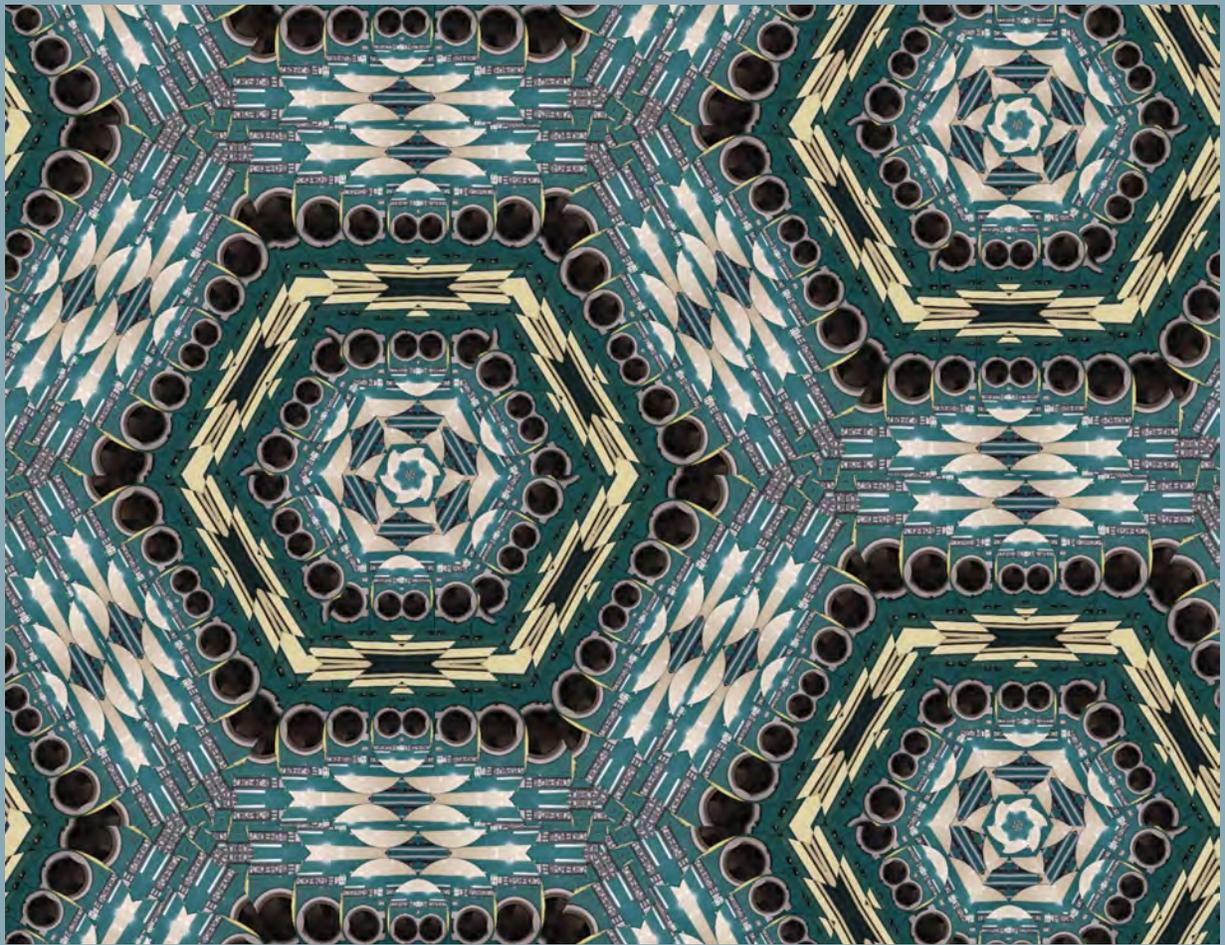


UPPER EAST TENNESSEE COUNCIL OF TEACHERS OF MATHEMATICS



MEETINGS FOR 2020-2021:

Please check the UETCTM website over the summer for updates on the schedule for the 2020-2021 school year. Have a great summer!

OFFICERS FOR 2019-2020:

The 2019-2020 officers are in their positions until June 30th.

President:

Jamie Price (ETSU)
pricejh@etsu.edu

President-Elect:

Pam Stidham (Kingsport City Schools)
mailto:pstidham@k12k.com

Past-President:

Sunshine Light (Kingsport City Schools)
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Treasurer:

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stephen@etsu.edu

OFFICERS FOR 2020-2021:

The newly elected 2020-2021 officers will begin their terms on July 1st.

