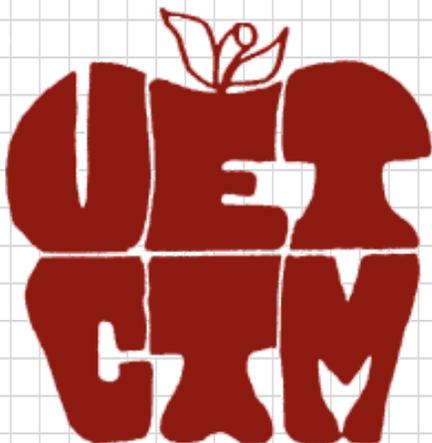


# UETCTM

Upper East Tennessee Council of Teachers of Mathematics



Classroom Apps,  
Classroom Jobs,  
Math Journals



Featuring Teachers  
from:

1st Grade  
4th Grade  
5th Grade  
6th Grade

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**November 17–20**

[NCTM 2021 Fall Virtual  
Conference](#)

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# "FOMO"

by McKenzie Stine  
5th Grade

It was one of those moments in the classroom that I will value forever. My student let me know that he chose to come to school. Attendance, support at home, behavior, and academics are just a few of the struggles in this student's life. His family was staying at a hotel for a few nights and gave him the opportunity to spend time with them, but he came into my classroom and explained that he stayed home alone so that he could come to school for our math project. He chose to come to school.

As math teachers in the world of Google and calculators, we get a lot of complaints and grumblings about not only procedural fluency, but even more so, pushing our students towards a deeper conceptual understanding. What if our students chose to come to our classes with a smile on their faces? What if even when they have every reason and opportunity to stay home they choose to show up?

"FOMO" is the Fear Of Missing Out. The young people we work with spend endless hours on TikTok, YouTube, social media, and video games. They have FOMO on all of our cultures' trends. What can we do in our math classes to make our students have FOMO from our classes? I do not have all of the answers or solutions, but I have found a few strategies that work for me and that I want to share with you.

Make a connection with each student. Find something that each student cares about. This is harder for some teachers than others. I have seventy-five students within my three blocks, and it is hard to feel like I can maintain a consistent personal relationship with each of them. I keep a class roster with a short note about each student, and I add to the notes throughout the school year as I get to know my students. I try to have enough of a relationship with each student that I know what they care about and what motivates them. Once you know something personal about each student, you can make conversation happen about the connection you've made. Students will not want to miss the opportunity to be known and cared for.



## ***The Fear Of Missing Out***

Make connections to what your students care about. This is not an all-encompassing list, but our students care about TikTok, YouTube, fidgets, Takis, sports, video games, etc. Try to stay up to date on what's "trending" and maybe even write word problems about these topics. For example: "Charli D'Amelio has 103.6 million followers and Spencer X has 50.3 million followers on TikTok. Write the difference of these two numbers in expanded form." These two names do not mean much to me, but these are two of the most popular stars on TikTok. Our students know them and watch them and will not want to miss out on the opportunity to talk about them in class.

Have students make connections through classroom jobs. Considering the trend of “influencers” in our culture. Leadership, responsibility, and purpose mean a lot to some students, and students will not want to miss out on an opportunity to have influence over their peers. Some examples of classroom jobs are clipboard carrier, floor cleaner, line leader, table leader, etc. We all want our students to be responsible, but how will they learn to be responsible unless we

give them responsibility? Students will not want to miss the opportunity to be helpful and have an influence on their classmates.

These are not the only answers to all of our questions or all of the solutions to all of our problems, but they are some strategies that I have used to help me make connections with my students. I have FOMO on all of the tools and strategies that there are to make me a better teacher and person. I want my students, despite all of the other trends, to have FOMO from my math class. ■

## Empowering Latinx Families to Help Children with **Mathematics**

Families are valuable assets who contribute to their children's mathematics education.

In the October issue of Mathematics Teacher: Learning and Teaching PK-12 (MTLT), this article describes one innovative approach to supporting and empowering Latinx families with preschool-age children by leveraging social media and sharing videos modeling conversations about mathematical concepts.

