



# UETCTM News

## Second Meeting for the Fall

The second meeting this Fall of the Upper East Tennessee Council of Teachers of Mathematics will be held at Sullivan South High School from 4 to 6 pm.

Schedule for the meeting:

- 4:00 – 4:20 Food and Fellowship
- 4:20 Welcome Activity
- 4:30 Newsletter, Attendance; Minutes from last meeting; Treasurers report (take up dues)
- 4:40 Constitution and Bylaw Changes
- 5:00 Break Out Sessions

Middle and High School: Fractals and Cancer – Could The Cure Be In Mathematics?

Elementary School: Teaching Math Using Your SmartBoard

Are you a teacher with a SmartBoard, but not enough time to build your own lessons from scratch? Learn how to make your SmartBoard work for you. This workshop will help teachers in elementary grades use the SmartBoard to teach a variety of math concepts by combining best practices and technology. This in-service is not designed to teach specific SmartBoard skills, but rather how to teach math using a SmartBoard.

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# The Middle School Math Classroom “Under Construction”

*by* Cindy Hayes

New math standards call for a reform in teaching and learning. Not only does it require a complete redesign on the way it is taught but also a new design in the classroom physical environment. In the same way that the environment can impact our lives, it can also contribute or take away from the way a student learns. The environment plays a significant role in the learning process. Everything we have learned about the world has come to us in one way or another through the environment in which we live. Think about what students see as they enter your classroom. Does the desk placement convey the message of cooperative learning to your students? Does the physical layout promote active involvement throughout the classroom? And, does the overall atmosphere encourage a safe environment with team work? To promote actively engaged learning at a higher level we must address these questions.

In a standard classroom, the largest amount of space is occupied by the arrangement of individual student desks. Are your desks arranged in such a way that invites cooperative learning or individual learning? The days of desks lined up in neat rows and facing the teachers are long gone. Students need many opportunities to be actively

involved in cooperative learning through small groups. Create an environment that allows students to discuss mathematics and make sense of mathematics in cooperative learning situations.

Therefore, desks should be arranged in ways that interaction is easily obtainable. For easy discussion and collaboration clustering desks is one possibility. Just remember that experimenting, discovering and analyzing is so much better with input from your peers. So pull those desks together and create an environment of cooperative learning.

Secondly, the physical layout reflects your teaching style. The arrangement of desks, working areas, and materials are very important to the daily routines within the classroom. Engaging students with manipulative materials and active mental involvement to support their learning of mathematics, needs to be relevant by the physical layout. Don't be afraid to pull out those manipulatives and let your students explore. Go find those crayons and color pencils from the younger grades to assist your middle school student to visual see complicated concepts. When a student walks into your math classroom let them see more than just textbooks and worksheets. The moment that student walks in the room let their minds run (continued on page 3)

freely with questions of why the blocks, why the tiles, and why the color pencils. Let them be curious on what does all of these things have to do with math. It is time to take math instruction to the next level. It is time for them to explore math.

And last, what message is the overall atmosphere sending to your students? Is your room warm and inviting? Does it reflect a positive exciting atmosphere? The classroom needs to send the message that portrays a positive attitude and genuine interest in mathematics. So many times we hear parents and students make the comment that math is not their favorite subject and that they never understood it. So immediately you already have a student that has shut down physically and emotionally with anything that has to do with math. A classroom enriched with bright colors, plants, music, motivational posters, math literature, and manipulatives can assist in creating an exciting environment for learning. Let them see that math is not just black and white! It is

up to you and how you present yourself, the math content and your classroom to promote positive active engagement within the classroom.

Creating an environment that engages meaningful, hands-on and authentic, learning experiences takes a lot of thought and planning. Visit other classrooms and share ideas what has worked and hasn't worked. And most of all don't be afraid of change. Remember the standards are stating that students must explore, model, conceptualize, interpret, predict, compare, evaluate, recognize, and use manipulatives. So to meet these goals teachers are going to have to open their classroom to cooperative and hands-on learning. Pull out the manipulatives, display numerous math literatures, display unique math posters, and re-arrange those desks—it's time to get in those small groups and explore!