President:

Pam Stidham (Kingsport City Schools)
pstidham@k12k.com

Vice-President:

Tina Hill (Washington County Schools)
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jtester@k12k.com

Past-President:

Jamie Price (ETSU)
pricejh@etsu.edu

**Congratulations to the newly
elected officers!**

**Thank you to the 2019-2020
officers for a great year of service
to UETCTM!**

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It All Adds Up by Liz Johnson

There is nothing in this world like teaching. I am lucky, because through teaching, I get to live out my passion. I love working with children. I love seeing them “Get It.” That’s my favorite part, watching the proverbial Light bulb glow. There isn’t anything better than watching a child feel the overwhelming pride of a job well done.

I love a challenge, but it has not always been that way. Becoming a teacher, I have learned just as much if not more as I have taught. There was a point in my own education that I didn’t “get it.” In my early elementary years, I didn’t have a teacher that helped me to feel empowered or positive toward learning. This was overwhelmingly obvious in Mathematics. When I was a child, Math was not

flexible or creative. It was cold and rigid. I always felt as if math had a secret language that no one had let me in on. More times than not, I felt embarrassed and powerless.

As I have become a math teacher, I have found those inner fears very present. I am afraid to make a mistake. I am even more afraid to take a chance. However, I have learned that “mistakes allow thinking to happen”. If I am not willing to step out of my comfort zone, how could I ever expect my students to be vulnerable? Modeling those honest emotions, being vulnerable, and showing my students that the problem solving is as important as the solution has changed the atmosphere of my Math Block.

Once a student feels the empowerment that a math solution can bring, they are hooked. My purpose is to facilitate a math class that allows both male and female children to feel celebrated. I want to instill in children that problem solving and critical thinking are the gateway to solutions, and numbers are fluid. ■

NCTM — Now More Than Ever

For the past 100 years, NCTM has supported the math education community, not just during unprecedented times like these but 365 days a year.

There has never been a more important time to renew your membership. You'll not only guarantee your continued access to NCTM's many resources, but you'll also remain a vital part of NCTM's vibrant worldwide community. Even if your membership does not expire this month, you can renew now and encourage others to join NCTM as well.

We are stronger together so we hope that you will renew today. If you know others that would benefit from membership, please urge them to join NCTM as well. Thank you for your continued support!

Why Do I Use Reflex Math in the Classroom?

by
Connie Moffitt

Reflex Math.....why do I use it in my classroom? Before I justify why I use Reflex Math I will explain what it is. Reflex Math is a research based computer program that is individualized to each student after the student completes an initial assessment. Reflex Math is a most effective system for mastering basic math facts in addition, subtraction, multiplication, and division. In my case I teach first grade and the students focus on adding and subtracting 0-10. Reflex Math is full of games that the students love and keep them engaged.

Many programs state that they are the most effective for increasing math fact fluency. I have first hand data that proves that it has worked in my classroom. For example, my students started using Reflex Math last year in September and the whole class was 6.6% fluent in addition and subtraction math facts 0-10. By the end of May, the class as a whole was 81% fluent. This is a 74.4% increase in math facts fluency. Out of the 21 students that I had nine of them had started multiplication and division 0-10 fluency. This was amazing! Reflex Math has also improved our AIMSweb scores tremendously. The data will stand for itself.

I use Reflex Math in my center rotations every day. Students in the technology station are required to be on Reflex Math for 20 minutes or until they get a green light. This isn't hard to do, but the students always want more time on Reflex Math. I also use it as an incentive for early finishers. It works well in

my classroom.

One of the biggest things that I have seen in my students by using Reflex Math is that it has built so much confidence in them. By becoming confident in their math facts, I have seen students becoming better at solving basic math problems and word problems.

In conclusion, I highly recommend this program to build fluency in basic math facts. Anyone that is thinking about building that fluency I am here to tell you that you will build an awesome math student that shows so much confidence. ■

Procedural Consistency in Highly Engaged Classrooms

by
Pam Hensley

Highly engaged classrooms must have consistent procedures to enhance student learning. Procedural consistency in a highly engaged classroom can help with classroom management. The best way to avoid students misbehaving is to prevent those negative behaviors before they happen. In my experience in the classroom, I have found that keeping your procedures consistent can help many students. If students know what to expect and what is expected of them, then your classroom will run more smoothly. If most students are highly engaged, negative behaviors are limited.

The question rises how do I keep my procedures consist? Does this mean you

cannot make changes? No, adjustments to your classroom are essential as you see what your students need to help them learn. One way I make change without disturbing my classroom procedure is to include my students in the discussion of the changes and how it will improve our classroom. This helps them take ownership, the same way allowing your students to help you develop the classroom expectations.

My students seem to get more rowdy after lunch, which was my math block. I found it to be very helpful that we maintain the same schedule everyday. Maintaining the same schedule gives your classroom procedural consistency. If students know that when we come in from educational break, we will do a whole group math lesson and transition into math stations, then they just expect it. This expectation from your students holds you accountable.

