



# UETCTM NEWS

SEPTEMBER  
MATH FACT:

VOLUME XIII, ISSUE I

SEPTEMBER 2012

- IN 1752, WHEN ENGLAND ADOPTED THE GREGORIAN CALENDAR, THE DATES SEPTEMBER 3-13 DID NOT EXIST. THE POOR RICHARD'S ALMANAC OF 1752 HAD THE HEADING, "SEPTEMBER HATH XIX DAYS."

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## Girls Rule! ...at Arithmetic!

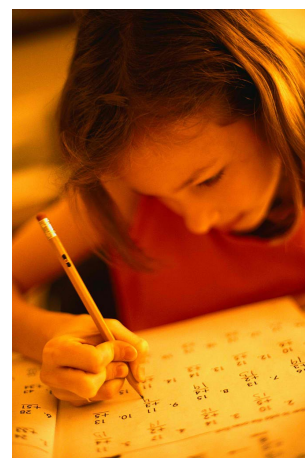
A recent study published in *Psychological Science*, is shaking the notion many of us have long carried that boys perform better than girls at math. The study, performed in Beijing by Dr. Xinlin Zhou and colleagues, indicates that girls outperform boys in areas of math like arithmetic and numerosity comparison, and cites girls' superior verbal skills as the foundation for this proficiency.

The study was conducted on children ages 8-11 at 12 different primary schools in Beijing. Across the board, girls' performance was superior to that of boys in the areas of arithmetic, quickly recognizing larger numbers, and completing numerical sequences. Boys still had the advantage when it came to problems that involved spatial

reasoning, like deciding which figure would correspond to a rotated three dimensional object.

The key, says Zhou, is that arithmetic and sequencing are things which are learned verbally, for example, the learning of multiplication tables. Words and phrases such as "larger than", "less than", and "times" require verbal reasoning skills, and the concepts are heavily rooted in verbal knowledge.

Ultimately, Zhou and his colleagues hope that the study can help improve mathematics education and performance for both boys and girls. Perhaps by helping girls develop their spatial reasoning, and boys their verbal reasoning, both sexes will improve mathematical ability in multiple areas.



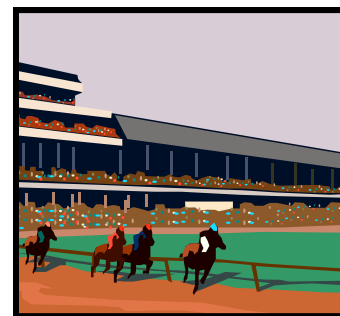
To read the full article, "Girls' Verbal Skills Make them Better at Arithmetic, Study Finds", and learn more about Dr. Zhou's work, visit [Science Daily](#).

## A Day at the Races

A mathematician and a Wall street broker went to races. The broker suggested to bet \$10,000 on a horse. The mathematician was skeptical, saying that he wanted first to understand the rules, to look on horses, etc. The broker whispered that he knew a secret algorithm for the success,

but he could not convince the mathematician. "You are too theoretical," he said and bet on a horse. Surely, that horse came first bringing him a lot of money. Triumphant, he exclaimed: "I told you, I knew the secret!" "What is your secret?" the mathematician asked. "It is rather

easy. I have two kids, three and five years old. I sum up their ages and I bet on number nine." "But, three and five is eight," the mathematician protested." I told you, you are too theoretical!" the broker replied, "Haven't I just shown experimentally, that my calculation is correct?"





## Former President's Message:

Welcome to school year 2012-13. Hopefully your year is off to a good start, and we're only a few weeks away from the end of the first quarter. I would like to send a warm welcome to our new president of UETCTM, Tara Harrell. Tara brings many years of teaching experience to our group, and has spent the last few years as a math coach for Hawkins County. Be sure and say "hello" to her at any of the meetings you attend this year. She nearly has the schedule of our meetings finalized and you will be receiving that by email and on the website shortly.

This month the annual meeting of the TMTA took place at Tennessee Tech University in Cookeville, TN. Over 400 teachers attended over the two days of meetings. Teachers from our region were there including myself, Pam Stidham of Kingsport City Schools, and Dr. Daryl Stephens of ETSU. Several students from our area were also honored as winners of the state math contests, and I encourage you to look up the TMTA Bulletin to see the list of students, schools, and teachers who placed in the top 10 of the various categories.

