Wahpe Woyaka pi

(Talking Leaf)

South Dakota Council Teachers of Mathematics Newsletter

SPRING 2019-2020

Presidential Ponderings

Happy Spring! That was how I was going to start this edition's newsletter article. I was going to talk about how the 2020 STEM Ed conference was amazing! Annie Fetter and Sean Nank gave wonderful and informative sessions that only received great reviews. We learned about using Noticing and Wondering at all grade levels from Annie. From Sean we learned about going 1:1 and about inquiry in STEM classrooms. I can't say enough good things about this year's conference!

Instead about talking about the STEM ED conference, I am now compelled to talk about online learning in the wake of COVID19. Our whole state and country were thrown into an unknown realm of teaching. We went from seeing our kids everyday and worrying if they completed their homework or if simplified their fractions to not seeing them and worrying if they have computer access, food, and enough toilet paper!

I joke, but I'm not laughing. There are so many unknowns right now and our students are feeling it. Our older kids are wise enough to know that this is unprecedented and that their world has changed. They know that their rites of passage: basketball tournaments, plays, prom, and even graduation has been possibly cancelled. The younger students can feel their parent's anxiety. As I write this, we are only out of school for one more week, but talk is that we may not be back to school this year. It is the uncertainty that is making this worse.

I see that teachers all over the country are stepping up and have changed how they teach in remarkable time. Zoom meetings and online learning has become our new reality. Videos are replacing lectures. I see educators everywhere reaching out and offering advice to others. It is amazing to see the collaboration taking place. Companies are offering their programs for free. Students are now allowed to take virtual tours and use educational-gaming platforms that were unavailable to before without paying a fee. I am so impressed how in a matter of days, resources became readily available, only if you have a computer and Wi-Fi. I really worry about our students who do not have access.

With all of these resources now available, we also need to be mindful and not inundate our students with work to do. There is a fine line between wanting our students to keep learning and overwhelming them. I feel like I am already guilty of overwhelming my own students and I plan to change my ways. They have enough stress right now; they don't need to be worrying about their math grade on top of things. Of course, I still want my kids to know and understand their math concepts, but I think I can slow down my pace. Learning is such a social practice and learning math in isolation is hard. I cannot expect my students to learn at the same pace we were doing in the classroom. Normally, my students would have spent 225 minutes with me during the week, plus homework. This doesn't mean I should be sending that amount home with them now. This is just going to create more stress and anxiety. We do not want our students to remember this time in their lives as the time they couldn't figure out their math homework!

Since things may change before you read this, I am going to cut it off here. I do want to end this with a quote from Mr. Rodgers, "*When I was a boy and I would see scary things in the news, my mother would say to me, "Look for the helpers. You will always find people who are helping."* Let's be those helpers for our students. Reach out to them and let them know we care about them in more ways than just as our math students.

Crystal McMachen
SDCTM President
Crystal.McMachen@k12.sd.us

Wahpe Woyaka pi

Inside this issue:

Calendar Notes:

- *2020 PAEMST Nominations Due ~~March 1, 2020~~ Check PAEMST.org for updated deadlines due to COVID-19*
- *2020 PAEMST Applications Due ~~May 1, 2020~~ Check PAEMST.org for updated deadlines due to COVID-19*

Musings from Sheila

We have all found ourselves in an extremely new educational world. If you hadn't fully embraced technology, you have, to some degree, now. If you had fully embraced technology in education, I bet your teaching still looks different that it did. Some aspects may be a little simpler (taking attendance… you are no deciphering seating charts, tracking kids who moved from one desk to another for whatever reason, counting heads, or dealing with photocopy machine/printer breakdowns) but in many many ways this is so much more difficult. I, like you, miss my kids. I even miss the ones that pushed my buttons each day. I miss their smiles and laughter and even their attempts to avoid doing any work. Zoom, e-mail, and Google Classroom have become even more valuable tools for connecting with my students, but as we all know, it is not the same.

