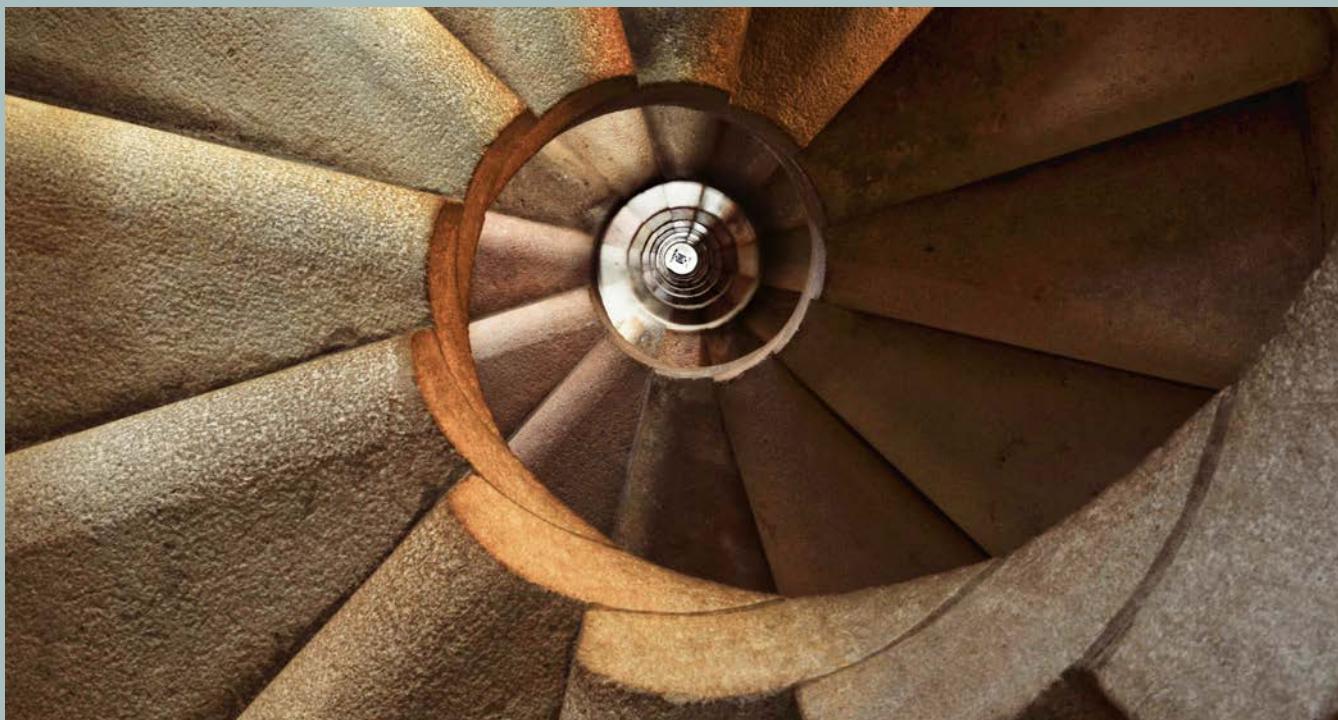


UPPER EAST TENNESSEE COUNCIL OF TEACHERS OF MATHEMATICS



IN THIS ISSUE:

Beating the "After Lunch Lull"	
Hannah Cunningham	1
Implementing Cross-Curricular Content in Math	
Victoria Lamkin	2
Norms in the Math Classroom	
Sarah Pike	4
Student Data-Notebooks	
Robert Hawley	5
The Power of Yet...in Math	
Christy Elliott	6
Nobody Knows You Like You	
Samuel Barton	8

**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:

New officers for the 2020-2021 year were elected at the last UETCTM meeting. They will be announced in the next newsletter, and their term will begin July 1st. The officers listed below are in their position until June 30th.