I encourage all of you to stay in touch with one another and share ideas. This year we will be publishing almost 70 essays in our newsletters. If you have anything you have written, feel free to send it to me for consideration in the newsletter. It is a great way to document your Communication to your principal in your yearly evaluations, and it allows you to share ideas with others. Have a great year!

Sincerely,  
Ryan Nivens  
Past-President, UETCTM



# Career Opportunity

## Coordinator of Math of Content and Resources

Tennessee sits at a critical juncture in education. As the first winner (along with Delaware) of the Race to the Top competition, we have a compelling vision, plan and goals designed to make our state the fastest improving state in the country in educational outcomes. At the same time, we know we have a long way to go, as our students currently rank 46th among states in math proficiency levels, and 41st in reading based on 2011 4th grade NAEP results. Only 16 percent of Tennessee students are college-ready in all four subject areas on the ACT. And we have a large achievement gap throughout the system along lines of race/ethnicity and income.

**Charge:** The Coordinator of Math Content and Resources is charged with coordinating the content components of the transition to Common Core State Standards in mathematics. This person will be responsible for ambitious goals for improvement in student achievement on the NAEP, ACT and PARCC exam in mathematics and developing a bold strategy to support the course structure and educator resources to support this transition. The Coordinator of Math Content and Resources will work with a group of leading educators from across the state and country to ensure deep state understanding of the expectations of the Common Core State Standards in mathematics and inform all aspects of our transition (including assessment design and training approach and instructional materials.)

### Responsibilities:

- Coordinate and support the development and dissemination of high-quality, resources for common core transition in mathematics
- Spearhead initiative to rethink high school math course sequencing, staffing and supports
- Help shape the agenda for state-wide and local trainings to support continuous improvement of mathematics instruction
- Work with math positions in COREs across the state to support the sharing of best practice
- Coordinate and weigh-in on item review and course review in mathematics

### The key characteristics we are seeking in this person include:

- A track record of dramatically improving results improving student achievement in mathematics
- Evidence of continuous improvement and ongoing learning orientation. Desire to work with educators from across the state and country to deepen perspective of effective instruction. (This is not a position where we are looking for an “expert in mathematics.” While we do seek someone with substantive experience with math instruction we are looking for someone who will coordinate state-wide learning in mathematics, not someone who will serve as a sole specialist for the content area)
- Strong communication skills and a demonstrated ability to communicate complex matters with educators in a clear and empowering manner. Experience working with diverse teams successfully.
- Strong organization skills and track record of managing projects to meet deadlines and achieve milestones over time

The Coordinator of Math Content and Resources will report directly to the Executive Director of Content and Resources and work with a variety of department staff members, vendors and educators throughout districts.

The salary for this position is competitive and commensurate with previous experience.

This position is based in Nashville, TN.





Adam Sikora teaches for Bristol Tennessee City Schools.

*“It finally dawned on me that I had to completely change my classroom environment, and a large part of that centered on me.”*

## “Be Sure To Celebrate the Small Successes!”

By Adam V. Sikora

“Be sure to celebrate the small successes,” declared Dr. Nivens on our first day of Eastman Mathletes training in the summer of 2012 on the campus of East Tennessee State University. This statement echoed throughout the two-week course, as we built a strong class team from a group of mostly strangers. The consistent celebrations quickly established a nurturing environment for creativity and growth.

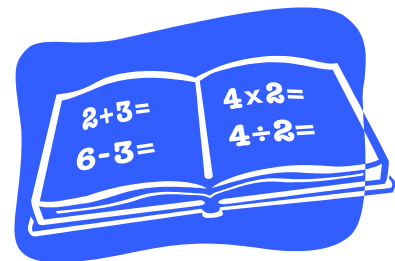
I stepped into the classroom for the first time last fall, coming directly from a nearly ten-year career in the Air Force as a meteorologist. I had zero educational training, as I was licensed through the alternative program at ETSU. This all left me with little to rely on to teach teenagers algebra and geometry. As I struggled to get ahead of the curriculum, classroom discipline problems inevitably began to surface and fester. I managed these issues “by-the-book” with cold resolve, which was inherent from my military background. While this tactic seemed to solve the existing discipline problem, another would soon follow, and it became nearly impossible to spend quality time and effort on the math curriculum. Towards the end of the fall semester, my mentor made a note that I should praise the students more. It finally dawned on me that I had to completely change my classroom environment, and a large part of that centered on me.