I think of two different quotes—one is a Facebook post that Cindy Kroon shared that was written/posted by Ken Buck:

> "We gave educators almost no notice. We asked them to completely redesign what school looks like and in about 24 hours local administrators and teachers "Apollo 13'ed" the problem and fixed it. Kids learning, children being fed, needs being met in the midst of a global crisis.
>
> No state agency did this, no so-called national experts on curriculum. The local educators fixed it in hours. HOURS.
>
> In fact, existing state and federal policies actually created multiple roadblocks. Local schools figured out how to do it around those too. No complaining and no handwringing—just solutions and amazingly clever plans.
>
> Remember that the next time someone tries to convince you that schools are better run mandates from non-educators. Remember that the next time someone tells us that teachers have it easy or try to persuade you that educators are not among the smartest, most ingenious people in society. And please never say to me again, "Those who can't do anything else just go into teaching."
>
> Get out of the way of a teacher and watch with amazement at what really happens."

The second is something our principal said to us in our first Zoom faculty meeting, "Years from now, they will not remember the content you wanted them to learn but they will remember how you made them feel, how you cared for them." As my daughters say, "Retweet!" Yes, I am continuing to teach valuable information, but bottom line, I want my kids to know that I care. I do care about the math, but I care so very much more about them.

Praying you are safe and healthy. If I, or anyone else on the board, can be of assistance, please feel free to reach out. From High School Musical, "We're all in this together!"

Sheila McQuade
SDCTM President-Elect
SMcQuade@OGKnights.org

"I even miss the ones that pushed my buttons each day."

9-12 Spotlight

Parallel Lines Cut by a Transversal

"...you can have your students dance to their favorite tunes by following cues for feet position in terms of angle pair relationships."

Wow! With schools currently closed due to concerns related to COVID-19, it is hard to believe just a couple of weeks ago I was in the classroom with my freshmen working on special angle pairs created by two parallel lines cut by a transversal. Students have seen these angle pair relationships in 8th grade, but they certainly need some reviewing before they are ready to use them in our triangle congruence proofs. (SD Math Standards 8.G.A.5)

Inspired by Sara Van Der Werf's recent posts about adding movement into the math classroom (https://www.saravanderwerf.com/mathmovement-ideas-with-well-known-math-routines/), I went in search of some ways that we could use movement to practice our angle pairs. Turns out, there are fabulous math teachers out there that are all over this. In my classroom, we tried an idea called Dance, Dance Transversal. There are lots of posts about it online. Here is the one that I followed most closely. (https://jennvadnais.com/2015/05/17/dance-dance-transversal/) The idea is to create a "dance floor" for each student with painter's tape. The "dance floor" is two parallel lines cut by a transversal. Students can then stand on their dance floor and put their feet into particular angle pair positions. After some practice, you can have your students dance to their favorite tunes by following cues for feet position in terms of angle pair relationships. Sounds like fun!

Well, we gave it a try, and here are some of my findings:

1. I was able to push all my desks against the walls and do this in my classroom. It took 1.5 rolls of painter's tape and quite a while to put it all down. More space would have been better, but it worked.
2. Students really loved standing up and working on the angle positions. We spent some time on the front end just practicing where the feet should go for relationships like vertical, alternate interior, alternate exterior, same side interior, same side exterior, and congruent.
3. Students need a lot of practice before trying to dance. Next year, I will try some practice games before we try to dance. We could play Simon Says game where students take turns calling out angle pairs, or maybe we could create a spinner with angle pairs and play a game like Twister.
4. By the time we got to the dancing, things got fun – but maybe less math focused. I think success here depends on the teacher's personality. Can you get the students excited about the dance game while maintaining the focus on the math learning? It is a delicate balance. Maybe the bulk of the learning comes in the preparation, and the dancing is just a bit of fun.
5. Taking the tape off the floor was a task. Turns out dancing on the tape for hours really makes it stick. Make sure you get students to help you with this part.

I am sure you are like me – always working to find new ways to engage your kids with math. Hope this provides you with another tool in your box. If you have great success or some upgrades, please share them with me.

Jennifer Haar
SDCTM High School Liaison
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Higher Ed Viewpoint

Greetings from the Board of Regents (BOR) institutions! I trust this letter finds you all safe and healthy amidst this global pandemic of COVID 19.