*~ Cindy Hayes is a teacher at Fall Branch Elementary in the Washington County School System.*

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## The School Website

### A New Kind of Math Homework

*by Roseanna Self*

Mathematics is a subject that requires various reinforcement activities in order for students to be successful. So the saying goes, "Experience is the best teacher." This is very true for most people. Classroom teachers are continuously looking for a way to make math "stick," to make it memorable and meaningful. Today, teachers are forced to look beyond the four walls of classrooms and the pages

of textbooks in order to help students achieve in mathematics. On a daily basis, teachers use various modes of instruction. However, when the school day ends, most students are sent home with the traditional mathematics homework assignment... repetitive practice, straight from the textbook.

Teachers can take advantage of the recent, rapid advancement of technology in classrooms and in

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students' homes. Instead of tying students to the textbook to complete practice at home, teachers have the opportunity to make math homework a meaningful experience. There are a vast number of (continued on page 4) websites available to math teachers and students for this purpose. Every day, teachers learn about various, free web resources at professional development seminars. Unfortunately, in the classroom, there is not always time to use them. To get the best use of these free resources, teachers can attach links to resources on their school's website for the students to access at home.

These resources may prove to be more beneficial to students than traditional, skills practice, because web resources can provide interactive experiences. However, there are some things to keep in mind when creating a website. In order for a website to be effective, it is important that the website be in proper working condition. It is essential that the website not be bogged down by various texts and graphics. If a website is slow-loading, people will not respond well. It is important to keep it

simple and make sure it is easy to navigate, in order to be most effective. Another way to ensure that a website is effective is to make sure that it is well-maintained. In doing this, periodically make sure all links are properly working and all information is easily accessible.

As teachers continue looking for a way to help students be successful in mathematics, they may find that the answer is sitting on their desks. Websites are an excellent way for teachers to help students achieve while making sure the students' math education is more than just repetitive practice. Traditional homework can be reformed with a little effort in creating a website that allows students to go beyond the textbook. With all of the web resources available, teachers have a great opportunity to bring students out of the traditional mindset that mathematics is a skill and into the realization that math is a learning experience waiting to happen.

*~ Roseanna Self works for  
Rogersville City Schools.*

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## **Mark Your Calendar for NCTM Conferences**

### **Annual Meetings & Exposition**

San Diego - April 21-24, 2010

"Connections: Linking Concepts and Context"

Speaker proposal deadline is May 1

### **Regional Conferences & Expositions 2009**

Boston - Oct. 21-23

Minneapolis - November 4-6

Nashville - November 18-20

(In Conjunction with TMTA's  
annual meeting)

Events Taken from NCTM Newsletter (45.6)

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## **Math With Meaning**

*by Tammy Winger*

Math is a subject that students need to have active learning through hands-on and team-based projects that make math meaningful to the students. I have found that the more real life scenarios you put in math class, the more enjoyable the lessons are for the students. They seem to receive a deeper understanding of the concept that is being taught, and as we all know when something is done with a purpose we remember it longer.

As a huge fan of science, I try to incorporate science in my math lessons and vice versa. These two subjects go together, and as we all know the students need to grasp both of them. I give the students a group

project that takes about a week to finish. This project combines science and math concepts (old and new ones), while teaching the students to work together to finish a job. An example of one project I use is be giving a group a situation that involves them being on a deserted island with a storm slowly approaching them. Their job is to build a shelter that will keep them from getting wet. The group will get together and begin brainstorming design ideas. They have to keep in mind that they have a limited amount of materials on this island (which have already been given to them) and these are the only things they can use. (continued on page 6)

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### **Request for Article Submissions**

We are always looking for people to contribute articles to our ongoing “Math Perspectives” series. Every month, we would like four people to write 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 next volume dedicated to mathematics problems. We are looking for people to submit favorite problems focused on various grade bands.

If you or someone you know would like to contribute to this column, please contact the newsletter editor, Ryan Nivens at [nivens@etsu.edu](mailto:nivens@etsu.edu).