Another way to maintain classroom management is to keep your students highly engaged. If your students are thinking, they do not have time to misbehave. I plan my math block to be highly engaging by adding rigor to the whole group lesson as well as math stations. Bringing in real life situations to math keeps the students more engaged. I am very excited to use three act tasks this coming school year, which is a new strategy I learned as a MathElite. Three act tasks are highly engaging for students. Your students have more opportunity to notice things about the world around them. They also get to question or wonder about things. This noticing and wondering brings the math problem to life for students. Dan Finkel shares his five principles of math. He said “students learn from struggle” and “students need time to play.” He also said you should start your class with a question. This type of

thinking keeps students highly engaged.

I will conclude with the idea that students need to feel safe and happy in the classroom. In order to struggle or make mistakes that are required to learn, the classroom must be a safe environment. One way my students feel safe is by knowing our daily schedule will be the same to the best of my ability, which gives procedural consistency. Keeping your classroom consistent with procedures and highly engaging lessons will ensure your students learning. ■

NCTM Annual Meeting & Exposition Dates & Locations for 2020-2022:

October 21-24, 2020
St. Louis, Missouri

September 22-25, 2021
Atlanta, Georgia

September 28-October 1, 2022
Los Angeles, California

Speaker proposal submission
opens July 1 for the 2021
meeting in Atlanta

<https://www.nctm.org/Conferences-and-Professional-Development/Be-a-Speaker/>



2020
**ANNUAL MEETING
& EXPOSITION**
October 21–24, St. Louis

The St. Louis Annual Meeting & Exposition brings together classroom teachers; school, district, and state mathematics education leaders; administrators; mathematics teacher educators; mathematicians; and researchers from around the world. You'll see and hear new ideas and approaches that you can take away to do your part to provide more and better mathematics instruction for each and every student.

In these changing and challenging times, the NCTM Research Committee is working hard to re-craft the 2020 Research Conference to better support the individual, community, and collective needs and opportunities of the mathematics education research community. There is a clear desire to use this experience to strengthen the connections and collaborations within the community, to increase active engagement during and after the conference, and to collectively better understand current challenges and opportunities. The potential exists to increase the connections between research and practice at all levels and positively influence the impact mathematics learning has for each and every student.

Proposal Submission - Open Now!

The proposal submission system will be accepting proposals until **May 30, 2020** with the review process to follow immediately after.

<https://www.nctm.org/Conferences-and-Professional-Development/Research-Conference/>

Math Made Me Sad by Olivia Calloway Larkins

Math itself used to make me sad. Actually the way math was presented to me as a student made me sad. There were many a night spent with my dad tearfully trying to figure out the math homework I have been assigned. I had no concept of the patterns or number sense that would have given me insight and understanding. It wasn't until my college pre-service teacher courses that math lost its negative connotation for me. Once I saw how numbers could be broken apart in order to simplify a problem (something I have been doing for a long time but had been made to feel was wrong), math made a whole lot more sense. Thankfully math instruction has shifted since my time as an elementary student. While there are still difficult concepts, teachers are taking the time to teach why math works instead of just asking

students to trust that it does. As a result of this mental shift in my own worldview on math it's no longer intimidating and inaccessible to me. In fact, it's the opposite. Getting to teach my second graders about place value and addition and subtraction and fractions and arrays and shapes is all very exciting. Because math isn't black-and-white, in a box where you put the correct answer. It's a process where creativity should be encouraged just like in literacy. We still have a way to go in creating instruction that shows students how to play with math and how to make up their own in ways that fit the infinite real world applications, but I think as teachers we have taken a huge much-needed step in the right direction. Now math doesn't make me sad anymore. It is beautiful, playful, creative, open-ended, and exists in practically in the world around us, and I want to lead my students to seeing that for themselves. I don't want my instruction to cause math to make them sad about math like I was for so long. Now, for me and my students, I want math to bring joy. ■

NCTM Trial Memberships

NCTM understands that these are difficult times and that teachers are looking for support and resources they can trust. Pass along this link to them and they will receive free trial access, including the publications and resources that come with an Essential Membership.

<https://www.nctm.org/trial-membership/>

Math is Beauty by Hannah Barnett

I remember every year in school listening to students repeatedly ask teachers, “When am I going to use this in real life? Why are we learning about this?” From a student’s perspective, I completely understand. Why should we be spending time on a skill that we might not use? From a teacher’s perspective, I want to teach all students the skills that could set them up for success past Kindergarten.

But what if we looked beyond that? What if we all took the time as teachers and students to look for math in nature? What if we made math connect to the beauty around us?