I am confident that the news I report is the same thing you are experiencing. All our campuses were tasked with turning our courses into remote delivery the week following our spring break. The initial timeframe of two weeks has now been extended to the end of the semester. I know you are all tasked with the same issue and concerns of delivering your content remotely. We are all now becoming familiar with Black Board, D2L, Drop Box, Zoom, Google Classrooms, Panopto, Skype, and a host of other platforms, software, and technology that allows one to communicate to groups. Here at the universities, we are also using this new mode of delivery for advising and currently there are ongoing talks of how recruiting events that used to take place on campus will now look in a virtual environment. However, rest assured, we are South Dakotans and we will provide a great education and experience for our students even with this extra hurdle placed in our path. I do not mean to diminish the seriousness of the COVID 19, but I see a positive consequence in that people have learned to slow down, spend more quality time with family, and maybe even learn some technology that will come in handy when we revert back to face to face teaching in the future. They say you can not grow unless you get out of your comfort zone and I think we have all come out of our comfort zone these past few weeks. Now we just need to make sure we grow from the experience.

"...we are South Dakotans and we will provide a great education and experience for our students even with this extra hurdle placed in our path."

In closing, I do hope you all remain healthy and well as you continue to educate your students from a distance.

Sincerely,

Dan Van Peursem

SDCTM Liaison to Higher Education
Professor and Dept. Chair
The University of South Dakota

Share the Wealth

South Dakota Teachers are some of the most creative, dedicated professionals. Whenever I have the opportunity to visit with our teachers, I always hear of a project or lesson idea that I could use in my classroom. Especially now, that we are all facing this new normal, I invite you to share your wealth of ideas with our membership. Please consider submitting something that has "worked". YOU are the expert...you are the ones that have tested that idea, lesson, activity… in a new virtual way. Please consider sharing something for publication in our newsletter.

Send submissions to:

Sheila McQuade, SDCTM Newsletter editor (SMcQuade@OGKnights.org).

Why Huron?

Every year, someone asks the question, "Why is the SD STEM Ed Conference always in Huron?" There are several reasons including: it is easier; it is cheaper; and Huron is so accommodating. For the past 20+ years, the Huron Chamber of Commerce, the Crossroads Hotel, and now the Huron Events Center have gone out of their way to accommodate the needs of an ever-changing conference.

In previous years, when our attendance went from 200 to over 700 in one year, the HCC/Crossroads found us 14 extra meeting rooms within walking distance of the Crossroads at no extra cost to the Conference Committee. This included a long-standing agreement with the Presbyterian Church that ended only when the new Events Center was completed. They also helped us scale back when the NSF money dried up and we struggled to make ends meet and still keep a quality conference. Our liaisons with the Crossroads, especially Brenda and Maria, have helped us do what it takes to meet the needs of our organizations.

Another reason we stay in Huron is that it is just plain easier. SDSTA and SDCTM are organizations that are run by volunteers. We all know that doing something the second time is easier than figuring out how to do it the first time. Imagine trying to allocate space for sessions in a strange facility, or coordinating meals with someone you don't know, or straightening out the room situation when you discover that a featured speaker doesn't have a room with the third desk clerk you have talked to in two days. These are all things that the Joint Conference Committee does not have to deal with. One phone call or email usually takes care of any "crisis."

Finally, the bottom line usually ends up being money, and this is no exception. About every three years, representatives from Sioux Falls, Aberdeen, Pierre and Rapid City contact us trying to lure us away from Huron. What I do is send them a list of the things that Huron provides and ask them what incentive they can offer to make us consider changing our venue. Sometimes they don't even respond. Most of the time, they send me a polite note, suggesting that I am exaggerating what we get from the Crossroads/Huron Events Center. Trust me I am not. We pay nothing for meeting rooms, get reasonable rates on our meals, provide all available sleeping rooms at the Crossroads to our participants at the same rate, and we get complimentary suites to use as office space.

Until the last several years when we had so many requests for LCD projectors, they also provided all AV equipment, screens and microphones free. Even now, thanks to TIE and the HEC we still do not pay for AV equipment. Many national conferences now pass that cost on to presenters at anywhere from $25-50/hour for the use of an LCD projector. These things add up to big dollars in the overall budget. Since we need this conference to be self-supporting, money MUST be a factor in our decision-making process.

