



Wahpe Woyaka pi (Talking Leaf)

South Dakota Council Teachers of Mathematics Newsletter

Presidential Ponderings

Do my eyes deceive me or is really August already? Where has the summer gone. Hopefully, it was a productive summer full of rest, relaxing, and a little thinking about the school year ahead for all of you. I surely enjoyed seeing some folks at the summer symposium earlier this month. Chris Larson did an excellent job and we all appreciated her sharing her expertise. I also saw some folks at a workshop hosted on campus at USD sponsored by QuarkNet. Whatever you all did and will do to prepare for the upcoming year, I thank you for your due diligence to train our youth.



As I write this first newsletter in my new role as president of SDCTM, I am humbled by all the great leadership that I am following. We have had great folks for many years do a lot of work for this organization and I will do my best to hold up to those standards. However, we do need more folks to start considering taking leadership roles in our organization. If this interests you, please reach out to a board member to let us know you would like to and are willing to be more active in our organization. You know what they say, "It takes a village...."

One topic I have pondered lately is how we seem to rush students through our education system. I am not sure if it is bad or good in and of itself, or maybe it is just neutral and as with all things, good for certain students. What I am talking about is we have many students taking college classes while in high school and enter our colleges and universities with a semester to a full year of credits in many cases. Now I read in the paper that we are starting an apprenticeship program where our student teachers will be eligible for the program and can be paid for their student teaching and do that under a mentor teacher at your high schools. Again, I'm not sure if this is bad or good but it sure seems like we are rushing our students through their education these days. I will be interested to hear how it works in the high schools and what your impressions are once it gets underway.

Two other quick topics I do want to remind all of you about is that this year is the elementary level for PAEMST in math so I encourage all you good teachers out there to apply. Also, consider applying for the Daktronics Math Teacher of the year award. All the application information can be found on our SDCTM website.

Here is to a great start to the new year. As always don't be afraid to reach out with any questions or concerns.

Sincerely,

President-SDCTM
Dan.VanPeurse@usd.edu

Spring 2022-2023

Wahpe Woyaka pi

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9-12 Spotlight

Week of Inspirational Math

As we move towards the beginning of a new school year, I know we are all thinking about the best way to spend those first days with our students. For years, Jo Boaler, professor of math education at Stanford University, has been encouraging us to start the school year with a Week of Inspirational Math. Maybe like you, I am always feeling pressed for time, so I have been in a hurry to jump right into our math content. This past school year, our math department read *Building Thinking Classrooms in Mathematics* by Peter Liljedahl. Liljedahl speaks to the importance of allowing student groups to work together on non-curricular activities at the beginning of the year. These non-curricular activities allow students to focus on group work and problem solving before introducing the math content. He contends that time spent on these activities builds a solid thinking environment which will allow time to be gained back later in the year. This year I am going to give it a try. Our school district will start on a Tuesday, and I am planning to use the first 4 days of the school year to focus on inspirational, non-curricular activities.

Finding Resources

If we are going to take time to work on non-curricular activities, I definitely want to make sure they are great activities that will engage students in meaningful group problem solving. Jo Boaler provides a wealth of resources on her YouCubed website. (<https://www.youcubed.org/week-inspirational-math/#wim>) Her suggestion is that for each of the first 5 days of school, you plan an inspirational video, a positive math resource, and a math task. She has 5 days planned for a variety of grade levels, or you can design your own 5 days from a library of resources.

Teachers working together through a Facebook group to implement the Building Thinking Classrooms ideas have created a shared Google sheet full of non-curricular activities. There are some great resources included here sorted by grade levels. This is a live sheet, so be careful not to delete anything. <https://docs.google.com/spreadsheets/d/11U5TqWgHXZOSGTc0DCpxHOabxS5PxQnTcNBLt120w/edit#gid=1244453073>

Peter Liljedahl provides a list of good problems on his website. <https://www.peterliljedahl.com/teachers/good-problem>

One Activity That I Love

Four Fours – This is my go-to activity for the first day of high school. I have used it successfully from Algebra 1 through Precalculus. Great because everyone can solve some, and we can usually find them all together as a class.

Task Instructions (<https://www.youcubed.org/tasks/the-four-4s/>)

Can you find every number between 1 and 20 using only four 4's and any operation?

Here's an example: $\sqrt{4} + \sqrt{4} + 4/4 =$

Give this challenge to students and write all the numbers from 1 to 20 on the board. Then ask students to come to the board and write a solution any time they have one. The more solutions you get for each number the better.