I had certainly overlooked the power of positive reinforcement. “Be sure to celebrate the small successes,” resonates a lot more with me now. The program at Eastman Mathletes showed me a lot of other ways to incorporate that in my classroom. For example, we applauded individual efforts in team-building exercises, the whole team’s successful completion of the exercise, individual presentations of a strategy and/or solution to a math problem, and group presentations of posters or activities. Student feedback was framed with more positive and encouraging vocabulary.

Students were given time and space, when appropriate, to develop and discover their own solutions. We frequently celebrated these successes.

Personal development is said to be the direct result of setting and accomplishing goals. Often the goals we set for ourselves are strictly long-term. “Success is the sum of small efforts, repeated day in and day out,” states Robert Collier. By celebrating smaller successes along the way, an attitude develops of “I am successful.” Teens are just learning about the value of setting goals, which hopefully includes passing their math course. A constant series of small “wins” is the perfect formula to strengthen self-esteem and help break down the seemingly insurmountable path to the goal.

Teachers can similarly benefit not only with their own personal successes, such as scoring high on an evaluation, but also in the positive connections with students. The Eastman Mathletes program showcased the power that these positive connections can have, even in the highly scrutinized field of public math education. Maya Angelou embraces this notion with the quote, “I’ve learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.” I intend to make my future students feel great about themselves and subsequently their competency in understanding and practicing mathematics.



# Math and Science Integration

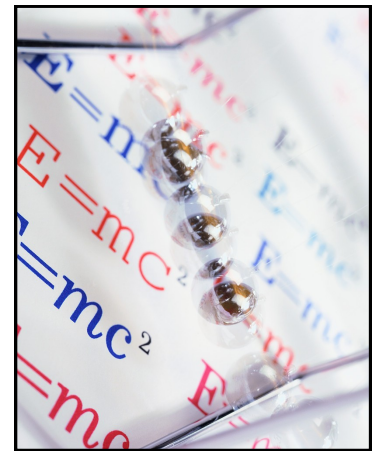
By Lynna Bingham

My 5th grade students love coming in and finding colored pencils or markers on their desks. I try to use them regularly to keep them interested before we begin the lesson. Being a teacher of both math and science, I try to integrate as many standards from each subject as possible. One of my favorite things to teach my students is how to make and interpret a bar graph. Tennessee state standards only require students to be able to use a double bar graph in 5th grade, but for this project I have students create a quadruple bar graph. I build it up as much as possible and have the students all excited about doing a higher level skill before they begin.

For timing purposes this activity is done in science class. In science, the students must see if the ocean currents affect the land temperature across the United States, and in math, the students must be able to predict data representations with bar graphs. Before we begin the project we learn the necessary information in science and then I have students predict what they think the outcome will be and why. They usually present this orally in a small group setting with me present. Then, I give the students a list of several cities across the United States in 3 categories. Students choose a west coast city, an east coast city, a Midwestern city, and their hometown. Students then use weatherbase.com to look up the average temperature for each month of the year at each location and fill in a chart to keep

their data organized. They use that data to make their bar graph. Each location is represented in a different color so it is easy to see the trends. I always have multiple examples for them to reference throughout the project. When the students are finished with their graphs, they are required to write two paragraphs

explaining the effects they see that are caused by the ocean currents. We also discuss the effects as a class and why they saw what they did as well as other variables that could have caused some of the results.



I display the student work on our classroom walls and the students are proud to see their finished product. By doing this lesson in science, many students are surprised when I mention the math skills they have been utilizing. Between the setting, colored pencils, hype about the skill, and presentation, this is one of my students and my favorite activities/lessons of the year.

**Lynna M. Bingham teaches for Washington County Schools.**





Carolyn B. Harris teaches for Kingsport City Schools.

*As teachers, we must support and encourage students to practice "math talk" in the same way we encourage "book talk".*

## Let's Talk Math, by Carolyn B. Harris

When visiting most elementary classrooms during literacy instruction, conversations abound. Readers respond to teachers' questions and talk with classmates about what is being read. Why do you think the author chose that title? If you could write a different ending for the story what would you write? Can you explain the details from the story that helped you draw that conclusion? Students often share the strategies that they used to help read an unknown word or which comprehension strategy helped them understand the story. Students and teachers join in conversations to help clarify understandings, give opinions, and make inferences about what is being read. Students are encouraged to explain their thinking by sharing supporting details from the text. Teachers listen and ask probing questions to encourage the reader to practice higher order thinking skills. Teachers monitor student discussions to evaluate student progress and plan for helping individuals strengthen their skills.

