



COLUMBUS REGIONAL MATH COLLABORATIVE JANUARY 14, 2022

NOTES TO NERDS

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JANUARY MIDDLE SCHOOL FACE TO FACE WORKSHOP:

The USG continues to work closely with the Georgia Department of Public Health to prioritize the wellness and safety of CSU and all of its campus communities.

Data Source: <https://www.columbusstate.edu/covid/>

Date: Thursday, January 27, 2022 Time: 8:30am – 3:30pm

Location: Frank Brown Hall, Room 1010

Middle School Face to Face Workshop – Grades 6-8

With a Little, You can Change a Lot

<https://columbusstate.libcal.com/event/8501027>

Presenter: Hope Phillips

Need a shot in the arm? something impactful that fits alongside your daily instructional practices?

Something new that rejuvenates a love of math?

we at the math collaborative believe good things come in small packages. join us to learn about micro changes that can have big impacts on students' reasoning, discourse, review of skills, and interest.

Face to Face Workshops are available to Muscogee County Schools at no cost to the teachers.

After the workshop, you will receive an evaluation.

Upon completion, you will receive a Certificate of Attendance for the workshop.

to view and register for any of our upcoming workshops, please visit our libcal page!

[Mathematics Collaborative - LibCal - Columbus State University](#)

Workshop Color Category



Upcoming Workshops: Face to Face Workshops

*The USG continues to work closely with the Georgia Department of Public Health to prioritize the wellness and safety of CSU and all of its campus communities.
Data Source: <https://www.columbusstate.edu/covid/>*

Date: Tuesday, February 1, 2022 Time: 8:30am – 3:30pm

With a Little, You Can Change a Lot – Grades K-2

<https://columbusstate.libcal.com/event/8560435>

Frank Brown Hall, Room 1010

Presenter: Laura Stokes

Date: Wednesday, February 2, 2022 Time: 8:30am – 3:30pm

Engaging Students – Strategies and Ideas that Support Student Learning (and don't add to teacher workload)

<https://columbusstate.libcal.com/event/8561025>

Presenters: Nancy Mims and Peter Anderson

Date Tuesday, February 8, 2022 Time: 8:30am – 3:30pm

With a Little, You Can Change a Lot – Grades 3-5

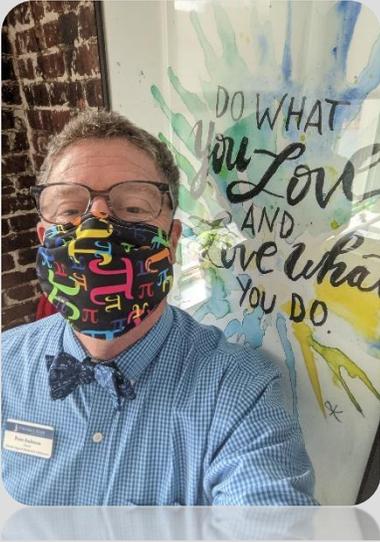
<https://columbusstate.libcal.com/event/8560877>

Frank Brown Hall, Room 1010

Presenter: Laura Stokes

DIRECTOR'S NOTES

The Answer



One of those calendars that give you a math-problem-a-day hangs on the whiteboard in my office. It brings back happy memories of the NCTM monthly calendars of old. The calendar has the **date as the answer** to each challenge. So on the first of the month, the answer is one, and on the 13th, the answer is...you guessed it! 13.

While knowing the answer is *cool* but trivial - figuring out the how and why is the absolute joy. While working on a solution to the Thursday challenge, I worked on one approach to the solution. My colleague Laura found a more elegant solution path by going in a different direction. We had a good conversation but wound up with the same answer. We often overlook the richness of the different approaches.

This week Algebra 1 students participated in the classic lesson [Walk the Line](#). First, students looked at a time-distance graph via a graphing calculator. Then, the goal is for students to match the graph by walking toward and away from a motion sensor. The sensor records the students' motion in real-time. Once their "walk" is completed, the students' time-distance graph projects onto the SmartScreen for everyone to see.

Each student described the path they should walk to match the graph before making their trip along the line. The descriptions created quite a bit of discussion; they developed and sharpened the vocabulary of linearity. But, most importantly, *Walk the Line* established foundational knowledge for concepts of linearity. Even though the students discussed the same problem, they brought unique approaches to vocabulary, and I thought that made class a bit richer.

Interestingly, as the students left class, one young man remarked that he did not know math could be "*really real*." Laughing to myself, I pondered whether we all might have experienced more than our share of "unreal" mathematics.

We are in some wonky times as educators. We try our best to have students learn the mathematical content required for our classes. However, the pathways we envision for our students have rarely been the ones traveled. Quarantine, technology, attendance, behavior issues, and time lost for learning; bend our planned routes every which way. Yet, these paths are not unlike the solutions to calendar problems or the different approaches to students walking the line.