President:

Jamie Price (ETSU), pricejh@etsu.edu

President-Elect:

Pam Stidham (Kingsport City Schools),
<mailto:pstadham@k12k.com>

Past-President:

Sunshine Light (Kingsport City Schools),
slight@k12k.com

Secretary:

Jill Burgner (Washington County Schools),
<mailto:burgnerj@wcde.org>

Treasurer:

Cameron Buck (Kingsport City Schools),
cbuck@k12k.com

NCTM Representative and Newsletter Editor:
 Ryan Nivens (ETSU), nivens@etsu.edu

Assistant Editor:

Jamie Love (ETSU), lovej2@etsu.edu

Webmaster:

Daryl Stephens (ETSU), stephen@etsu.edu

Beating the "After Lunch Lull" by Hannah Cunningham

In my classroom, the “after lunch lull” is a real struggle. My students leave for lunch in an upbeat demeanor and return as if they are drained of all stamina. Unfortunately, due to scheduling, my math class falls directly after lunch. One technique I have found to beat the lull is to begin each math class with the rapid recall of basic math facts through 5-10 minutes of mental and written computation drills. I know, that doesn’t sound very exciting. But, when executed the right way, students look forward this time of day with enthusiasm!

Upon entering the classroom after lunch, students find a page of math facts face down on their desk. On Mondays, they write their name on the back of their paper and wait for the timer to start. At the beginning of the year, they are given two minutes to work on twenty basic math facts, moving to one minute as the school year progresses. (I have found that the timer cannot be displayed where students can see it as they focus too much on their remaining time instead of the task at hand.) Once the timer goes off, students pass in their papers. I grade the papers every afternoon and file them to have on hand for the next day. Students work throughout the week to complete the same page. Once the page is complete students then go back and correct any problems they have missed. Students work on the same set of math facts until they can complete the page with 80% accuracy throughout the

throughout the week. At that point, students transition to a different page that increases in difficulty.

Once students hand in their written computation page they stand up behind their desks for mental computation drills. The purpose of mental computation drills is to build a foundation for the development of other mental calculation strategies. I have used both drills and strings during this portion of the class, depending on the grade level and ability of my students. (Drills can include subitizing numbers, comparing numbers, identifying coins, addition, subtraction, multiplication, and basic division problems. Strings are addition and subtraction combinations (e.g $12+5+3=20$, $20-4+2=18$). It is important to keep this process fast-paced to discourage counting in any fashion.

My students have completed mental computation drills in a variety of ways, but their favorite is an “Around the World” format. I found that it is beneficial for students to taste success with this practice, so everyone gets a free pass on their first turn with unlimited time to answer the question. After round one, I explain that students will have three seconds to correctly answer a given question. If a student does not quickly know the answer or guess incorrectly they sit down. The time students have to answer questions decreases each round until only one person is standing.

Teaching math directly after lunch is not without challenges, but with some creativity and competition, students can make the transition with ease while building automaticity through written and mental computation of basic math facts. Research shows that students who are automatic with their recall of math facts find math much easier and are much more successful at higher-level math, so it's a win, win! ■

Implementing Cross-Curricular Content in Math

by
Victoria Lamkin

You're sitting in math class and all of a sudden something completely unexpected happens. It doesn't seem to have anything to do with math! It seems... like a... dance party, but wait, these words sound just like what we're learning in math. Who knew I could still be learning math and having dance parties at the same time?

Implementing cross-curricular content in all subject areas is important, but in math especially. Math can easily become one of the subjects that we have kids do at their desks with no excitement. I see it every day; students with math books at their desks, just walking through the motions. We as teachers can make math mean so much more with just a little bit more effort. Most of the time, someone else has even done it for you.

There are several ways we can implement cross-curricular materials in our math classes. We can use music, art, reading, writing, drama, technology, science, and social studies. Implementing these in many cases cause students to use both the right and left side of their brain, which we know leads to learning. Scholastic writes a beautiful article highlighting brilliant ways to incorporate cross-curricular content in math. Scholastic tells us, "In Kevin Costly's recent research, he found that "students in integrated curriculum courses perform better than [those] in nonintegrated courses... [showing] increased critical thinking skills, self-confidence, and love for learning."

Incorporating STEM based lessons into my day is one of my favorite ways to implement cross-curricular studies. Engineering activities are great way to engage students in critical thinking skills while using both their math and science brain. In social studies, there are many numbers and dates that be used in graphs and projects.