Why then, do such conversations stop being so prevalent during math instruction? Why should students' only focus be on listening to the teacher

explain concepts and strategies, rather than being active participants in the conversations about mathematics? As teachers, we must support and encourage students to practice "math talk" in the same way we encourage "book talk".

In *Lightbulbs Happen*, Nikki Faria-Mitchell emphasizes the importance of making students aware of the value of each others' ideas; having a classroom that is a safe place to learn and take risks; and the value of learning from peers. Routines must be put into place so that students have clear understandings of how to listen respectfully, ask questions of fellow students, and ask for help from the teacher and from classmates. Students must also learn how to present their ideas about strategies so that others can understand their thinking, whether they are working with a partner or presenting their thinking to the whole class. Explaining their thinking to others and justifying their methods helps the students more fully understand their own strategies. When several students share, connections are made and classmates benefit from being exposed to multiple ways of solving a mathematical question.

The teacher must purposefully plan for how to guide discussions so that learning is maximized for all students. When students are allowed time to express their ideas, the teacher validates the importance of the students' ideas as worthwhile. Through careful questioning, the teacher can help students discover why their strategy worked or needs revising. Having time to work through their thinking with others, empowers students to gain confidence in their ability to solve things on their own and develop persistence to challenge themselves to direct their own learning. During this time, the teacher should listen and monitor for learning that has been mastered or still needs refining.

When teachers understand the value of "math

talk" among students, they will make the time for this vital part of math instruction. Students will participate in conversations about why a strategy works or doesn't work; how their understanding connects with another student's understanding; or how they can prove their conclusions so that others understand. Having a math classroom community that values students' ideas and abilities to communicate their thinking enhances the learning of all students.

References:

Faria-Mitchell, Nikki, (2009). Lightbulbs Happen. In Judy Storeygard (Ed.), *My Kids Can*, (pp. 113-125). Portsmouth, NH: Heinemann.

### September Math Challenge!

This month's math challenge comes from [www.wuzzlesandpuzzles.com](http://www.wuzzlesandpuzzles.com), a marvelous site where teachers and math enthusiasts can find hours of fun puzzles and brain teasers for all ages!

**Try to fill in the missing numbers.**

- Use the numbers 1 through 16 to complete the equations.
- Each number is only used once.
- Each row is a math equation. Each column is a math equation.
- Remember that multiplication and division are performed before addition and subtraction.

	/		+		/		4
+		+		-		-	
	/		-		+		9
-		X		/		+	
	-		/		+		20
+		+		-		X	
	-		X		-		-73
14		61		-3		116	



Susan Davidson teaches for Hawkins County Schools.

*“You can focus your teaching on your PASSION, whether it be math, reading or science. There’s nothing like dreading “that subject” the one that always seems to get cut short or brushed to the side for another day.”*

## Departmentalized vs. Self-Contained Classrooms

By Susan Davidsom

Having spent the last ten years in a self-contained classroom, I was somewhat apprehensive to the concept of being departmentalized. I couldn’t have been more wrong! Departmentalization was the best thing to happen to this teacher. It made me take a look at how and what I was teaching and allowed me to focus my energy into becoming a better teacher. Classroom organizational structure has been debated for years. Higher education has traditionally been departmentalized. However, this concept of team teaching has been introduced into the elementary grades. I would like to take this opportunity to focus on the pros and cons of departmentalized vs. self-contained.