This week, I visited with several high school teachers from different systems and schools. Their instructional approaches were as diverse and unique, I would say wonderful, as they were. Each has a heart for their students and struggles with the best way to facilitate learning. Each one is on a different path for teaching and learning.

At some point in our conversations, each person said something similar to this, "*I don't have the answer*." As I settled into writing this piece, it occurred to me that the answer is as plain as the date-solution on the problem calendar I mentioned above. These resilient teachers are **the answer** to helping students learn. Their different approaches to instructional solutions are winding, challenging, creative, and, indeed, wonderful.

I wonder if there is an opportunity for these teachers to share their experiences? Sharing would make for rich colleague support and learning. [Contact me](#) if you have any ideas on how to make this happen.

Bless those tired eyes, determined smiles, and patient hearts we call teachers.

Happy Maths,

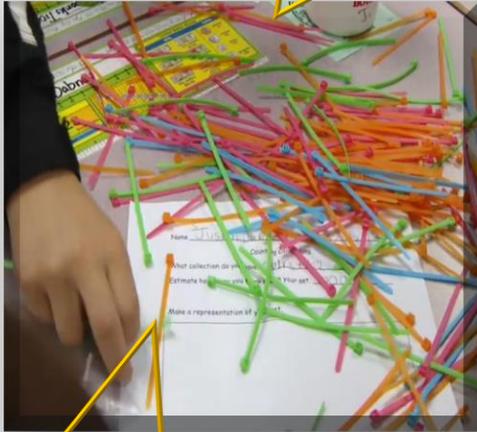
Pete

Resource Teachers

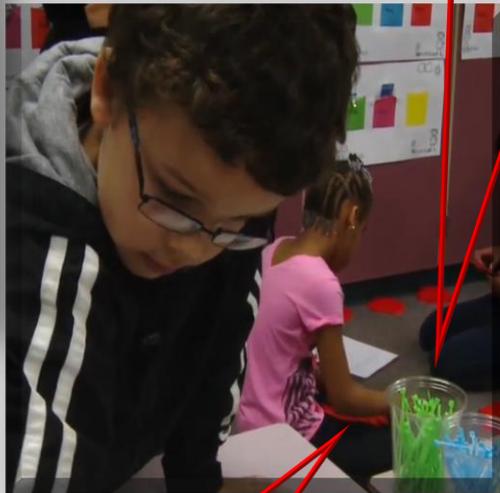
COUNTING COLLECTIONS

Research shows that counting is one of the best ways to help children develop number sense, although we do not do nearly enough of it in elementary school. What can we do to remedy this? Use *Counting Collections!* With this teaching strategy, students organize a collection of objects in order to count efficiently. However, they don't work alone. This activity requires collaborative work and discourse.

1. Gather items to count.



3. Have cups, bowls, ten frames, etc. available for students to organize the count.

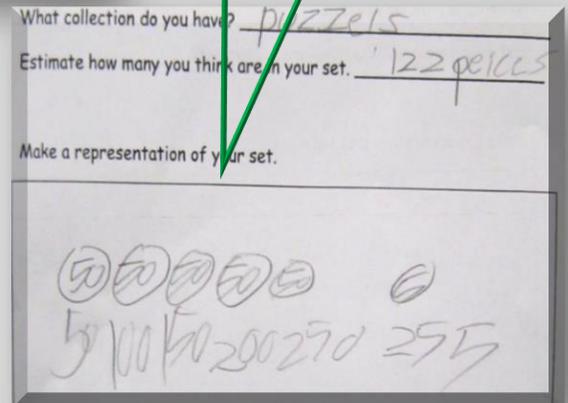


2. The teacher determines collection size based on his/her goal and students' needs.

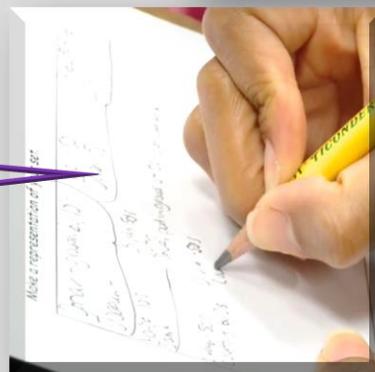
5. A recording sheet includes:

- Students' initial estimates
- How they organized the count
- Their representations of the collection and count

4. Students count! For this collection the partners decided to count groups of 50.



While students count, the teacher records: how they organize the counts, how efficiently they count, how they explain their representations, etc.