Mountains are triangles.
The Moon is a circle.
Planetary orbits are ovals.
Clovers are symmetrical.
So are leaves and butterflies.

We have to open the eyes of students to the math around us. Math is what makes nature beautiful. Instead of pointing to shapes on a poster or holding up flash cards, have students go for a nature walk outside. Have them take pictures or draw images that show the math found all around them. Take them on a virtual field trip in Nearpod to places around the world they would not otherwise go. Let them walk around the school with a clipboard recording the math they see in the school. This will connect them

to math. This will connect the hemispheres of the brain as they use their imagination and creativity to make logical patterns from familiar objects. Create opportunities for students to see not only how they will use math throughout their life but where they can see math all around them every day. ■

My Principal by Wendy Gowan

I have worked in several different school systems over my twenty years of teaching. However, the last eight have been my best years by far. The main reason for this is my principal, Dr. Sharon Pickering. She is truly an inspiration to me.

There are so many reasons I feel this way about her but her compassion for our students has to be one of her best qualities. Our school is very diverse with many students living in poverty. Along with poverty comes a whole different set of issues for students. Many students have difficult home lives and live in constant chaos. For these students, a stable, loving adult can be life changing.

Every morning, Sharon greets students as they come in the front door. She is a loving, smiling face who is a safe place when things are stressful and unpredictable. She takes the time to give them a hug and ask how they are. She knows these kids and their

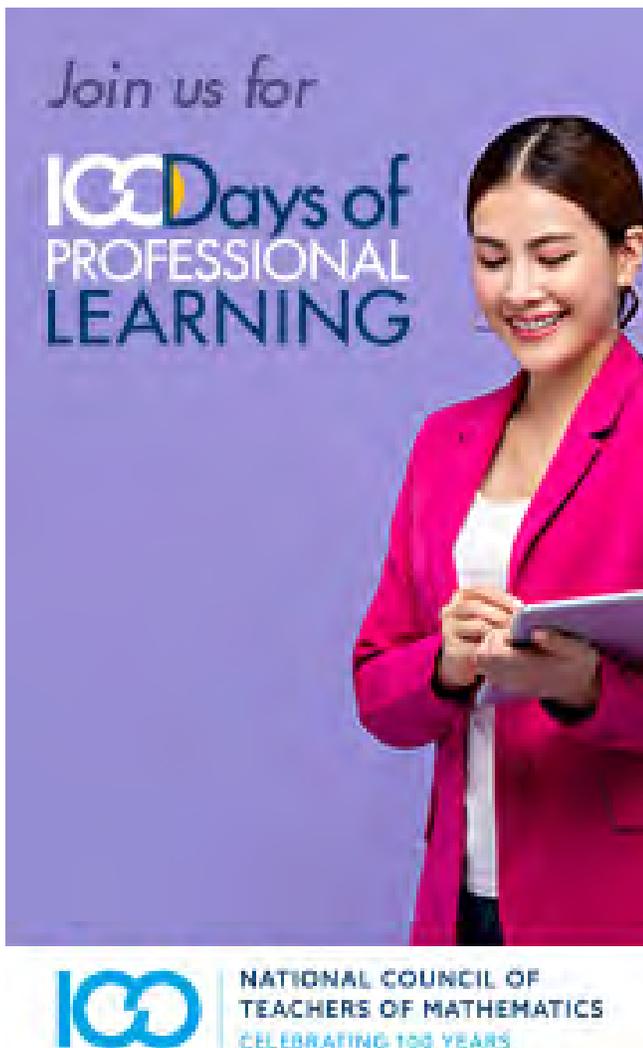
families. She knows how to make them feel safe and loved. Many times, school is their only safe place.

We are a trauma informed school and Sharon is passionate about educating her staff so that everyone can be aware of student needs. Childhood trauma is something many of our students experience. There are so many behaviors that stem from these traumas and it is crucial that adults have some understanding so that they may

be supportive and calm when a situation arises.

Because of her passion for providing a loving, supportive environment for these students, many situations are deescalated when otherwise they would blow up and last much longer.

Students at North Side Elementary are very lucky to have such a wonderful, caring principal in their lives. She is someone they will never forget. ■



Join NCTM to celebrate their Centennial with 100 Days of Professional Learning with live 60-minute webinars presented by selected speakers from the NCTM Centennial Annual Meeting & Exposition program that was to take place in Chicago.

Each webinar will be held at 7 p.m. Eastern time on 100 selected days from April 1 leading up to the October NCTM 2020 Annual Meeting & Exposition in St. Louis. A variety of speakers and topics are geared to meet all grade bands and interests. Webinars will be recorded and made available at www.nctm.org/100 up to the St. Louis Annual Meeting.