[Read this article](#) to learn more.



NATIONAL COUNCIL OF  
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# NCTM Virtual Conference



NOVEMBER 17–20, 2021

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# 21ST CENTURY TEACHING

by **Nikki Carrier**  
**5th Grade**

I have wanted to be a teacher my entire life. For as long as I can remember teaching has been my dream job! However, never in a million years did I think my teaching career would have so many hurdles to jump before teaching academics. If you are not currently in the classroom, I'm sure you are wondering what I am referring to. Today's teachers are no longer just teachers. We have so many irons in the fire that sometimes it's just overwhelming. We are pulled in different directions, and if I am being honest sometimes test scores are the last thing on our minds. We are no longer just teaching academics and looking for a result. We are taking on additional roles. We wear many hats to include:

● **Parents** - So many of today's students are missing these roles in their lives and we step up and fill those both in the school and in the community.

● **Role Model** - Many students today lack a positive role model in their lives. Therefore we try to be someone that our students look up to on a daily basis, one that shows them how to act and be respectful.

● **Advocates** - Someone that will fight for what is best for each student at school and home, as well as making sure all their needs are met.

● **Counselor** - Someone who listens carefully no matter what emotion students are experiencing and gives guidance according to their needs.

● **Coaches** - Someone to cheer them on and celebrate their victories whether on the field, court, classroom or in life.

● **Nurses** - Someone that makes sure students' daily health needs are met and responds to any crisis with courage.

● **Planners** - In addition to academics, teachers hold the role of party/holiday planners. Teachers plan special occasions, birthdays, and so on so we can celebrate each student and his or her successes.

● **Disciplinarians** - Disciplinary issues are not always worthy of a trip to the principal. In a well-run classroom, teachers must have clear expectations and when they are not met they must hand out consequences. We must hold students accountable and move forward.



Not only are we taking on these new roles, but most of the time we are wearing several of these titles at once. Teachers are also figuring out that if our students have unmet emotional, environmental, or physical needs, our daily instruction is doing no good.

So one might ask how teachers are stepping up to these new challenges. No, we do not have a superpower. In the end, the answer is pretty simple: teachers are resilient! We show up and do what is best for our students day in and day out no matter what hurdles we have to jump! We face the challenges that arise daily while getting to know our students, and in return this builds a strong student/teacher relationship.

Believe it or not, once students know you can be trusted to do what is best for them, the academic part is easy. They will show up and give 100%. So fellow teachers, keep showing up and doing your best for your students and you will continue to knock it out of the park!! ■

## In Memoriam: Franklin D. Demana

Franklin D. Demana, National Council of Teachers of Mathematics (NCTM) 2015 Lifetime Achievement Award recipient, and internationally known mathematics educator passed away on September 29.

Demana, working jointly with his colleague and friend Bert Waits, had a profound effect on mathematics instruction. He developed specifications for graphic applications, first for personal computers, and then for handheld graphing calculators. In fact, his ideas inspired the introduction of special capabilities of the calculators themselves.

A renowned mathematics leader, author, speaker and consultant, Frank Demana created opportunities to empower teachers, develop leaders, and use technology to engage learners in understanding and doing mathematics. He will be missed by the many whom he inspired.



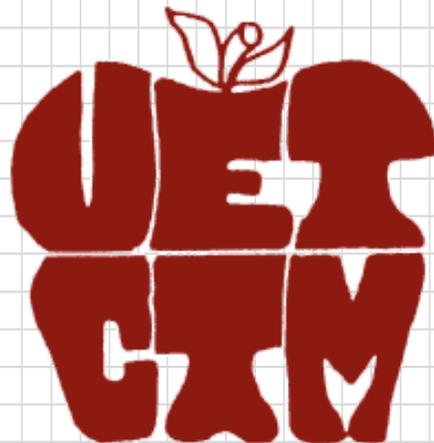
NATIONAL COUNCIL OF  
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# NCTM'S WORKSHOP

## New! Classroom Resources

NCTM's community of mathematics educators and leaders have come together to develop a collection of "grab and go" resources for the year.

