



Columbus Regional Math Collaborative May 14, 2021

Notes to Nerds

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Calendar - upcoming events

MON	TUE	WED	THU	FRI	MON	TUE	WED	THU	FRI
17	18	19	20	21	24	25	26	27	28

Thinking Classrooms Book Study
Tuesday, May 18th @ 7:30pm - 8:30pm

We will be taking a summer break from our workshops. Stay tuned for next school year's schedule!

Camp Super Solvers
Mon-Fri, June 7-11 @ 9am - 12pm



THIS WEEK'S TOP STORIES & INFORMATION

Announcements

-  **WE NEED YOUR HELP for Operation Super Solver Camp!**
-  We are excited to offer this camp for 5th and 6th graders.
-  We have a few more seats to fill!
-  If you know any 5th or 6th graders, please share this link with their parents! [Super Solver Camp Link](#)

-  **The Numbers Please!** The Mathematics Collaborative:
 - Presented **67 virtual workshops**,
 - Provided direct instruction to **537 viewers**,
 - Logged more than **50 hours** of *scheduled* “on-air” time,

- Finished the year with over **80 hours of actual time** “on-air”, a CREDIT to teachers who did not want the sessions to end!

 **More Numbers:** In spite of pandemic restrictions, the Mathematics Collaborative staff gave direct support to **17 schools** in four counties this semester.

 **Even More Numbers:** In partnership with the Southern Regional Education Board, the Math Collaborative provided **40 hours of Virtual Coaching** involving 80 hours of preparation. Wow! Great job, Laura Stokes and Hope Phillips

 **Building Thinking Classrooms book study** - last session on Tuesday at 7:30 pm. [Join us here!](#) It will disrupt your current thinking about teaching (and fill you with new ideas!).

Caught in the Act (of being a teacher leader)

The mission of the Mathematics Collaborative is to develop and support teacher leaders in our community. To that end, we seek to recognize those teachers who exemplify the qualities of a teacher leader.

This week we would like to recognize

Catherine J Raza

Ms. Raza is a fifth-grade teacher at St. Anne-Pacelli School.

This is her first year of teaching! She is eager to develop pedagogical skills necessary for her students' success in mathematics. She embraces active learning for her students. Her classroom exudes excitement and energy, a place where students are engaged in learning. Ms. Raza's joy for learning inspires her students to be the curious mathematicians we all

desire in our classrooms. We appreciate the growth mindset she exemplifies for students and herself.

Good Job!

Ms. Raza, your approach to teaching mathematics is very special.

You have been *Caught in the Act of Being a Teacher Leader*

Director's Notes

A note to your future self

So Tuesday evening, during our *Building Thinking Classrooms* book study, I related a story about an exam study guide I created and used differently the next school year.

Having had a particularly tough class to teach that year, I was a bit burned out. The students were a rough crew but it could be as much about needing to rise to the challenge of being a better teacher as anything. I'm not here to argue that point. But it was one of those years, to put it rather bluntly, that kicked me in the tuchus.

As a result of the rough year, packing up the old classroom and preparing to bequeath it to the summer maintenance magicians received only the minimal attention needed to release me to summer's freedom. *I didn't do a particularly thorough job of putting things away including the old exam study guide.*

Upon returning to school in the fall, fresh-faced and renewed from a summer break, I prepared to start the school year. To my good luck, I was assigned the same subject I taught the previous semester.

Preparing for the new school term, I came upon the study guide from the previous spring semester exam! *Throw it out! NO!*

Deciding then and there, I would give the students the old exam study guide at the start of the school year. I remember telling my new students: This is the study guide for your final exam! It turned out to be a bit of wonderful, good fortune. For the most part, students kept the document handy and would fill it in as we progressed through the course curriculum.

If a new student moved into the class - bam! I handed him the study guide. He could work through the notes with another student or with me to get caught up.

If a student was out for an extended illness - bam! She had a framework to catch up.

What was sort of neat was that the students began to check with each other to see if their notes agreed. Some might call this copying. I've learned that this is *knowledge mobility*. (The flow of knowledge through a class.) *If the product is student notes*, how is it substantially different if they copy notes from me while I am at the board?