That is why we stay in Huron. I realize that this may be more information than you really need or want, but I feel that it is important to address a question that doesn't seem to go away. I think you also need to go out of your way to thank any SDCTM or SDSTA Board member that you see for the time and energy that they put into making the SD STEM Ed Conference such a great event. We, in South Dakota, are unique in having an annual Joint Conference, especially one that is coordinated by volunteers. What is even more important is the quality of that conference. See you there in February of 2021.

Cindy Kroon, Conference Chair

(A revision of the 2016 version)

"...doing something the second time is easier than figuring out how to do it the first time."

"We pay nothing for meeting rooms, get reasonable rates ... and we get complimentary suites to use as office space."

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McCann Scholarship

A scholarship in memory of long time SDCTM member and officer Diana McCann has been established for the benefit of college students preparing to become a math teacher. Rising seniors studying math education at any post secondary institution in South Dakota are eligible. The scholarship is awarded at the annual SD STEM Ed Conference.

Donations to the McCann Scholarship can be sent to:
Security State Bank
1600 Main Street
Tyndal SD 57066

One hundred percent of all donations will be used to fund the scholarship.

SDCTM "Gear"

I have been approached many times about my "Long Live Math" shirt and where one can get one. Last year, we had some at the conference, but unfortunately, we ran out. Luckily, I have a connection to someone who likes to make t-shirts. Therefore, she can make more! So... now SDCTM has an online t-shirt shop through Etsy. Money from the sales of these math shirts goes to SDCTM. The link to the SDCTM shirts is: https://www.etsy.com/shop/blackhillsprintwear/?section_id=26958602.
Not only is there the "Long Live Math" shirt, there are other math shirts, SDCTM baseball shirts, and polos. Check it out!

Crystal McMachen
SDCTM President

A Word from Stephanie

"Now more than ever, students need to know you are keeping their best interests in the forefront of your minds. "

The uncertainty of day to day life makes it difficult to even find the right words to put to paper. As I write this, schools across our state have been closed an additional week, with the understanding closures may continue on a week by week basis. Other states in the country have closed schools for the reminder of the school year, and states are now enforcing mandatory quarantines. In times of this level of unknown, it is necessary to connect with loved ones, in what ever ways you can, and look to the future for positivity.

Connect, connect, connect! Now more than ever, students need to know you are keeping their best interests in the forefront of your minds. They are looking for as many portions of "normal" in their days as possible. Find time to connect with students through email, virtual meetings, social media, or even write them letters to send in the mail. In addition, find time to connect with colleagues, family members and other loved ones as well. My family has just purchased a web camera for my parents, so that they can still feel somewhat engaged with the outside world. It is when we are told that we cannot leave the house, that we begin to feel even more anxious about being cooped up. Remember to check in with one another and to take care of yourselves during the upcoming weeks.

The positive I am looking forward to in all this negativity, is summer professional learning, and having opportunities to connect and meet math teachers from across the state. For now, I continue to plan to host numerous summer workshops to support best mathematics teaching practices. The first workshop is the launch for the 2020-21 book study launch of the NCTM Taking Action: Implementing Effective Mathematics Teaching Practices books for each grade band. At the kick-off workshop, participants will collaborate to utilize the SD Unpacked Documents, as well as implement the eight effective mathematics teaching practices discussed in the text. Participants will then connect virtually during the 2020-21 school year, discussing both intentional planning and implementation of these practices. The second professional learning workshop this summer, for Kindergarten-5th grade teachers, is the South Dakota Foundational Mathematics course. In this two-day course, teachers will learn best teaching methods to develop students number sense and spatial relationships. Registration information for both opportunities can be found on the South Dakota Department of Education Go Sign Me Up site: southdakota.gosignmeup.com

In addition to the professional learning opportunities mentioned above, there are other opportunities for professional growth to watch for this spring. The South Dakota Department of Education will continue the Virtual Math Coaching program in the 2020-21 school year. Virtual Math Coaching is a wonderful way to connect with math teachers across the state, to receive specific, personalized feedback on your own teaching practice from another math teacher. The summer kick off for teachers to meet will be held, July 30 in Fort Pierre. You can register to become a participant of the Virtual Math Coaching program on the Department of Education Go Sign Me Up page. The Department of Education plans to facilitate the fourth cohort of the SD Math/SD Sci leadership group during the 2020-2021 school year. This is a wonderful leadership opportunity for science and math educators to collaborate and discuss topics focused on equity in math and science and math education, as well as leading impactful changes in math and science education. Please watch for application information for this excellent leadership opportunity on the DOE Math and Science Listservs.

continued

A Word from Stephanie *continued*

The SD Mentoring Program is another wonderful way to grow as a math leader in our state. As a mentor, you will attend both a face-to-face Mentoring Seminar and a mentor/ teacher meet and greet this summer, where you will be paired with a new teacher to mentor for two years. In June, you and your mentee participate in the Mentoring Summer Academy, a two-day conference filled with excellent professional learning workshops. Please watch for more information regarding this program.