“...make sure they are great activities that engage students in meaningful group problem solving.”

(continued p. 3)



9-12 Spotlight *continued*

One Activity to Try

100 Numbers - I haven't tried this one, but my neighboring teacher uses it at the beginning of each school year. Her kids have a blast. Basically, the students are working together in groups to highlight numbers in order from 1 to 100. They highlight as many numbers as they can in 3 minutes. Everyone can be successful, and the quicker your group notices the pattern, the more successful you can be. This activity could work from middle elementary up to any level.

<https://www.saravanderwerf.com/100-numbers-to-get-students-talking/>

One Activity I am Dying to Figure Out

Four Aces – Peter Liljedahl enjoys having students figure out the math behind card tricks. He suggests that having students figure out the Four Aces trick is a good activity. He demonstrates the trick here without any explanation. I think students would really enjoy this, and I would learn something too. <https://www.peterliljedahl.com/teachers/card-tricks>

Wrapping Up

Hope you have a wonderful first week of school and a fantastic school year. If you find great tasks, share them with all the teachers you know. We can all get better by learning from each other.

Jennifer Haar
SDCTM High School Liaison
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Math Humor

What is a butterfly's favorite subject?
(Submitted by a student from the Montrose School District)

(Answer on page 4)





Mark's Thoughts

R.I.P. Twitter & Goodbye to "X"

In previous *Wahpe Woyaka pi* newsletters ([Mar 2018](#) & [Oct. 2022](#)), I shared how Twitter became my personal learning network and how I learned so much about teaching mathematics from fellow Twitter users. With the changes in Twitter (recently renamed "X") ownership and privacy policies, many math teachers are leaving the site for greener pastures.

I joined Twitter in 2011 but wasn't very active until 2013. By that time, there had been three or four years of math teachers building a network of colleagues on the site. Some of those people are forming new groups on different social media sites, hoping to rekindle the fire that burned for over a decade.

One social media site that quite a few math teachers have migrated to is <https://mathstodon.xyz>. I wish I could give you more information about the site but I am still a newborn on it. I invite you to look into creating an account and joining the conversations centered around teaching mathematics.

Best of luck to each of you as we begin another season of teaching and learning. Stay safe out there!

Mark Kreie
SDCTM Vice President
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"I invite you to look into creating an account and joining the conversation..."

NCTM Representative Tips

NCTM will hold their 2024 elections in the spring. There are four Board of Directors positions that need to be filled. One High School position and three At-Large positions. The nominating window is open through September 1, 2023. For more information go to: nctm.org.

These are the Conferences and Professional Development that you may want to add to your calendar:

- The NCTM Annual Meeting & Exposition is in Washington DC from October 25-28, 2023.
- The NCTM Regional Conference and Exposition is in Seattle Washington from February 7-9, 2024.
- The Virtual Conference is in April from the 10-13, 2024.
- If you are looking for something closer to home the South Dakota Stem Conference is in Huron on February 1-3, 2024.

Susan Gilkerson
NCTM Representative
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Math Humor Answer:
Mathematics



Lesson Highlights

Welcome to the 2023 school year!

I'm Karin Lang, one of the Southeastern chapter co-coordinators for MATHCOUNTS. As a civil engineer, I use math every day. I grew up with a love for learning, and specifically mathematics, which had a huge impact on my career choice.

I've gotten a lot of enjoyment out of volunteering with this organization the last 7 years and want to continue to help spread the math love. While I didn't participate in MATHCOUNTS as a student, I want to encourage you all to consider registering for the Spring 2024 MATHCOUNTS Competition that takes place in February.

MATHCOUNTS offers exciting programs for students who not only love math, but fear math as well. Their programs are designed to engage students of all ability levels in fun and challenging ways that are sometimes not possible within the structure of a math classroom. MATHCOUNTS also offers students the chance to be a part of a team and compete together to represent your school. Students take pride in their accomplishments and support not only their classmates, but students from other schools as well.

Registration opens on August 15, and is \$30/student. Rates increase after November 1 to \$35/student. Title I schools receive a 50% discount off the total cost of their registration. Schools can register one team of 4 students and up to 8 additional individual students.

Competition dates vary depending on which location you attend, but the Southeastern Chapter competition date is set for February 20, 2024 at Southeast Tech's campus.