Students had some clarity and notion of what was needed and where they were going. The notes meant something to them because they created them. Wow! The result was a success.

As a result of my serendipity, the teaching and learning in my class improved.

My question is: What could I as a teacher do to consistently make the teaching and learning better from year to year?

Over a decade ago, I began the habit of writing a letter to my future self over the final weeks of school. It would include things I thought went well and some of the things I would like to do again. Several pages of the yellow legal pad eventually filled with lessons learned from the School of Hard Knocks, and, consequently, some of the things I would like to do differently in the coming school year. (At any rate, upon return to school, I could sincerely answer the question: What was I thinking?)

I get it. You are tired right now. You are probably more tired than a whole stack of 10 years of teaching tired put together. Amid this deep tiredness, you have the opportunity to learn by penning a note to your future self about where you are right now and about what you could do to make things better for your future self and your future students.

In the old days, it was as simple as leaving a notepad on my desk and writing down the thoughts as they came. Today, we have cool voice applications that allow you to speak text into a Google Document. (I'm doing that right now.) I would leave the letter in a place where I would be sure to find it when I first returned to school. Before I did anything else, I would sit down and read that letter. It helped give clarity and direction for myself and my students in the new school year.

So you've made this far into the essay. Take it for what it's worth.

*May you have the blessing of a solid last week or two of school.
 May the school hall rise to meet your feet.
 May the air conditioner be ever working in your classroom.
 And may the goddess of school scheduling hold you kindly in the palm of her hand.*

And if things don't work out, you will have plenty to write to your future self!

Happy Maths,
Pete

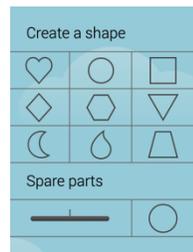
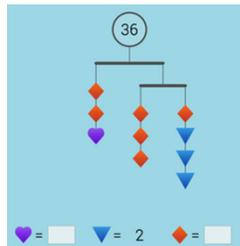
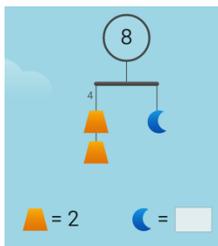
Resource Teacher's Notes

Summer Potpourri

Written by: Hope Phillips

If you find yourself or your family with any downtime this summer, consider looking at the resources below. They are a mismatch/hodgepodge/potpourri of content, but they are a tickle-your-brain bunch of good ideas. They might make a long car ride, airport wait, doctor's waiting room time, etc. pass more quickly. Parents, use these sites to review important math skills with your children, without them feeling like they are doing "school math." Teachers, you might want to bookmark some/all of the sites as they are worthwhile additions to your lesson plans. If you don't have time to review all of these sites, don't miss this one [Mathigon Polypad](#). It will change our lives.

[Solve Me Mobiles \(elementary-high school\)](#): The puzzles are designed to support algebraic thinking through reasoning instead of following a list of memorized rules. The degree of complication moves from elementary to high school levels. Look at the mobile that equals 8 – perfect for a lower elementary school student. Look at the mobile that equals 36. Look now at the equation that matches the mobile – middle and high school students could take on this one. Pencil and eraser tools allow you to "write" on the mobiles as a part of the problem solving process. Students and/or teachers can also create their own mobiles using this applet.



$$\begin{aligned}
 2d + h &= 4d + 3t \\
 2d + h + 4d + 3t &= 36 \\
 3d &= d + 3t \\
 t &= 2
 \end{aligned}$$

Cat Dice: How Many Dots? (elementary): Creator Johnnie Wilson spills a varied number of dice and asks the question, “How many dots?” His dice grouping strategies are creative and focus on efficient ways to add a set of numbers. Wilson uses 10 to 100 dice, grouping and regrouping them. Pause the videos to find subtotals and then determine a final total. Find his videos on YouTube, also.



Who Am I? (elementary/middle): If you want to practice (or teach) deductive reasoning, these puzzles are for you. They are also great for reviewing multiple concepts at once – place values, variables, equations, greater than, less than, odd/even/prime/, etc. Teachers and students can create their own puzzles and post them to the “community” link.