Creating Relationships by Jonathan Overbay

This summer I attended MathElites taught by Dr. Ryan Nivens. I was skeptical to enroll in this course. Will it be beneficial and worthwhile compared to dedicating two weeks out of my summer vacation? My answer is an emphatic yes! I would highly recommend Dr. Nivens' course to new as well as experienced classroom teachers.

I gained a deeper understanding of math concepts, learned strategies to enhance my teaching skills, and increased my ability to teach mathematics. All of the above will further improve student learning.

I am not aware of the author of the phrase, "A person who feels appreciated will always do more than is expected." What a profound statement! Successful teaching will not occur without forming positive

relationships with your students. From day one, learn your students' interests. For example, which sports teams do they participate in? Find out and attend some ball games. Determine what books, movies, music, and video games that they enjoy. Where do they go after school? Where do they like to eat out? Mold their interests into everyday conversations. This can be done not only in the classroom, but in the cafeteria, hallways, gym, etc. As an example, this past year I learned that several of my students enjoy watching Marvel movies. So I made it a point to watch Avengers: End Game. The following Monday I asked several of the kids, "Hey, did you see End Game this weekend?" The result was an instant positive connection with those kids.

In conclusion, you can begin meaningful student relationships that have nothing to do with mathematics. Positive relationships can help overcome math phobias. Students will feel comfortable in your classroom. Also, students may overcome past bad experiences with mathematics. ■

Do you know someone who would bring valuable experience, perspective, and judgment to the NCTM Board of Directors? The Board needs a broad representation of NCTM membership to enrich its discussions, inquiries, and decisions. Help the Nominations and Elections Committee identify talented, energetic individuals who are qualified to assume leadership roles in the Council.

Nominations will be open May 1 through September 1, 2020.

<https://www.nctm.org/nominations/>

Mathematics Education Jobs

Middle and Upper School
Math Teacher

St. George's Independent School
Collierville, Tennessee

Marketing & Member
Communications Manager
National Council of Teachers
of Mathematics
Reston, Virginia

Middle School Math Teacher
All Saints' Episcopal Day School
Phoenix, Arizona

Teacher of Computer
Science and Math
The Brearley School
New York, New York

High School Math Teacher
Aristoi Classical Academy
Katy, Texas

High School Math Teacher
Oregon Episcopal School
Portland, Oregon

Teacher/Mentor
Quest Forward Academy
Santa Rosa, California

Find more at:
[https://nctm-
jobs.careerwebsite.com/](https://nctm-jobs.careerwebsite.com/)

Not A Time Waster by Rebekah Bradley

Dear Administrator,

I noticed that you walked by my classroom today. My lesson was not off task! Yes, my class was making gingerbread houses. Yes, we were loud. Yes, we made a huge mess. BUT....Did you see all the different structures? Did you hear the kids encouraging each other? Did you see the smiles on every face? Did you notice my best reader wanting to give up within five minutes? AND.....My lowest (according to test scores) student making the most impressive structure. The entire class stopped to watch structure. The entire class stopped to watch and learn from him! Did you hear the conversation? Did you notice the moment each student understood that weight affected the structure? "I can't put ALL the candy on the structure." "Maybe if we evenly distribute the candy the house will stand." Wait a minute, was that lesson vocabulary in their group discussion without prompting?

Next time, don't just walk by. Come in and learn with us. Ask us questions and listen to us learn. Working together, creating a new structure, and understanding the effects of weight is learning. Especially when the lesson title is "Gingerbread Houses."

Sincerely,
The Classroom Teacher ■

Slide Certified by April Skeen

Walt Disney World is known as “the happiest place on earth” to most children and even some (probably a lot) of adults. Where am I going with this? Recently, I was fortunate enough to be picked by my school system to attend The Ron Clark Academy! As a second-year teacher, I really was not sure who Ron Clark was; sure, I had heard the name mentioned occasionally during college, but I had never studied who he was or “The Ron Clark Academy” until that day. I was in for a real surprise! A fellow teacher who traveled with me kept saying, “This is Disney World for teachers. You are going to love it!”

The school (Ron Clark Academy) is co-founded by Ron Clark and Kim Bearden who were both Disney Teachers of the Year in 2000. The school opens their doors every week for educators to catch a glimpse of their various teaching styles, in hopes to create a revolution in education. Ron Clark serves as a principal, as well as a math teacher. His classroom environment is almost unreal! The school’s expectations are Ron Clark’s Essential 55. (If you have not read the book, you need to!) These expectations are “old time” manners that have slowly faded with the younger generations. For example, speak when being spoken to, make eye contact with your audience, say please and thank you, etc. The amount of respect the students show to their teachers and classmates is amazing. Mr. Clark speaks about this being a necessity in the classroom for fully engaged learning to

take place.

