144 = two gross).
2. Both weigh the same.
3. They both have four quarters.
4. A leg.
5. When there’s two giraffe.
6. A half dollar.
7. 24 cents.
8. 8.
9. At a yard sale.
10. None—they are copycats.
11. Three apples.
UPCOMING CALENDAR DATES

UPPER EAST TENNESSEE COUNCIL OF TEACHERS OF MATHEMATICS

Tuesday, October 12, 2010
Ross N. Robinson Middle School, Kingsport, TN

Monday, November 8, 2010
Sullivan North High School, Kingsport, TN

Monday, February 7, 2011
Church Hill Intermediate School, Hawkins County, TN

Tuesday, March 8, 2011
Indian Trail Middle School, Johnson City, TN

Monday, May 2, 2011
Bristol City Schools, TBA

NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS
2010 REGIONAL CONFERENCES AND EXPOSITIONS

October 7—8, 2010
Denver, CO

October 14—15, 2010
Baltimore, MD

October 28—29, 2010
New Orleans, LA

2011 RESEARCH PRESESSION
April 11—13, 2011
Indianapolis, IN

2011 Annual Meeting and Exposition
April 13—16, 2011
Indianapolis, IN

TENNESSEE MATHEMATICS TEACHERS ASSOCIATION

TMTA Fall Conference
September 24—25, 2010
University of Tennessee, Martin
We 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.

Request for Article Submissions

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Membership Fee: $10
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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 best practices among mathematics educators.