There are tons of YouTube videos that include fun math songs to help students remember key vocabulary or make connections that they would not have before. Many studies show that music is very effective in helping both students and teachers remember vital information. Bringing art into the conversation seems impossible at first; however, incorporating art into math can be very simple. How about letting students design their own statistics poster or letting them create their own manipulative to use in class? Students can come up with a play drama to demonstrate a word problem for the class.

Reading and writing also have their place in math. Writing a R(role) A (audience) F(format) T(topic) can get students excited about writing while still encouraging them to use math vocabulary and problem solving. An example of a RAFT in math might look like R-Classmate, A - Teacher, F - Rant, T- Odd numbers. Students might use this raft to go on a rant about how odd numbers in the classroom just aren't fair. They may explain to the teacher that there is always somebody left out. This is showing the teacher what the student knows about odd numbers in a way that encourages creativity.

Technology is such a wonderful tool that can be implemented in any subject area. Implementing technology in math might look like different math games on an iPad or computer. It can also look like programming

robots or computer coding. There are so many free resources out there just waiting to be used.

If I can encourage you at all, it would be to branch out, get uncomfortable, step outside the typical bubble. I have faith that you will see fruitful learning from your students due to your choice to implement cross-curricular activities during your math lessons. ■



NCTM turns 100 in 2020. Join thousands of math education professionals in Chicago as we celebrate at the Centennial Annual Meeting & Exposition. In addition to compelling sessions, networking opportunities, and valuable content, there will be special events and surprises to mark the occasion. Whether you're a PK to Grade 12 classroom teacher, math coach, administrator, math teacher educator, preservice teacher, or math specialist, you will want to join us in Chicago as NCTM starts its second century. Something like this only happens every 100 years!

Norms in the Math Classroom

by
Sarah Pike

In an effort to create an environment where there is no confusion about what the expectations are for student behavior and learning in the math classroom, I implemented classroom norms during math lessons. Too often students were either unaware (or unwilling to admit) that they weren't sure what exactly they should be doing during different parts of a math lesson. The blanket statement of, "you should be working," is far too vague for most students.

The problem goes much deeper than just students being unsure of what they should be doing, however. Students who already lack the confidence in math to ask questions in front of the class or voice their confusions within earshot of other students are left to use valuable time in the classroom trying to mimic other students' actions to appear busy. I wanted students to have a resource that outlines what they should be doing to further their own learning.

I began the process of classroom norms by first asking students what they thought about it. They know what a productive and resourceful students looks like, even if they don't always show it. I asked students to visualize a math task in our classroom, and then asked them very specific questions about what the room looks and sounds like during the different aspects of a task in our classroom. Some of the common responses were things like quiet or focused, but I pushed the students to be detailed in their responses. By the end of the exercise, there

wasn't anything I felt like I needed to add to our classroom norms.

Finally, I asked the students what I, as their teacher, should be doing during these same task stages. Their responses gave me insight in to how closely they pay attention to what I am doing in class, and what truly helps them to be their best. I have added in two of the task stages' norms below.

Task Setup

Mrs. Pike will...	Students will...
Read the task out loud.	Listen to instructions carefully - know where you can work in the room and what you should be doing.
Show and explain the materials students may use.	Ask questions if confused about what to do, where to be, or what to use.
Give necessary background information.	Think, Pair, Share at a level I whisper to brainstorm strategies.
Point out which anchor charts we should be using.	

Group Work

Mrs. Pike will...	Students will...
Move around the room to different table groups.	Whisper.
Answer questions if students are confused.	Stay on task and participate - talk about math and how to solve the problem(s).
Give feedback on next steps to solve the problem(s).	Use pencils (not pens!) to show their work.
	Compare and check over work with their group - make changes if needed.
	Share materials to solve problems.
	Be kind to one another during discussions - everyone's ideas are important!