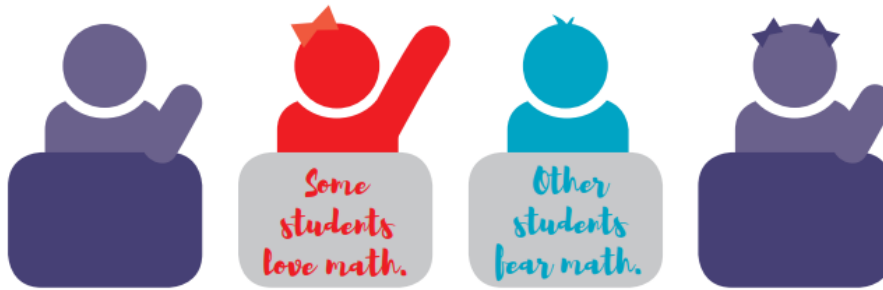
Want to learn more about MATHCOUNTS? Head out to their website at www.mathcounts.org.

Have specific questions; please reach out to your chapter coordinator, if you know which chapter you are a part of, or I am happy to take all questions.

Southeastern: Karin Lang, karin.lang@bartwest.com, (605) 373-5836

Black Hills: Ericka Amborn, eamborn@ara.com, (505) 264-6313

Northeastern: Adam Buckhouse, adam.buckhouse@mmm.com, (605) 226-6594



MATHCOUNTS[®] is the place for both.

OUR PROGRAMS EMPOWER ALL STUDENTS IN **GRADES 6-8**



The National Math Club

gives students an inclusive, fun way to learn math. Educators receive a binder with fun games and mini math lesson, plus access to online resources and the MATHCOUNTS Club App—all for free.



Math Video Challenge

gives students the opportunity to tap into their creativity, storytelling and technology savvy in a fun math project. Program registration opens every fall and is completely free.



MATHCOUNTS Competition Series

challenges students with thrilling, in-person competitions and builds problem-solving skills. A handbook of math problems is provided to all educators for free—whether they participate in the program or not.

Students who **love** math need to be challenged. Students who **fear** math need ways to improve. Teachers need the tools to help **every student**. That's where MATHCOUNTS can help!

www.mathcounts.org



The National Math Club

How Does It Work?



Groups register in the fall and club leaders complete **fun math activities** with their club members during the year. As many students who are interested in the program can participate in club meetings.



Clubs that meet a minimum of 5 times during the program year can achieve **Silver Level Status**, usually in February. Silver Level clubs earn prizes and awards.



Clubs that complete a creative, collaborative project can achieve **Gold Level Status**, usually in March. Gold Level clubs earn even more prizes and awards.



In May one lucky Gold Level club wins the **Grand Prize**: an all-expenses-paid trip for the club leader and 4 students to attend the National Competition as honored guests.

Learn More + Register:
www.mathcounts.org/club



MATHCOUNTS Competition Series

How Does It Work?



Educators work with students starting in the fall and administer the **School Competition**, usually in January. Any number of students can participate in team meetings and compete in the School Competition.



Between 1 and 12 students from each school advance to the local **Chapter Competition**, which takes place in February. Over 500 Chapter Competitions take place across the country.



Top students from each Chapter Competition advance to their **State Competition**, which takes place in March. 56 State Competitions take place nationwide.



Top 224 individuals from the State Competitions receive an all-expenses-paid trip to the **National Competition**, which takes place in May. Winning students receive college scholarships.

Learn More + Register:
www.mathcounts.org/competition



Math Video Challenge

How Does It Work?



During the fall/winter students work in teams of 4 to **create a video** based on a MATHCOUNTS handbook problem that shows a real-world application of math.

In March, every video is reviewed by a panel of MATHCOUNTS judges that selects approximately 50-100 Quarterfinalist Videos, and then 12 Semifinalist Videos and 6 Judges' Choice Videos.



In early April, expert judges select **4 finalist videos**. 16 finalists receive an all-expenses-paid trip to the Math Video Challenge Finals, where they present their video.



At the Math Video Challenge Finals in May, the 224 Mathletes at the National Competition vote to determine the First Place Video. Winners each receive a \$1,000 scholarship.