### Pros of Departmentalized

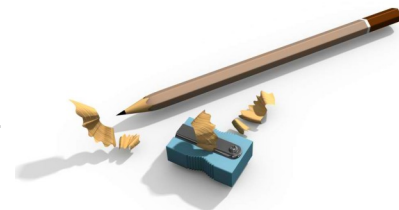
- You can focus your teaching on your PASSION, whether it be math, reading or science. There’s nothing like dreading “that subject” the one that always seems to get cut short or brushed to the side for another day.
- Planning for fewer subjects allows you to create more focused, well thought-out and exciting lessons.
- It allows students to see teachers with different personalities and teaching styles throughout the day. The kids benefit from the change of scenery. This change can also ease any student-teacher personality conflicts.
- You become better at time-management. If you only have 90 minutes, you’re more likely to be focused on your objectives for the day.
- The kids don’t get as “restless” because they know they will only be there for 90 minutes.
- You get better each time you teach a lesson...remember, practice makes perfect!
- If you have a difficult class, you get a break. You’re not locked inside a little room all day long with the same “little darlings.”
- Less “shock” to students when they go to middle school. They have that experience of changing classes, taking what they need with them to that class, and working with multiple teachers.





### Cons of Departmentalized

- You get tired of saying the same thing multiple times a day. By the time you teach the same lesson four times, you may forget important details.
- You don't have complete control over your schedule. It makes it more difficult to follow that "teachable moment" when your time is strictly enforced.
- It leaves less time for remediation. Having the opportunity to steal moments throughout the day to reinforce skills that may need extra time.
- Switching classes can be difficult for students who are not mature enough to handle several transitions. Students forget assignments, materials, and supplies. This can be especially hard for those students with high distractibility disorders.
- If you are the only one in your grade teaching a particular subject, it can feel lonely. You are solely responsible for the planning.
- More record keeping.
- Transition time can be difficult.



The intent of departmentalization is to use the teacher's strengths to teach content. I team teach with one other teacher and there are two teams in my grade. So, I have another math/science teacher to plan with and bounce ideas around with. We meet often to discuss planning and how lessons went. Communication is KEY! Departmentalization can work with any schedule; this is part of the joy of departmentalization, making it fit your needs and work for you. This will hopefully help with any concerns you may have had about departmentalization.

## September Math Trivia

- **2 and 5 are the only primes that end in 2 or 5.**
- **1 and 2 are the only numbers where they are the values of the numbers of factors they have.**
- **If it were possible to drive through space at 75 mph (120 km/h), you could reach the sun in a little over 142 years.**
- **If "Septem" is the Latin word for seven, then why is the root, "Sept" used to denote the ninth month of the calendar year?**



Diana Harris teaches for Bristol Tennessee City Schools.

*“At this moment in time, in this ideal, perfectly put together classroom, where nothing could go wrong, I was speechless.”*

## Diversity + Differences = A Masterpiece

By Diana Harris

A youthful and energetic teacher bounced into her classroom on the first day of school during her first year of teaching. Eager to meet her new students and inquire about what they had done over the summer, she quickly began giving instructions for an assignment. She asked her students to write about their summer vacations. The students were given twenty minutes to work on the descriptive writing. Next, the students were instructed that they would share the writings with their classmates. Twenty minutes of thought and reminiscing passed. The children gathered on the new rug at the front of the classroom, mildly interacted, and the reading began. An animated, curly headed, Caucasian girl enthusiastically volunteered to share her story first.

She began, “This summer my parents took my sister and me to Disney World. My daddy had to go for a business trip. We flew to Florida and then stayed in a fancy hotel for a week. I got a princess crown when I ate lunch with Cinderella! I have been to Disney three times before, but I thought this time was the best!” The second reader, a male student, tall and athletic, began to confidently articulate his story. “My parents took me to the beach. I love to surf. I got to use my new board. We went surfing, water skiing, and ate lots of food. It was the best trip ever because I am the best surfer!” Finally, it was time for the last student to share. He was a quiet and homely looking youngster. His shaky and withdrawn soft voice began to speak, as he slowly lifted his paper up closer to his eyes. “This summer, I done took a va-

cation to visit my dad. My Mamaw took me. He stays at jail in the mountains. It’s far away. We sit in a big room. Dad buyed me and my brother drinks from the machine. I love my dad.”

At this moment in time, in this ideal, perfectly put together classroom, where nothing could go wrong, I was speechless. The youthful and energetic teacher was me. The students reading those stories were mine. A realization and sense of reflection overwhelmed my heart and mind. Understanding that diversity illuminates our lives on a daily basis, do we slow down and acknowledge it? Do we get caught up in our own lives and place our attention on making things comfortable and ideal for ourselves? As a new teacher, was I forgetting that each student learns in a unique way askew from the “norm”? I was promptly reminded that my path did not bring me to this place only to serve as a teacher, but to be a self-sacrificing advocate who embraces, acknowledges, accommodates, and respects diversity. The power of knowledge and the process of learning would not occur unless I took a moment to slow down and realize that I must break things down into smaller pieces. The differences among my students’ background knowledge and prior experiences were evident. The value of a family trip to a beautiful beach or high-paced theme park was understandable and expected to some, yet, absurdly unreachable and impossible for others. Social, economical, emotional, physical, and spiritual differences splashed all around my mind like a young child playing in the water. Children

come from such dissimilar places, yet are unified in one place - school.