The main purpose the norms serve in my classroom is to act as a visual reminder of what needs to happen in order to be productive and learn. Students take ownership of the norms. They know that they created them, and in my experience, they are much more likely to follow them because they know it was their own idea. There is also a sense of teamwork with norms. In the later stages of a task, the bulk of the work is

completed in groups or partners. The norms allow students to help keep each other on task with the established expectations, give students a way to voice what is not happening in their group in order to fix the problem. Finally, although no student has ever actually said this to me, I know that the students get a little joy from creating the norms for the teacher also. It is a rare occurrence in my classroom that the kids are the boss of me. There isn't a norm listed that isn't something I do in my classroom everyday, but if it motivates my students, then it worth letting them think they decided it. Norms are not a magic pill that completely changes math instruction. They are simply a way to take the things all students know they should be doing and create a reference that is accessible to everyone. It has changed the environment in my classroom by demystifying what I mean when I say that students should be working or on task. No part of math should be a mystery, and norms help to solve that problem. ■

Student Data-Notebooks by Robert Hawley

Two years ago, my school's leadership team changed. We had been under the previous administrative style for eleven years. With the new leadership team in place, a great deal of changes began to happen. One of the changes in our school was that it was going to become data-driven. This is when I was introduced to student data notebooks. My grade level team investigated the concept, and designed a subject-related, student data

notebook to be used in the classroom. What we neglected to take into consideration was the students and how it was going to be introduced and used in the classroom.

After reworking our concept and going back to the drawing board, our grade level team researched, and discovered that four questions needed to be answered in the notebooks: what goal is the student trying to reach; what is the student's beginning point; when will the standard be introduced; and what strategy or strategies will help the student reach that standard?

As our grade level group redeveloped the data notebooks, we used other teachers' examples to tailor our notebook to meet our students' needs and the TNReady standards. Included in the student data-notebooks were personal goal sheets, graphs to use for data, and academic goal sheets. Once the notebooks were completed, we introduced them to the students.

We introduced the data notebooks in a whole group session. We held a discussion on the purpose of the notebooks, and collectively, we came up with a purpose for them and how to use them in the classroom. Next, students were introduced to the TNReady standard they would study. Within the notebook, students were able to see and underline key words, look at an example, and break down the standard. Also the student was given a pre- and post test that was recorded beside the standard. After the post test, every student collaborated with the teacher to create goals to map a plan for mastery.

In closing, I feel the data notebooks have given the students a clear and specific picture of their academic strengths and weakness. The teachers in our school who use the notebooks on a regular basis say that the students have a better understanding of what is required, and seem to better grasp the meaning of the standard(s). Student ownership has become one of the most valuable outcomes of this project. ■

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.

The Power of Yet...in Math By Christy Elliott

I have always been passionate about trying new methods to motivate my students, especially in math. A majority of students come to math class with a preconceived notion that “math is too hard” or “I’m not good at math” and I feel I spend a great amount of time during the school year trying to show them they are good at math and helping them believe in themselves. This was becoming my mission and I was starting to feel like the strategies I was using were not working.

Let me set the stage for you so you will better understand why during the school year

of 2017 – 2018 I had a dramatic change in my own mindset. I had been teaching for 15 years in Virginia, just finished my master’s degree in Educational Leadership at VA Tech, was asked to become the assistant principal in the district I worked at in Virginia, and then found out my husband was being transferred to Tennessee for his job. I was devastated to say the least about leaving my current position in Virginia, moving for the first time in my life, and starting a whole new chapter where I knew absolutely no one. While I tried to see the positive in this situation, it was a struggle. My mindset was truly fixed.

I had heard a little about Growth Mindset in my district in Virginia but I really did not know how to incorporate this into my classroom to truly make a difference in my students’ thoughts about themselves. I had always been a cheerleader for my students, but I did not feel like this was enough to change the way they viewed themselves as mathematicians.

I started teaching in a district in Tennessee that was starting to really incorporate the Growth Mindset by changing the school's vocabulary that was used in their day-to-day conversations. Words like "you may not know how to do that now but that doesn't mean you will never know how to do it" and "you may not know yet how to do it" were common things I heard. These words really stuck with me. Not only were they phrases as a way to help my students truly see their potential, but they were words that I needed to hear at a very pivotal time of my life.