Watching Mr. Clark teach math is mesmerizing. The students are fully engaged and motivated by music, hand signals, and accountable talk. When the students are explaining an answer or their thinking, they must always make eye contact and address the person they are speaking to in a mannerly way. If a student is incorrect, it is their classmates that usually help explain the problem. It is something you would not believe unless you were able to see it.

The Ron Clark Experience is truly an amazing experience that changed my teaching career. After implementing The Essential 55 in my classroom, I not only noticed my students gaining more confidence in themselves, but my entire classroom environment changed for the better. My students had more respect for each other, the teacher, and everyone else within the school. If ever given the chance, I would highly recommend joining the Revolution! ■



Math Detectives by Tara Thompson

My big takeaway from this class is we are the Boss of numbers! How can I get my students to buy into this idea? I have brainstormed this thought. Here's my plan...

I teach at a small school in East Tennessee. My home school and it holds a very dear place in my heart. I grew up with most of my students' parents. My parents grew up with their grandparents. The school population is predominantly white and there is a very low socioeconomic status with over 70% being on free and reduced lunch. I love my school and community because I am surrounded by good people who would do anything to help one another out.

However, my heart breaks because my students don't think about dreaming big or conquering the world. Instead they are content being in poverty. For many of them it is all they know; it is generational poverty.

How can you change a fixed mindset when it is all the students know? I hope to be one influencer that can change that for my students. First, the students have to understand it is going to take hard work and perseverance, but if they buy in, the future is theirs to determine where they go and what they do. So, I am going to start with math.

Currently, I start off the year by giving my students a math task, and immediately seeing words and numbers together it is like they just shut down. The problem is they don't understand they are the boss of numbers.

This year I plan to change the way the

students see numbers. We are going to be math detectives. I am going to purchase math detective glasses. My plan is to explain to the students math this year is not going to be easy and we are going to have to work to find the answers. Just like detectives have to work and use clues and strategies we are going to have to do the same when solving math problems. Below I have attached an example of a way for the students to show their strategies and explain their thought process. I plan to celebrate the various ways students can solve math problems. Each day we will conclude by having share time when I will ask some of my detectives to come teach the other students how they solved the problem. I hope by doing this the students can see we are the boss of numbers. ■

Math Tasks for Math Detectives

What is the big question/questions?	What is your plan?
Show your work to prove your answer(s).	Explain using math vocabulary, sequencing words, and step by step directions.
Bonus: Can you prove your work by showing your answer using another strategy?	



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

REGIONAL CONFERENCES & EXPOSITION

TAMPA: November 11–13, 2020

BALTIMORE: February 17–19, 2021

DALLAS: March 25–27, 2021

GREAT MATH
at your
DOORSTEP

Join NCTM to connect face-to-face with your peers in education and to focus on the learning and resources that promote the mathematical habits of mind that will lead your students to college and career success. Whether you're a classroom teacher, math coach, administrator, math teacher educator, teacher-in-training, or math specialist, there's something for you at the NCTM Regional Conferences & Expositions.

Registration and additional information about the Regional Meetings in Tampa, Baltimore, and Dallas will be available in the coming weeks. Please watch the NCTM website as well as NCTM's social media accounts on Twitter, Facebook, Instagram, and LinkedIn.

<https://www.nctm.org/Conferences-and-Professional-Development/Regional-Conferences-and-Expositions/>

So, Now What?

by
Kathy Smith

It's day 7 of MathElites, and already my head is spinning with new ideas for the rapidly approaching school year! The list of "ought to include" contains the 8 math practices, 3 Act Tasks, coding, providing time to build and explore, and prioritizing math writing. All of these activities need to be in a "warm and fuzzy" environment that's engaging, encouraging, and promotes collaboration. No problem...I'm ready! I'm excited! Then, the thoughts of application begin to creep in.

In 13 days, the teachers report back to school. That's when the reality of schedules, time constraints, and planning for the standards begin to add to the list of things that need be done. In addition, last year's scores are discussed and, if the reports are out, analyzed. Considering I'm normally a 5 on the anxiety scale of 0-10, I can already feel myself at exactly a 6.2. Inside my head the words...."So, now what? Can I do it? How? When?" The only answer that comes easily is the why; I already love those kids. I don't even know their names yet, but I want the best for them.

I begin to look at the list. I can see connections and possibly even the beginning of a plan for the first week of school. That first Tuesday would be a great day for teamwork that includes building and exploration. The kids could work together to make Lego mazes, and share them with other teams, playing the mazes with marbles. The

next day could involve a 3 Act Task, Act 1 would engage students with a photo of a Lego maze.