Continue doing the amazing work with students and families during this difficult time.

I look forward to meeting more of you throughout the summer at one or more professional learning opportunities!

Have an excellent end to your school year, stay safe and stay positive,

Stephanie Higdon
Math Specialist
SD Division of Learning & Instruction
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Mark's Thoughts

Remote Learning Using Desmos

Wow, have things changed in just this last week. I'm writing this on Saturday the 21st, and only a week ago Governor Noem announced that all schools should be closed for this past week. As you're all aware, she extended the closure timeline for another week. I am aware that many schools are transitioning to some sort of remote / e-learning model for the immediate future.

If you're in search of ways to engage your students during this period of remote learning, I suggest you peek at the activities and support that Desmos is offering. (https://learn.desmos.com/coronavirus) This site is updated daily and offers webinars, activities, and support. If you are just dipping your toe into the remote learning pool, I would recommend you watch Dan Meyer's webinar called "Distance Learning with Desmos". The recording can be found on the page linked above.

Lastly, I want to remind you to take care of yourselves during this pandemic. Hug your loved ones, reach out to your neighbor (figuratively, not literally), and support one another. I know I am looking forward to warmer weather and the ability to get outside a bit more. Stay safe and healthy!

Mark Kreie
NCTM Representative
Mark.Kreie@k12.sd.us

"If you are just dipping your toe into the remote learning pool, I would recommend you watch Dan Meyer's webinar ...

Presidential Awards for Excellence in Mathematics and Science

PAEMST News: (no news yet on 2019 awardees)
PAEMST has been discussing various options in response to COVID-19 and disruptions in the school calendar for teachers who are currently applying for the 2020 PAEMST award. More information regarding an adjusted timeline will be announced by PAEMST and distributed to nominees and applicants in the near future.

PAEMST Background:
The PAEMST program was established in 1983 by the White House and is sponsored by the National Science Foundation. The award is the nation's highest honor for math and science (including computer science) teachers. The program identifies outstanding math and science teachers in all 50 states and four US jurisdictions.

Awardees each receive a $10,000 award, a paid trip to Washington, DC to attend a week-long series of networking opportunities and recognition events, and a special citation signed by the President of the United States.

The next cycle will recognize outstanding secondary teachers in grades 7-12. The application deadline will be May 1, 2021. Nominations will begin to be accepted in early November. Please be thinking of a deserving teacher you would like to nominate. When the window for nominations opens, you can nominate a teacher by visiting **www.paemst.org** .

Other than this, why would someone want to complete the application process?
Three CEU's from the South Dakota Department of Education can also be earned toward certificate renewal by completing the application process. To be eligible, a PAEMST candidate must complete all components of the application process and submit a scorable application that can be sent on to the state selection committee. All applicants submitting a scorable application will earn credit, not just the state finalists whose materials will be sent on to a national selection panel.

The PAEMST application consists of three components: Administrative, Narrative, and Video. The components allow the applicant to provide evidence of deep content knowledge and exemplary pedagogical skills that result in improved student learning. After eligibility is confirmed and technical specifications are met, each application will be evaluated using the following five Dimensions of Outstanding Teaching:

- Mastery of mathematics or science content appropriate for the grade level taught.
- Use of instructional methods and strategies that are appropriate for students in the class and that support student learning.
- Effective use of student assessments to evaluate, monitor, and improve student learning.
- Reflective practice and life-long learning to improve teaching and student learning.
- Leadership in education outside the classroom.

Do you know an outstanding mathematics or science teacher? Nominate them this fall.