The items you use in your Counting Collections are limited only by your imagination! Here are some examples: shells, keys, coins, bottle caps, hair clips, sugar packets, toy cars, beads, seedpods, acorns, corks, playing cards, popsicle sticks, pencils, etc.



(Picture from Schoolwide Counting Collections)

Include, in your materials, packages of supplies that require counting by *groups*. Students do not open the packages; instead, they must think about the number of packages and the number of items in each package. Students cannot touch each object and must use the package size. This no-touch rule allows older children to begin thinking about their counting collections in multiples.

Examples of packages of supplies

- Paper clips in boxes of 100
- Watercolor paints with eight pans in a box
- Resealable plastic bags 125 to a box

The subsequent shifts in reasoning are:

- If ten boxes (of 100) are shrink-wrapped together, how many paper clips are in the whole package? How many paper clips are in the classroom if we include the half-used box at the teacher's desk?
- How can we add up ____ without peeking into the boxes?
- How many plastic bags are in a case of ten boxes (125 to the box)?

Another way to increase the complexity of the counting task is to have children add collections or fractional parts of collections together.

Organizing a school Counting Collections library/closet is a time-saver for teachers. This increases the number of available collections, and teachers can check-out collections to use in their rooms.

While children are counting, ask questions such as:

1. How are you going to count your collection? How did you decide on your plan?
2. How many objects are in your collection? Can you prove that to me?
3. Can you draw a picture to show how you counted?
4. What does this model represent/mean?
5. Can you count your collection a different way? How?
6. Can you think of a more efficient way to count your collection?
7. Why is this way of counting more efficient?
8. Can you think of an equation that matches your thinking?
9. Do you see a pattern in your counting?

(Picture from 3rd Grade Counting Collections video)



(Picture from Schoolwide Counting Collections)

More Questions to Extend Collections are:

- How many would you have if I gave you more objects?
- How many would you have if I gave you more package(s)?
- How many would you have if you doubled your collection?
- How many more objects would you need to have _____ objects?
- Do you think you and your partner can equally share all of these objects? Why? Why not?
- If you and your partner shared all of the objects equally, how many would you both get?
- Do you think the three of us could share all of these objects equally? Why? Why not?

Counting isn't just a kindergarten skill that a 5-year old masters. It is a skill that lays the foundation for performing all operations, determining how accurate an estimate is, and visualizing the magnitude of a number – just to name a few. Start collecting, and let your students count!

Resources to further explore Counting Collections:

<https://tedd.org/counting-collections/>

[Counting Collections article](#)

[3rd Grade Counting Collections video](#)

<http://www.meaningfulmathmoments.com/counting-collections.html>

Choral Counting and Counting Collections: book by Megan L. Franke, Elham Kazemi, and Angela Chan Turrou

News Items for January 14

We will be moving our professional development to Frank D Brown Hall - face-to-face model sessions on January 27, February 1, 2, and 8. Pick on that suits you just fine!
Check out the listings [here!](#)



Math.... and ART - Filling fast! **January 19th** after school ~~work~~ [Art shop](#) and to the first 15 teachers to sign up a copy of *The Keeping Quilt*! Register now at this [Link](#) *It's free!*



Are you a **middle school teacher** who could use more **resources** and ideas? Hope Phillips has been sharing **Just in Time** letters with your classroom in mind. Contact us to get on the list! Hope Phillips - phillips_hope@columbusstate.edu

Math Masters!!!! Coming Mar 12, 2022. Get your middle team school together and sign up here: [link](#) or contact [Nancy Mims](#).



A special thank you to **Janet Knight** who has updated and reorganized our resource library!
Before you buy a book or resource look it up [here](#), or just call or email us.
We just might have it! (PS.. we will share it with you!)



Would you join us? We are seeking **experienced teachers** to work at the Mathematics Collaborative.
If you are a K-2 or high school teacher interested in helping other teachers and learning yourself, please contact Peter Anderson - Director.

More News you can use

Please find a special message below from the [Georgia Council of Teachers of Mathematics](#) regarding the upcoming Part II of the Virtual Georgia Mathematics Conference on **Saturday, February 5, 2022**. If you have any questions, please contact Kim Conley, kim.conley@gctm.org.