Act 2 would encourage students to work with a partner to use word commands that would direct others through the maze.

In Act 3, students can share and discuss their solution paths with each other. This process would prepare the students for Thursday's introduction to coding. Code.org is a free site where students can work together to complete basic interactive computer codes. Code.org could be continued on Friday, with a different partner and then the students could follow up with a R.A.F.T. A math writing task where a Lego block (role) could address a marble using an informational format, and the topic would be "How to get out of the maze."

All that remains is to check my possible plans against the "ought to" list. Tasks, coding, building, and exploring are all a check. The math practices, MP1: make sense of problems and persevere in solving them, MP3: construct viable arguments and critique the reasoning of others, and MP6: attend to precision, can be organically introduced along the way. The standards of counting, tiling, unit squares and an understanding of decomposing are aligned. As for the environment, teamwork is a great way to develop an atmosphere of collaboration and support. In her article "Team Work that Works," Carol Marchetti states, "A group consists of people who coordinate their individual efforts (<https://www.insidehighered.com/advice/2018/04/17/tips-improving-student-teamwork-class-opinion>). A team, however, has a common purpose and a shared responsibility for success". These planned tasks will begin our school year with a team

oriented mindset. Our common purpose is to help each other reach our personal best in mathematics. So...now what? Now, it begins! A new start with new ideas and renewed excitement! My anxiety is down to 5.7. When will it be a 5 again? June! ■

Coming in June 2020

K-5 Coding Workshop



June 8-12
Two hours per day, 9:30 a.m. – 11:30 a.m.

Reserve your seat now!

Daily synchronous meetings will be held Monday June 8 – Friday June 12 via Zoom. Registrants will need access to a computer with internet, camera, and microphone. Click this [link](https://forms.gle/RgfwGRRSgXiVTuPK7) to register:
<https://forms.gle/RgfwGRRSgXiVTuPK7>

Enrollment is on a first come-first served basis.
Registration opens Monday, April 27, 2020
and closes Friday, May 1, 2020.
Selection and confirmation will occur on Monday, May 4, 2020.

Immerse yourself

Created and taught by Dr. Ryan Nivens, Associate Professor at ETSU

Content Covered

- Coding and Computer Programming–Use analytical and innovative problem-solving skills to decompose, identify patterns, generalize information, and formulate algorithmic processes to solve a problem or related set of problems with a variety of tools, specifically
 - Tynker
 - Code.org
 - Scratch
 - Code Combat

Sponsored by:
TN STEM Innovation Network, Battelle Education, East Tennessee State University, Clemmer College, and the Center of Excellence in Mathematics and Science Education

An Essay by Stephanie Rhea

English and math may have more in common than one might think. Think of peanut butter and jelly; separately they are two compounds, but together they make magic. English and math are the peanut butter and jelly of teaching. They provide a necessary accounting of ideas and procedures, and understanding one of these subjects can help build understanding in the other. One can find common ground between math and English in the use of precision, supporting claims, and analyzing structure.

The first area of common ground between math and English is the use of precision. In math, the use of precision is vital in vocabulary, measurement, and calculations. Knowing the correct terminology for math is imperative for others to understand the concepts that are being communicated. Being slightly imprecise in measurement, which is not precise in nature, and in math computations can cause large discrepancies in one's mathematical processes. For example, measuring structures by hand is very imprecise and even the ink of a point on the paper takes up space that makes the result inaccurate. In English, the use of precision is most impactful in the use of grammar and word choice. Why use one word instead of another? Does it impact meaning, and how does it impact meaning?

Take the use of commas, for example. If one writes, "I like cooking my pets and my family", without the correct use of commas it appears

you may be deranged. Using commas with the statement, "I like cooking, my pets, and my family" makes the statement much more clear and precise because they are items in a series instead of the "To Do" list of a serial killer.

The second area of common ground between English and math is the need to provide support for claims. In math, it's important to provide or show reasoning for your answers, sometimes in the form of showing your work, and sometimes in written or verbal form. Showing or explaining your work helps a teacher evaluate a student's thought process, and better able to help that student improve. In English, the use of text evidence to support claims is a key skill in K-12 education. The ability to read and evaluate text and choose quality evidence to support a position on multiple-choice questions or for an essay is a vital skill to mastering English standards.

The third area of common ground between English and math is analyzing structure. In math, the use of reasoning to make your argument for a certain result is an excellent way to analyze mathematical processes. Teachers can help students learn to see patterns, similarities and differences, and the overall big picture of how certain concepts and mathematical processes and ideas build on and support one another. This helps students move past rote memorization of formulas into being able to see how those formulas were constructed, and even be able to construct their own formulas using mathematical processes. For example, one can use a table to help students see how to construct an equation. In English, analyzing structure is a very mathematical structure, especially with grammar and essay writing.