If you have any questions, please contact:

Jennifer Fowler
SD PAEMST Science Coordinator
Jennifer.Fowler@state.sd.us
605.431.5438

Allen Hogie
SD PAEMST Mathematics Coordinator
Allen.Hogie@k12.sd.us
605.553.8095

Jennifer Fowler,
Science Coordinator

"The award is the nation's highest honor for math and science (including computer science) teachers."

Allen Hogie,
Math Coordinator

PAEMST 2019 Finalists Announced

Congratulations to the following middle school and high school mathematics state-level finalists for the 2019 Presidential Award for Excellence in Mathematics and Science Teaching:

Carla Diede, Harrisburg South Middle School

Molly Ring, Brandon Valley Middle School

Mark Kreie, Brookings High School

As state-level finalists, they are automatically candidates for the National Presidential Award. The teacher selected as South Dakota's Presidential Awardee will be notified officially by the White House. Every year up to 108 National Awardees each receive a $10,000 award, a paid trip for two to Washington, DC to attend a week-long series of net-working opportunities and recognition events, and a special citation signed by the Presi-dent of the United States.

SDCTM celebrated the achievements of each of the state-level finalists on Friday, February 7, 2020 in Huron, SD during the evening Banquet at the SD STEM Ed Conference. Each state-level finalist will receive a paid two-day conference registration, Friday night's hotel accommodation, a paid one year membership to SDCTM, a plaque to commemorate the achievement, a free Banquet ticket (plus 1), a free breakfast Saturday morn-ng, and 3 CEU's toward certificate renewal.

Beginning this fall, SDCTM will be looking for outstanding K-6th grade mathematics and science teachers for the 2020 Presidential Awards for Excellence in Mathematics and Science Teaching. Do you know a GREAT K-6th grade mathematics or science teacher? Nominate him or her to receive the Presidential Award! Nominations for the 2020 cycle will open shortly after the 2019-2020 school year begins.

To submit a nomination for a K-6th grade teacher, complete the nomination form available on the PAEMST website, and submit the teacher's name, email address, and school contact information. The nomination window is not yet open You are welcome to submit multiple nominations if you know more than one teacher deserving of this award.

Awards Presented at SD STEM Ed Conference 2020

SDCTM Distinguished Service Awardee Jay Berglund, SDCTM President Crystal McMachen, and SDCTM Friend of Mathematics Awardee Sharon Vestal.

Daktronics Mathematics Teacher of the Year Awardee Jennifer Ashley with SDCTM President Crystal McMachen

2019 PAEMST Finalists (L to R):
Mark Kreie (Math), Tiffany Kroeger (Science), Denise Clemens (science,), and Molly Ring (Math).

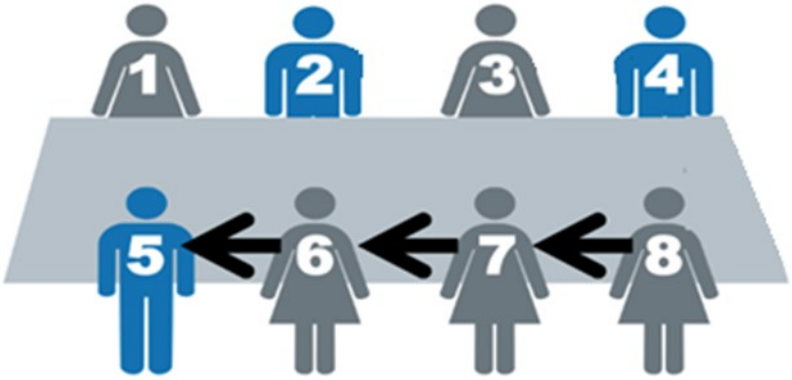
Speed Dating (Algebra I Linear Equations)

1. Cut out and paste each problem onto an index card (Fig.1).

2. Each student selects one card and solves the problem (Write an equation in slope-intercept form) showing all steps. Students show their work on a separate page; they should not write on the card.

3. Students check answers with answer key (Fig. 2). If correct, **"You are now the expert on this problem."** If incorrect try again, seeking assistance if necessary.

4. Once all students have checked their solutions and are able to explain their solution to others, they are ready to begin speed dating.



5. Students arrange their desks into two rows facing each other.

6. Students introduce themselves and exchange problem cards with the person sitting across.
(Student 1 trades with 5, 2 trades with 6, etc.)