CLUES

- My value is even.
- My value is not less than five.
- My value is less than eight.

CLUES

- The sum of my digits is equal to fifteen.
- $3 \times u = d$
- $u + 3 = t$
- My units digit is odd.
- My hundredths digit is prime.
- My hundredths digit is even.
- $c = h - d$

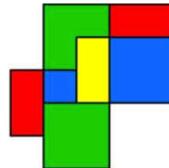
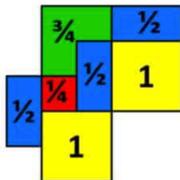
Math Fact Cards (elementary): Over the summer, kids may lose some of the gains they made during the school year learning their multiplication facts. Instead of using those boring flash cards, consider printing a set of Dr. Jo Boaler’s flash card substitutes. Boaler’s cards offer visual and symbolic representations of multiplication expressions and their products. Mix up the cards and find the four cards that make a set.

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[ClockWorks](#) (elementary, middle): Telling time with an analog clock is more fun when you can move the hour and minute hands. Choose among basic-medium-advanced-challenge levels. Practice elapsed time at the challenge level. The relative position of the hour hand is important; as the hour progresses, the hour hand travels, as well. This applet requires young minds to place the hour hand in the correct position.

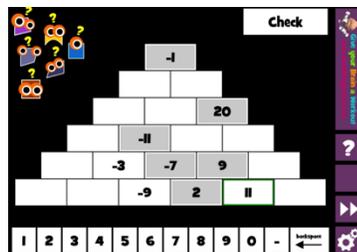


[Tiled Area Puzzles](#) (elementary, middle): While these puzzles aren't interactive, you can write on them with your finger or use a stylus if you have a [tablet/iPad/etc](#). Given the image below, if the blue square has an area of $1u^2$, what is the area of the entire figure? Practice fraction concepts without worksheets and drill/practice! There are multiple levels of



puzzle complexity. Use this link to find them all.

[Number Conundrums](#) (middle): Solve a series of integer addition problems while completing a puzzle. Each number is the sum of the numbers directly under it. Practice tons of problems sans worksheet!

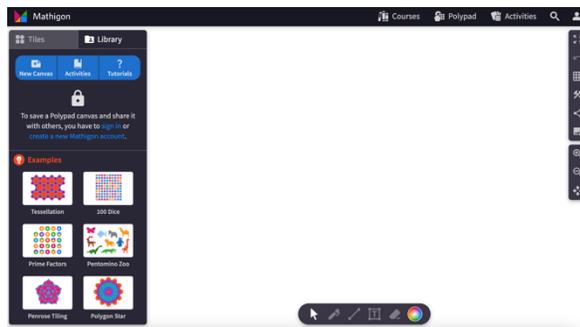


Teachers, if you want to find a one-stop shop math site, here it is, and, incredibly, its' **100% free.**

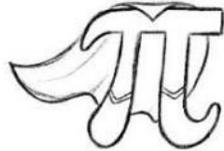
[Mathigon Polypad](#) (elementary, middle, high): Never have I seen a site like this one. This is a game changer for teachers who have multiple websites bookmarked for various online manipulatives. No more of that; they are all on this site. Find multiple manipulatives per strand – geometry, numbers, fractions, algebra, and probability. Access measuring tools with an interactive ruler and protractor. The utility of the manipulatives is amazing. Change color, expand or shrink, change the scale, choose from multiple grid backgrounds, download your work, share your work via an embed code, URL, or onto numerous media platforms. My list of the site functionalities isn't exhaustive. Check it out yourself and go ahead and bookmark it. You'll be glad you did when you turn the calendar page to August.

But wait...there's more:

- Under the Polypad “Activities” icon, you'll find puzzles, activities, and lesson plans.
- Click on the “Courses” icon to find explanations and visual representations, by strand, for many of the content objectives you teach. Some concepts aren't available yet because they are “under construction.”
- The “Activities” icon takes you to interesting math content, including puzzles, math history, games, etc.



READ MORE ON OUR WEBSITE



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