Learn More + Register:
www.mathcounts.org/mvc



Presidential Award for Excellence in Mathematics and Science Teaching

Presidential Award for Excellence in Mathematics and Science Teaching 2023 South Dakota State-Level Finalists

2023 Mathematics Finalists

Brittany Green, a mathematics teacher from Brandon, SD has been teaching for 12 years. She is an Algebra I and Advanced Algebra teacher at Brandon Valley High School. Brittany graduated from South Dakota State University in 2009 with a Bachelor's degree in Mathematics with a specialization in education. Brittany was a state-level finalist for the PAEMST in 2021, has participated in the SD Mathematics and Science Leadership Program, is a member of the South Dakota Council of Teachers of Mathematics, and has been recognized as the 2023 South Dakota Outstanding Mathematics Teacher sponsored by Daktronics.



Allison Schmitz, a mathematics teacher from Mellette, SD has been teaching for 8 years. She is a teacher for grade 6 through Advanced Algebra at Northwestern Area School District. Allison graduated from Northern State University in 2013 with a Bachelor's degree in Mathematics and earned her Masters of Education degree in Curriculum and Instruction and Classroom Technology from Concordia University - Portland in 2014. She has participated in the SD Mathematics and Science Leadership Program, is a member of the South Dakota Education Association, the South Dakota Council of Teachers of Mathematics, and has presented sessions at the SD STEM Ed Conference.



Megan Wilson, a mathematics teacher from Forestburg, SD, has been teaching for 12 years. She is a teacher for Algebra, Geometry, Algebra 2, Trigonometry/Pre-Calculus, Business Math, Personal Finance, and Accounting at Sanborn Central. Megan graduated from Eastern New Mexico University in 2010 with a Bachelor's degree in Mathematics. She has participated in the SD Mathematics and Science Leadership Program and has presented sessions at the SD STEM Ed Conference.



2023 Science Finalists

Michelle Bartels, a science teacher from Hamlin School District, has been teaching for 22 years. She spent many years in the middle school and now is enjoying high school science. Michelle earned her bachelor's degree in teacher education from Mount Marty College in 2000 and her master's in Curriculum and Instruction from Black Hills State University in 2011. Since then, she has also completed the K-12 Math and Science Specialist Endorsements program at BHSU. For several years Michelle has been an active member of the SD Science Teaching Association, currently serving on the board as Past President and newsletter co-editor for the organization. She is a National Geographic Certified Educator and is an EdReports science content team member.



“Nominate a deserving teacher who exhibits a passion for the subject they teach...”



PAEMST *continued*

Kristen Gonsoir, a science teacher from Groton Area High School, has taught 30 years. She currently teaches high school Physical Science and Chemistry. Kristen earned her bachelor's in Chemistry and Education in 1992, and her master's in Teaching and Learning in 2015, both from Northern State University. In 2019 she was a Japan-U.S. Fulbright program teacher. The program focused on utilizing technology to promote global citizenship with students. In 2022, she participated in a National Education Foundation Global Learning Fellowship. At the state level, Kristen has been involved with the DOE Mentor Teacher program and Science Standards Translations Team. She has received multiple awards while serving as her district's debate coach.



Landra Knodel, a science teacher with Irene-Wakonda Jr/Sr High School has taught 22 years. She is teaching 7th and 8th grade science along with high school Physical Science, Biology, Chemistry, and Human Anatomy. Landra graduated in 1999 from University of South Dakota with a bachelor's degree in Biology Education and in 2007 with a master's in Natural Science with an emphasis in Physics. She also completed the Science Specialist Endorsement through Black Hills State University in 2011. Landra's passion for science professional development includes leadership roles with SD EPSCoR and the SD Math and Science Leadership Program.



Presidential Award for Excellence in Mathematics and Science Teaching

The Presidential Award for Excellence in Mathematics and Science Teaching (PAEMST) is the highest recognition that a kindergarten through 12th grade mathematics or science teacher may receive for outstanding teaching in the United States. Since 1983, more than 5,200 teachers have been recognized for their contributions to mathematics and science education. Awardees serve as models for their colleagues, inspiration to their communities, and leaders in the improvement of mathematics and science education.

Presidential awardees receive a citation signed by the President of the United States, a trip to Washington DC to attend a series of recognition events and professional development opportunities, and a \$10,000 award from the National Science Foundation.

Anyone--principals, teachers, parents, students, or members of the general public--may nominate a teacher by completing the nomination form available on the PAEMST website. For more information, please visit www.paemst.org. The nomination window will be open this Fall to recognize K - 6th grade mathematics and science teachers. **Nominate a deserving teacher who exhibits a passion for the subject they teach; who approaches their work with creativity and imagination; and who strives daily to improve their individual teaching practice.**

If you have any questions, please contact:

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2021-2023

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