7. Each student solves the problem from their partner's card. If they have trouble, their partner is the expert and can assist.

8. When both students have correctly solved the problem, they give each other a high five. When all have finished, or after a designated time (1-2 minutes), students thank their partners and return the cards to their original owner.

9. When the bell rings, (or other signal) each student on the south moves to their left by one seat. The student on the end goes to the far right and takes that seat.

10. Repeat steps 6-9 until students end up at their original starting position.

A.CED Create equations that describe numbers or relationships
F.BF Build a function that models a relationship between two quantities

Cindy Kroon
Montrose High School
Cindy.Kroon@k12.sd.us

Fig. 1. Cut and paste onto index cards

1. m=2 b=3	2. m=½ b=6
3. m=3 b=-1	4. m=-5 b=2
5. m= -⅘ (0,-3)	6. m=⅔ (0,0)
7. m=-2 (3,-3)	8. m=-4 (4,-22)
9. m=½ (4,0)	10. m=-¼ (8,1)
11. m=-1 (2,1)	12. m=1 (0,-4)
13. m=2 (1,-9)	14. m=⅓ (6,-3)
15. (0,0) (2, -1)	16. (1,1) (2,2)
17. (3,-3) (5,-5)	18. (1,-2) (2,3)
19. (2,2) (5,-4)	20. (8,5) (0,3)
21. (0, 6) (8,2)	22. m=-3 (-1,4)
23. m=-1 (5,-8)	24. m=¾ (8,11)

Note: Task can be differentiated by using more/less complex equations.

Fig. 2 Key

1. $y = 2x + 3$	2. $y = \frac{1}{2}x + 6$
3. $y = 3x - 1$	4. $y = -5x + 2$
5. $y = -\frac{4}{5}x - 3$	6. $y = \frac{2}{3}x$
7. $y = -2x + 3$	8. $y = -4x - 6$
9. $y = \frac{1}{2}x$	10. $y = -\frac{1}{4}x + 3$
11. $y = -x + 3$	12. $y = x - 4$
13. $y = 2x - 11$	14. $y = \frac{1}{3}x - 5$
15. $y = -\frac{1}{2}x$	16. $y = x$
17. $y = -x$	18. $y = 5x - 7$
19. $y = -2x + 6$	20. $y = \frac{1}{4}x + 3$
21. $y = -\frac{1}{2}x + 6$	22. $y = -3x + 1$
23. $y = -x - 3$	24. $y = \frac{3}{4}x + 5$

PROFESSIONAL DEVELOPMENT FOR K-12 SCIENCE TEACHERS

SUMMER 2020

WHAT

South Dakota EPSCoR is offering three-day teacher workshops at six locations around the state. Participants will strengthen their understanding of three-dimensional science teaching and receive support in meeting South Dakota's K-12 Science Standards.

Participants will also learn about science and engineering research underway at universities across our state and learn about newly developed K-12 curriculum modules.

WHO

Teachers of science across South Dakota: Elementary teachers; Middle School Science Teachers; and High School Science Teachers.

DETAILS

Participants will receive a stipend of $100/day. Graduate credit will be available at discounted tuition. Space is limited in each session, so register early. Additional details and registration at: sdepscor.org/education

FEATURING • Phenomena-based instruction • Facilitation of classroom discourse • Attention to equity and cultural relevance • Access to new curriculum modules

SD EPSCoR
RESEARCH. EDUCATION. ECONOMIC DEVELOPMENT.

WHERE

Black Hills State University
Spearfish
June 15 – 17

Sinte Gleska University
Mission
June 22 – 24

Sanford Research
Sioux Falls
June 29 – Jul 1

Northern State University
Aberdeen
July 13 – 15

Oglala Lakota College
Kyle
July 15 – 17

University of South Dakota
Vermillion
July 20 – 22

QUESTIONS

Ben Sayler
Black Hills State University
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Center for the Advancement of Math and Science Education
605.642.6873

TOTALLY AWESOME SCIENCE

Contact Us

SanfordOutreach@
sanfordhealth.org

research.sanfordhealth.
org/academic-programs

PROMISE

SANFORD
RESEARCH

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SDCTM Newsletter
C/o Sheila McQuade
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