Beyond the walls and structure of this place called school is an ultimate hope to learn. It can be found when one puts on the glasses that enhance the vision of viewing humanity with a critical prescriptive. In order to inspire young individuals, teachers must continue to reflect upon practice and remember that children can take different routes to find a solution. Safety, security, warmth, and acceptance draw close together and describe an environment that provides all students with a chance to blossom in all subject areas. In order to venture away from depriving my students, I deemed to set up a classroom structure that welcomed and accepted all types of learners. Math instruction and sound design are rooted from the consideration of diverse students. In order to make teaching possible, true dedication and hard work had to bubble up to the surface. In creating a secure place, diverse learners feel a part of the whole. Each precious life that enters through the door may relax knowing that each diverse individual counts. As a new teacher, this cultural transformation reminded me of countless important elements of the educational conceptual framework. Have an open-mind, embrace and care for diversity, and have an empathetic heart are merely a few of the pillars that hold the framework together. Self-efficacy serves as a proactive response to the needs of all learners, diverse as they may be. Children come from black, white, or maybe even gray backgrounds and enter into the classroom with one hope, that the teacher will love and care for them, regardless of who they are.

In order to successfully teach math to students, we as teachers, must allow students to take risks, make mistakes, and collaborate while problem solving without the fear of judgment. If a trusting relationship can be built, all diverse characteristics fall into place; not to be forgotten, but to be respected. I must be sensitive to the ideas and per-

spectives of others to promote a positive relationship. Regardless of prior experiences, financial status, race, gender, religion, ability, performance level, age, or family life, students enter into a math classroom in order to help and to be helped.

Diverse learners are within every classroom. An ultimate responsibility of mine is to integrate diversity into the daily math curriculum. Therefore, altering the way in which instruction is conducted and tailoring activities to meet each child's needs is vital. If both teachers and students remember to take diversity into consideration and act upon it, all students will be able to achieve educational successes, regardless of the contrasting differences. The integration of hands on, visual, musical, artistic, natural, and auditory activities and engagement will help establish a union between the material being taught and the learners' preferred learning style. As a result, all students can achieve a goal, even if the goals are different. Rather than judge others and their math strategies, celebrate the differences among each student as well as the commonalities.

In conclusion, one of the best parts about diversity is that each individual has a gift to share with another. When this is gift, exchange takes place and a strong connection is built that helps to generate one solid team or family. Astoundingly, diversity is what we all have in common and can uplift each other by sharing experiences. Therefore, as an elementary school teacher, I am called to care for, respect, and deeply reflect upon how I can help unify and establish openness and risk-taking within the walls of my classroom. Holistically, I aspire to promote community among my students, enrich awareness of diversity, and model for each child that differences define our unique true colors, which together paint a vibrant masterpiece.

# Math Pinspirations, by Lauren Gladson



Lauren Gladson teaches for Hawkins County Schools.

*“One day, a fellow coworker sent me an invitation to Pinterest. I thought, ‘Pinterest? What the heck is this?’”*

Have you ever been working on your math lesson plans, and wondered “How can I make this fun?” As a first year teacher I found myself asking this quite frequently. My stash of math activities and resources was VERY low, so I always tried to find something that would make math a little more fun and interesting to my students. I personally Google everything, because it’s a sure fire way that if someone has posted anything on the internet to do with the math topic you’re working on its going to come up when you search it. The problem I would run into was I would find something at home or on my phone and I would have to keep a list of all the websites. This got extremely frustrating.