Christina Tondevold Workshop - virtual summit Feb 26 - 27 If you don't need to see the trailer video and you are ready to register (at no cost) for the 2022 Virtual Math Summit go here now: VirtualMathSummit.com



Mark your Calendars - The East Alabama council of Teachers of Mathematics and the Chattahoochee Council of Teachers of Mathematics presents...
Understanding Division - Crossing Borders with Mathematics
March 1st at Frank D. Brown Hall **5:30 to 8:30 pm.**
Links for [Registration](#) and for [Presenting](#)



 **East Alabama Council of Teachers of Mathematics and Chattahoochee Council of Teachers of Mathematics** 



Register to Attend: <https://forms.gle/AfJFpA1rr2P7fTZJ9>
March 1 from 5:30ET-8:30ET
Frank Brown Hall
1127 Broadway
Columbus, GA 31901

Present a Session: <https://forms.gle/zgrCwA4oh79hnxFD8>
Proposals Due January 21

Choose Dining:
[Dine | Visit Columbus, GA](#)

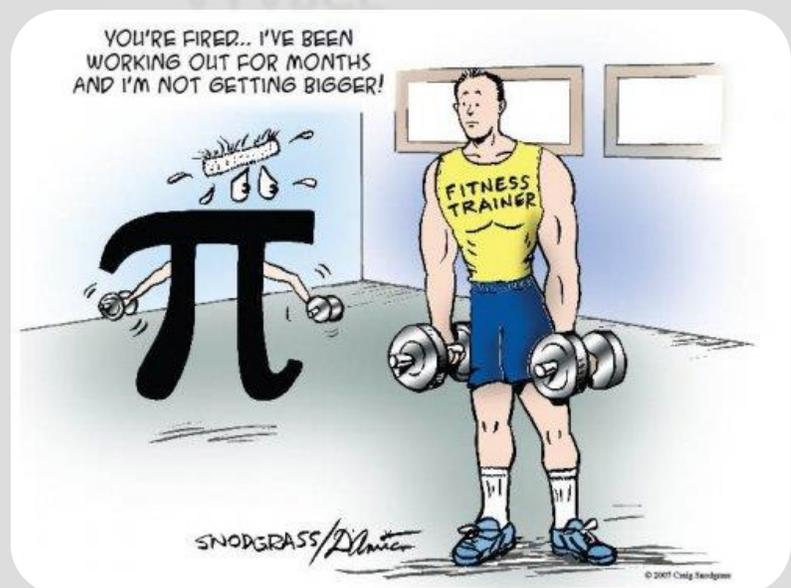
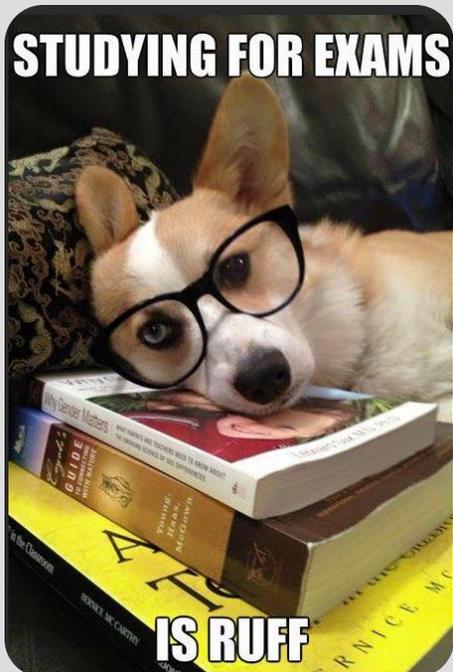
Learn more:
<https://www.eactm.com>

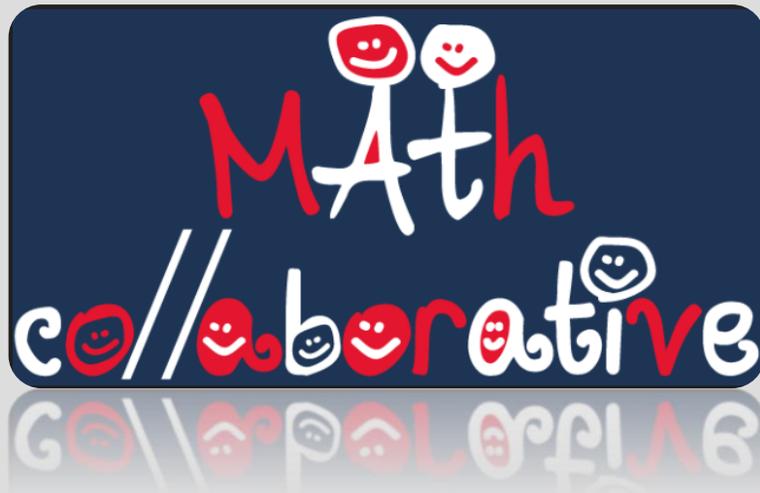


Math Humor



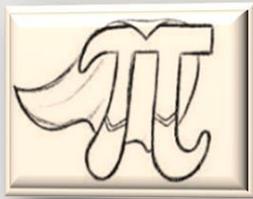
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CLICK HERE TO READ MORE ABOUT OUR [WEBSITE](#)

[Columbus Regional Mathematics Collaborative - Columbus State University](#)



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