Use these resources to design learning opportunities for students, make connections within and across grade levels, support coherency, and emphasize reasoning and sense making to ensure the highest-quality mathematics education for each and every student.



# EXPLORING PROBLEM SOLVING JOURNALS

by Jessica Lockner

6th Grade

During my first year of teaching, I discovered that students often wrote answers without showing work. I would often ask the question: How did you find the answer? The response was often vague, like I just know it in my head. I started using problem solving journals to encourage students to show their work. Problem solving journals encourage students to express their thinking in written and verbal form.

Students designate a composition book for the journal. I give them a word problem that is a review of previously taught standards. Cumulative review is critical to retention of math standards. Journals are another way to incorporate cumulative review as opposed to using only bell ringer work. Students complete the journal independently first. They draw four boxes. The numerical box is for them to show their work with numbers. The visual box is for them to draw a picture that illustrates the problem. The algebra box is for them to write an algebraic equation. The defend box is for them to explain how they arrived at their solution. I encourage students to write clear steps, so that other students could solve the problem after reading their response. These four boxes could be adjusted or shortened depending on the problem skill.

In addition to written form, students get a chance to verbalize their thinking. After working on it independently, students share with a partner.

This allows time for the students to explain their thinking to a peer. Students often ask their peers questions about their work. Also, students often ask the teacher for clarification on things they do not understand. This time encourages students to talk about the content. It also allows students to generate their own questions. Talking and thinking about the content is a continuous goal for math class and not only journals.

Furthermore, the verbal expression is also a component carried into whole group time. Students share their work under a document camera and give a verbal explanation. After the student explains, I allow other students to share if they solved the problem a different way. This time yields valuable math communication between students but also allows them to sharpen their presentation skills. My middle school students love to share their work.

Problem solving journals are a great strategy to allow students to represent their mathematical thinking. Students will be engaged in the content, learn from their peers and improve their presentation skills. Furthermore, three act tasks learned in Math Elites could be incorporated into journals. This would enhance student engagement and allow them to explore the problem to be solved. Problem solving journals open a door to endless student learning and exploration. ■

# APPLY FOR: GRANTS, SCHOLARSHIPS, AND AWARDS

## **Mathematics Education Trust (MET)**

The Mathematics Education Trust (MET) was established in 1976 and provides NCTM members access to more than \$150,000 in grants, scholarships, and other awards. Learn more about the full range of opportunities and apply today for the fall cycle of MET Grants.



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# GIVING STUDENTS OPTIONS

by Jackilyn Heller  
4th Grade

When I was in elementary school learning math, we were taught one algorithm for how to solve problems. There was not a lot of differentiation. We were taught the process for the algorithm and all students were expected to solve the problem in the exact same manner.

In my fourth grade math class, students are taught a variety of strategies that they can use to solve a math concept. I expose them to a variety of strategies, we spend time focusing on each individual strategy, and typically students choose one of the strategies that they like best to use in their everyday math practice. Students of all different abilities are able to pick the strategy that makes the most sense to them. I have seen great success with this because even my lowest students have the ability to solve some of the harder division problems they are given. Are all strategies the most efficient ones? No. Do we spend time talking about what makes a strategy efficient and how to best select a strategy? Yes.

I have found that when students have a choice in how they want to solve a problem in math, they are more successful. Certain strategies just do not make sense to some students. I myself have certain strategies that I prefer and I am sure you do as well. Giving students the option to select the strategy that makes the most sense to them puts students in charge of their own learning. They have to evaluate the efficiency of their selected strategy.

If a student chooses to use tally marks to help solve a 3 digit division problem, obviously this is not going to be the most efficient strategy. Students start to recognize that the strategy they pick can determine how much time they must spend to solve a problem. They start to understand connections between the math involved in solving problems.