One day, a fellow coworker sent me an invitation to Pinterest. I thought, “Pinterest? What the heck is this?” Once I checked it out, I was hooked. Pinterest is like an online bulletin board where you can “pin” all sorts of things. I found this to be the answer to keeping up with my growing lists of websites; I could organize all the activities I found onto a Pinterest board (Keep in mind, Pinterest has more than educational things on there). Now, the addicting thing about Pinterest is that you have access to thousands, maybe even millions, of pins from other people; so needless to say you can find just about anything you are looking for. Being a first year teacher, with limited math resources, this became my best friend. I could find activities to go along with everything I was/would be teaching.

Teenager Post #6615  
 During a math test: Me:  
 my answer = 23 Answer  
 choices: 17, 19, 26, 36.  
 Me: well 26 is closer to 23,  
 that must be the answer.

[/teenagerposts.tumblr.com](https://teenagerposts.tumblr.com)

*From Pinterest: Humor*

Now my reasoning behind naming this article “Math Pinspirations” is because I would find activities to use, but I would use them as more of an “inspiration” and tweak the activities to make them my own or bring it down to my kids’ level. All in all, Pinterest is a wonderful online tool for teachers to use to organize any ideas they have for their classroom.

# The Building Blocks of Math, by Kathy Jarnigan

When a child is old enough to hold a block, most parents will say you have a block. The parent will begin to call the block by the shape and say you have one block. So building on prior knowledge has begun. Most parents will continue this process with blocks and other items the baby is familiar with such as fingers. Using finger puppets to count numbers from 1 to 10 is a good example.

Children acquire knowledge and skills from their own experiences. Bath time for toddlers can be used to introduce the concept of volume by filling and emptying containers of different sizes. Many children learn the names of shapes by riding in cars and seeing road signs.

Preschool children can begin to understand the concept of addition and subtraction. Games in which you are put into groups, board games, and card games are very helpful. Counting turns and calculating point scores reinforce these math concepts.

So when a child enters school, the teacher and the parents continue to build on the child's prior knowledge. The child will begin to understand place value enabling them to understand larger numbers. Every type math problem should be presented to the child as a way to solve a real problem in everyday life. This will help them understand the problem and also allow them to see how much math is used. The child will understand that math is not just used by scientists and architects. The child will see that we use it to plan a family budget, balance a checkbook, measure right amount for recipes, and build houses.

We, teachers and parents, need to encourage children to explain their answers. In other words, explain their figuring. How did they figure out the problem? We need to continue to build on their prior knowledge and give them the opportunity to think and explain. Eventually we should have students that are ready for whatever job may be in their future.



*Kathy Jarnigan Teaches for Hawkins County  
Schools.*

**Works Cited:**

*How to do Everyday Math* [www.ehow.com](http://www.ehow.com)

*PBS Parents* [www.pbs.org/parents/math/](http://www.pbs.org/parents/math/)



### Featured Speakers

**Jacqueline Gessner Brooks, Ed.D.**, is a Professor in the Department of Teaching, Learning and Leadership, Director of the Institute for the Development of Education in the Advanced Sciences and Director of Secondary Science Education at Hofstra University. Her research and teaching focuses on mathematics, epistemology and education in math, technology and science. *In Search of Understanding: An Inquiry into the Mathematics Classroom and Pedagogical (re)Forming* is the source of her work and has many publications exploring issues of curriculum, instruction and assessment.

**Jennifer Kay Williams, Ph.D.**, Professor at the University of Georgia, is a leader in mathematics education. Her book *Mathematics in Elementary and Middle School Mathematics: Building Empirically-Evolving General Understandings of Addition and Subtraction and More of the Same* (Book 4) of the *Mathematics 2011 Yearbook* and is a Past President of the Association of Mathematics Teacher Educators.

# 21st Century Teaching and Learning

The community of constructivist educators is gathering for 2012 Annual ACT Conference to share their work related to research, theory, and practice of constructivist approach to learning.

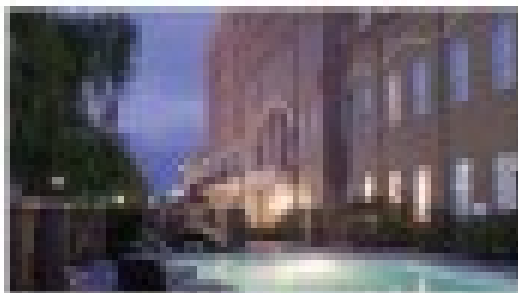
**Johnson City, TN**  
**October 19 - 20, 2012**

## 2012 Annual ACT Conference

### Venue

The conference will be held at the Millennium Center, a premier conference center offering the best in 21<sup>st</sup> Century learning and communication technology. The luxury four diamond **Carriage Hotel** connects to the Center.