When diagramming sentences, there is a pattern that becomes very evident to students, and a teacher can very easily scaffold on the pattern recognition for those students who may be weaker in English, but stronger in math. The process of writing an essay can be reduced to a very simple algorithm; introduction, body 1, body 2, body 3, and conclusion. Each section of the essay is broken down into a secondary algorithm.

There is a particular structure to the introduction; hook, bridge thesis, and they are completed in that order. Body paragraphs are constructed with a topic sentence, evidence, explanation, and concluding sentence. The conclusion is very structured; restatement of thesis, summary of points,

and concluding sentence.

Math and English may seem like completely different subjects, but they have much more in common than expected. Students in both math and English must be able to use precision in language, measurement, and computation, to support their work or claims with evidence or proof of thought process, and be able to analyze structure both in literary text and mathematical processes. A good teacher can help those students who claim they may not be “good” at either math or English find common ground and use the skills from one content area to support understanding in the other. Think peanut butter and jelly. ■

2020 NCTM Leadership Conference

The NCTM Leadership Conference planning is underway. To maximize the benefits of the conference, we encourage our Affiliates and school districts to send two or more members to work as a team and take advantage of the focus sessions and great networking opportunities. This conference will drive the support and the ability to empower your leaders, members, and entire mathematics community.

The NCTM Leadership Conference will be held in New Orleans on July 20-22, 2020.

Day 1: Working reception and opening activities

Day 2: Full-day program, with lunch provided.

Day 3: Half-day program, with breakfast provided. Conference ends at noon.

Contact NCTM Affiliate Relations at affiliates@nctm.org for additional information.

An Essay by Quinn Kersey

I had the privilege of attending the Eastman sponsored MathElites program for two weeks during the summer. I want to say it was well worth Eastman investing in my learning. I have been teaching for about fifteen years. The majority of the time has been in language arts. I will begin my third year in math. I thought I could use some insight on teaching middle school math hoping to engage my students more and grow their interest in math. I cannot wait to see if the things I have learned will interest my students in a better way. I know that students need a reason to want to come to school each day and I hope it is my math class that drives that want. I hope that by engaging my kiddos in math, they will enjoy it and persevere in solving the problems.

What have I learned from MathElites? It is okay to stretch the perimeter (boundaries) when solving problems. Thinking outside the box is the only way to go when solving problems, and what might seem like chaos in the classroom could be math-lovin' kiddos working hard, cooperatively, toward solving real world situational math problems.

My greatest desire is to teach my students that stretching the perimeter is not just okay, but what should be done with every math problem that we encounter. I not only want my kiddos to be able to decompose every type of math problem they encounter but to also decompose every type problem they encounter in life. My kiddos should be

taught there is more than one way to solve a problem. They need the understanding to break the problem down and determine multiple ways in finding a solution. They should also be taught not every solution may be correct; it is the trying (perseverance) that is most important. Seeing there are different avenues in getting to the end result can help my kiddos not only in math, but also in real life. MathElites has shown me that releasing kids to set their own parameters by thinking of the many ways to solve problems is the perfect way to get their brain juices flowing, I know it did mine! Lastly, my kiddos should know what it is like to work with each other to solve problems. I need to guide them in working together as a group making sure they understand the importance of hearing ideas of others and seeing the value in those ideas whether or not the idea is agreed upon. So often middle school students do not see value in themselves much less in others. Working together can help validate what each one has to offer to the group. Group work and communication within a classroom may seem like chaos sometimes, but more often than not, students learn more from each other than they do from me.

If my kiddos can see there are multiple ways in solving problems in math class then, hopefully, they can carry that on and see there are multiple ways to solve life's problems. I have then taught them not only the academic skills they need but also the life skills they need to be productive in society...AND I will have accomplished much! ■



**Upper East Tennessee Council of Teachers of Mathematics
Membership Application for 2020-2021**

Complete the application and return to the address below with a check for \$10.00 made payable to UETCTM.

Sevier Middle School
C/O Julie Tester-UETCTM
1200 Wateree Street
Kingsport, TN 37660

Name: _____
Home Address: _____

Home Phone: (_____) _____ - _____
District: _____
School: _____
School Address: _____

School Phone: (_____) _____ - _____
Email Address: _____

UETCTM may be asked to share your information with other math organizations (NCTM, TMTA, etc.) that promote mathematics education.

Please check the following statements if applicable:

- Please check if you do NOT want your information to be shared.
- I am a current member of NCTM.
- I am interested in leading/presenting a session at UETCTM.
- I am interested in holding a leadership position with UETCTM

Membership dues are for July 1, 2020-June 30, 2021.