A student who does well with multiplication, but struggles with division, may choose a division strategy that highlights their abilities with multiplication to help them solve the problem. A visual student may choose to draw a picture to help them solve and understand a problem.

By giving students options of how to solve a math problem, every student is able to access the problem at their own level. This also leads to great classroom discussions when we review the problems. Instead of only showing the problem one way and every student having the exact same work, we are able to show many different ways to solve the same problem and students get to explain their thinking to their classmates. ■

# USING SEESAW IN A MATH CLASSROOM

by **Nakeisha Scott**

**1st Grade**

There are many technology tools to keep students engaged and learning. One tool I could not live without in my classroom is Seesaw. Seesaw markets itself as a "student portfolio," and its motto is "Where learning happens." Seesaw could not have selected a better slogan. Students learn so much and often are so engaged that they don't even realize how much they are learning. When I found this platform four years ago, I knew it was a game-changer for my classroom. Throughout the years, Seesaw has listened to its stakeholders and made dramatic updates that have indeed been a game-changer for my classroom and my students. One reason I love this app is that it is so versatile. It can be used with any subject and can essentially be used in any way the teacher or student can imagine. Teachers can make an assignment, send it to their students, or create their learning. Tasks can be easily differentiated based on the needs of students.



**...explain their mathematical thinking in more than one way.**

So what exactly makes Seesaw great for a math classroom? In Math Elites, we learned the importance of asking students to explain their mathematical thinking in more than one way.

The five representations are; pictorial, concrete, symbolic, contextual, and verbal. Often we may be guilty of only asking students to draw a picture or write an equation to match a problem. Sometimes we ask students to verbalize their thinking (especially if we can't tell what their thinking may be based on their visual representation). Seesaw allows you to use multiple representations for one mathematical problem all in one place. Seesaw also saves all work so you can look back at any time and see student learning.

Seesaw allows students to draw, take a picture, record a video, and so much more. To provide a visual representation, students use the drawing tool and complete a representation. Students also have access to multiple shapes they can drag and drop into their drawings. Once students have completed a concrete representation, they can take a picture and add it to their slides. After completing these two steps, they can add an equation to match (symbolic representation.) Last (and perhaps the most crucial feature) allows students to record themselves explaining their thinking in depth. Seesaw allows ALL students to have a voice and to show their understanding in multiple ways. Seesaw also allows teachers (and students if the teacher deems it ok) to comment on work. I love leaving a student in my classroom a comment about their work or asking for

clarification with their work and getting feedback from the student! Another great feature of Seesaw is that it is compatible with many other apps and technology platforms. . If a student creates something in Google, Flipgrid, ChatterPix, or another favorite tech tool they can simply save the work and upload it to Seesaw with a click of a button. All of these features allow students more choice when creating and showing their learning.

If you are looking for a new and engaging tool to use in your math classroom, then Seesaw is it. Not only does Seesaw allow

students to use multiple representations to show their mathematical understanding, but it is also engaging, customizable, and easy to use. Often students come into the math class feeling scared and intimidated, but with the help of Seesaw, they leave feeling confident and successful. Seesaw will transform your classroom and will allow every student an access point, an entryway to math, and to show their understanding. ■

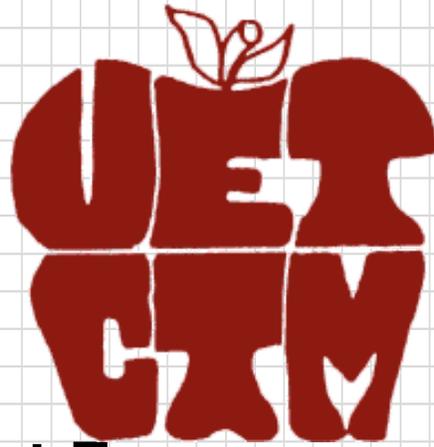
## **NCTM — Now More Than Ever**

**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.**

**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!**  
**<https://www.nctm.org/membership/>**



# Upper East Tennessee Council of Teachers of Mathematics

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

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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
-