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Once this had been decided, the students will use their sketch to build a scale model of the shelter. Before they can begin to build this model, they have to decide what scale they are going to use for their design. (For example if the real size log is three meters and the craft stick you are using to represent the log in the scale model is twelve centimeters then the scale would be four centimeters equals one meter.) They will do this for all the items they are using to build this model (wax paper, aluminum foil, string, clay, etc.). There are specific requirements that the team must meet. The shelter must be able to house a certain number of occupants and each occupant must have a specific amount of personal space. The teams build their shelter, and after everyone is finished we will discuss the

advantages and disadvantages of each design.

This project can be modified in many different ways according to the skill you are teaching. You can also use this scenario to do different projects that involve other math or science skills. I find that the students enjoy these activities because it involves real life, and it pertains to many of the multiple intelligences. When doing activities that involve group work, the students are learning to work together and teach each other different skills. Let's face it, we all have our strengths and weaknesses, and I love seeing students teaching their peers. Each child will remember the skill much longer so they can build on it the following school year.

*~ Tammy Winger  
teaches 8th grade at Blountville Middle  
School in Sullivan County.*

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### Quote of the Month

"If in other sciences we should arrive at certainty without doubt and truth without error, it behooves us to place the foundations of knowledge in mathematics..."

— Roger Bacon

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## NCTM Membership and Journal Subscriptions

Are you a member of NCTM (National Council of Teachers of Mathematics)? As an NCTM member you can receive one or more of four outstanding journals depending on your interests: *Teaching Children Mathematics* (geared towards elementary school), *Mathematics Teaching in the Middle School*, *Mathematics Teacher* (for high school teachers), or *Journal for Research in Mathematics Education*.

In addition, the NCTM web site has a number of members-only features including an online journal devoted to more high-tech tools for all levels, and NCTM publishes many books, monographs, and yearbooks of interest. Now when you join or renew an existing individual membership online, you can choose to have a rebate sent back locally to UETCTM. New NCTM members or members renewing after a lapse of at least a year earn UETCTM a \$5 rebate; renewing NCTM members earn us a \$3 rebate. Go to [www.nctm.org](http://www.nctm.org) for more information, and when you fill out the online membership form, select Upper East Tennessee Council of Teachers of Mathematics from the drop-down menu for the state.

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## Franklin Math Bowl is Fast Approaching!

The 2009 Franklin Math Bowl will be held on Saturday, November 14, from 8:30-3:00. The Bowl is a contest for students in sixth through eighth grades and is held on the ETSU campus. Students compete in individual tests and in problem solving tests in teams of up to four. Each school can send up to two teams of four plus two alternates for each division (sixth, seventh, regular eighth grade math, and algebra). The Bowl is sponsored by ETSU's math department, University School, and UETCTM.

Registration is \$5 per student, which pays for trophies and printing the tests. If you didn't receive an invitation in the mail, registration forms are also available on the website <http://www.etsu.edu/math/fmb>.

More information about the contest and copies of some old tests are also posted there. For questions, contact Daryl Stephens at [stephen@etsu.edu](mailto:stephen@etsu.edu) or 423-439-6973. Registration deadline is October 19. The Bowl can always use volunteers to help grade or proctor the tests; if you would be willing to help, please contact Daryl also.



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**Upper East Tennessee Council of Teachers of Mathematics  
Membership Application**

Complete and return to Jerry Whitaker with a check for \$10 made payable to : **UETCTM**. Completed Application and check may be mailed to:

Jerry Whitaker  
Mathematics Curriculum Coordinator  
Washington County Schools  
405 W. College Street  
Jonesborough, TN 37659

**Name:** \_\_\_\_\_

**Home Address:** \_\_\_\_\_

\_\_\_\_\_

**Home Phone:** (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

**School:** \_\_\_\_\_

**School Address:** \_\_\_\_\_

\_\_\_\_\_

**School Phone:** (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

**Email Address:** \_\_\_\_\_



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If you are reading this newsletter on paper, you're missing out on all the color! Visit our web site ([www.uetctm.org](http://www.uetctm.org)) to see the newsletter as a full-color PDF file with clickable links.

**ETSU**

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