**Event Includes:** \$100 + tax per room.  
 The hotel provides double service from TN's only airport for a fee. Make hotel and airport double reservations by calling 423-777-0400.



For additional information and registration contact the John Knight's photography site: [www.johnknight.com](http://www.johnknight.com)  
 or contact the Constructivist Teaching  
 Email: [CT@act-conference.org](mailto:CT@act-conference.org)

### Who should attend?

- Teacher Educators
- Classroom Teachers
- School Administrators
- Educators Everywhere
- Children's Families
- Others



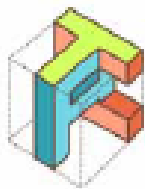
**Registration Fees (Pre-Paid Fee)**  
 The deadline for pre-paid registration is **September 30, 2012**  
 Includes breakfast and lunch

	Member	Non-Member
Thu. 19 (Sat)	\$100	\$100
Thu. 20 (Sun)	\$100	\$100
Thu. 21 (Mon)/Fri (Sat)	\$175	\$175
Thu. 22 (Sun)	No Conference (Part of local program visiting National Parkways)	

### Receive ACT member and save!

Special discount is available members and their spouses. The ACT website for more registration information and fee.

**\$100 = 1-year membership + Friday Afternoon Reports**  
**\$200 = \$25 for Friday Reports + \$75 for ALL DAY Saturday PLUS 1-year membership!**  
 Contact Carley Landy for your tickets for this special offer: [cl11@act-conference.org](mailto:cl11@act-conference.org)



ASSOCIATION FOR  
CONSTRUCTIVIST  
TEACHING



Johnson City, Tennessee  
October 19-20, 2012  
Sessions: 8:00 AM to 5:00 PM

## 2012 Annual ACT Conference

### *21st Century Teaching and Learning*

Come join the community of constructivist educators gathering in Johnson City, Tennessee to share their work related to research, theory, and practice of the constructivist approach to learning.

#### Friday Afternoon Keynote

**Jennifer Bay-Williams, Ph.D.**, Professor at the University of Louisville and co-author of *Elementary and Middle School Mathematics: Teaching Developmentally*, *Developing Essential Understanding of Addition and Subtraction*, and *Math & Non-fiction: Grades 6-8*.



*Helping Students Learn Mathematics in the Era of the Common Core: What connections can we make between constructivist learning theory and the Common Core State Standards (CCSS) Content and Mathematical Practices? We will explore this question across the grades, considering how we can best help students become mathematically proficient.*

#### Saturday Morning Keynote

**Jacqueline Grennon Brooks, Ed.D.**, is a Professor, in the Department of Teaching, Literacy and Leadership; Director of the Institute for the Development of Education in the Advanced Sciences; and Director of Secondary Science Education at Hofstra University. Her research and teaching focus on constructivism, epistemology, and education in math, technology and science. *In Search of Understanding: The case for the constructivist classroom* and *Schooling for Life: Reclaiming the essence of learning* are two of her many publications exploring issues of curriculum, instruction and assessment.



*Education and Learning in the 21st Century: A Simple Proposition:* Our national policy makers have made a serious miscalculation about what generates improved student learning. We must stop sacrificing the promise of real student learning for the illusion of student achievement. If we really are serious about reforming our nation's schools, it important that we, as educators together, place our emphasis on student learning, and explore the constructivist proposition and ways to put this proposition into practice.

#### Pre-Conference

Thursday, October 18, 2012

8:00 AM - 3:00 PM

See local early childhood programs in action as they engage children in scientific inquiry using Ramps and Pathways physical science activities.

#### Registration Fees (Early Bird Rates)

The deadline for pre-paid registration:

**September 30, 2012**

**Includes breakfast and lunch**

For additional information and registration contact Dr. Julie Dangel at [jdangel@gsu.edu](mailto:jdangel@gsu.edu)

Association for Constructivist Teaching

Phone: 423-439-7695 [www.constructivistassociation.org](http://www.constructivistassociation.org)

# UETCTM

## Membership Application



*Mail completed form to:*

Jerry Whitlock  
Mathematics Curriculum Coordinator  
Washington County Schools  
3089 Highway 179  
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 -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.