I decided to teach this type of mindset in my math class starting at the beginning of the school year. I introduced it with videos, self-reflections, and some productive struggle activities. I had changed my way of thinking and talking and started to see a dramatic difference in the way my students responded to math. Students were excited

about math because they realized it was all right to make mistakes because they could still learn from them. I would still hear from time to time words like "I can't do this" or "I don't understand" but no longer was it just me being their cheerleader, their peers would correct them and say "You can't do this yet" or "You don't understand it yet." Such simple words became the norm during our math class and students were working harder, collaborating more, trying things outside of their comfort zone, communicating more, and believing in themselves. They believed they were becoming mathematicians and liked the challenges I would hand them. ■

NCTM Annual Meeting and Exposition St. Louis

October 21, 2020 - October 24, 2020

4:00 PM - 2:00 PM

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.

Nobody Knows You Like You

By
Samuel Barton

I am a relatively “new” teacher seeing as how last year was my first full year teaching. During that time, the thing I learned that helped me the most is knowing who you are and your personality. Yes, I have viewed many other teachers and their teaching styles while trying to implement certain things I liked into my own classroom. However, the thing I forgot to add at the beginning of my career was my own specific personality. I spent the first couple weeks somewhat fumbling around, not knowing why these proven methods were not working for me. Then it dawned on me. I had not molded it to what fits me, my class, and my own unique personality or traits. I noticed the students quickly assessed me, and could tell when I was bothered or uncomfortable. To correct this, I just became more of myself and differentiated what I did to other teachers surrounding me.

Math Olympics

If anyone has met me they know I am a very competitive person. I also coach track and football at my school. Knowing this, I developed a series of activities for the students I called “Math Olympics.” The class is divided up into groups of 4 where they can come up with a team name or country to represent. Every other day for a couple weeks, groups compete against one another in a variety of games. Yet, they were not just simple math games where students answer questions. Instead, every day a physical task/competition would be added/combined with a problem(s).

For me, students competed in relay races on the track, push ups, planks, and a tug of war contest. Points were assigned to the groups depending on where they finished in the physical competition. We would then go back to class where one or multiple advanced problems would be placed on the board for groups to solve. If the group was right, they received all the points they gained from the physical task. If they were wrong, points they had gained would be cut in half. After your Olympics ends, tally the points and assign some kind of reward like extra credit or breakfast for the group. I found that these series of games worked best as review before the state tests, because students became excited to attend class and did not think of it as review. It also gives kids who may struggle with math an opportunity to succeed or compete against those who are regularly successful.

Kahoot

Kahoot is an online website where students can answer anonymously, if need be, and questions are timed where students receive points. I know many teachers use this, but I use it most as a fun, weekly points system I used during my Connections class for those students who need extra help in math. Every day the top three receive candy, and at the end of the week the “Champion” earns the Championship Belt that they love to wear around the rest of the day as bragging rights. Students who struggle love to see their own progress as well as letting others know too.

Advice Day Friday

Some teachers have may have daily quotes or even inspirational quotes displayed in their room. If that fits your personality then that is perfectly fine. However, that just isn’t me. Instead, I have advice day Friday. Here I

just give every day advice to my students. Some might be funny, others may be inspirational, and the rest can be functional. My students actually look forward to the advice because it can be five minutes of fun, laughter, or intriguing conversation that they may not receive from someone at home. I find doing this fits my style and personality while makes students enjoy coming to school on Fridays even though we have our weekly quiz on Friday that they may have dreaded otherwise.

These are a couple ways I fit my own personality into my teaching style and I recommend it for everyone. Adults and kids alike are not in tune to liking fakes. Most people prefer authenticity. Be authentic, be who you are, and know the importance you are to students. This is what helped me get on the right path during my first year of teaching. ■



The image displays two promotional banners for the National Council of Teachers of Mathematics (NCTM).

The left banner, titled "Call for Proposals" in blue, details NCTM Regional Conferences & Expositions:

- TAMPA: November 11–13, 2020
- BALTIMORE: February 17–19, 2021
- DALLAS: March 25–27, 2021

The right banner, titled "GREAT MATH at your DOORSTEP" in large blue letters, features the NCTM logo and the full name "NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS".



**Upper East Tennessee Council of Teachers of Mathematics
Membership Application for 2019-2020**

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

Cameron Buck, UETCTM Treasurer
c/o Robinson Middle School
1517 Jessee Street
Kingsport TN 37664

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, 2019-June 30, 2020.