Thursday 7:00 - 9:00 PM - Conference Kick Off

Thursday, 7:00 PM **Science Showcase** **Prairie B**

SDSTA President Alison Bowers and other officers

Bring an activity to share with colleagues that relates to your science classroom. Share your lesson by bringing copies to share or a link (or send an email to officers@SDSTA.org to post to their web). Pizza will be provided for those who attend!

Thursday, 7:00 PM **Math Potluck** **Prairie C**

SDCTM President Sharon Vestal and other officers

Network with other math teachers! Share your favorite activities and lessons! Swap teaching ideas! Sharing math teaching ideas will be the focus of this session. Bring 25 copies of your favorite activity to share. Leave with ideas from other great teachers. Pizza will be provided for those who attend!

- Friday 8:00 AM - Conference -

Friday, 8:00 AM **Prairie A - B - C**

SDCTM President Sharon Vestal and SDSTA President Alison Bowuers

Opening Session - Conference Welcome for All

Pre-Service, Elementary, Middle School, High School, College Math, Science, STEM

Featured Speakers & others will give you a Conference overview. Conference layout, credit options and many other items will be discussed. Any questions?

- Friday 8:30 AM -

Friday, 8:30 AM **Dakota A**

Anne Lewis, Dr. Chris Anderson, Megan Howard, Kristie Maher South Dakota Discovery Center

Teaching Science through...Chameleon Tongues? isa

annelewis@sd-discovery.org christopher.V.Anders@usd.edu; megan.m.howard@northern.edu; kristie.maher@k12.sd.us Middle School, High School Science

What happens when you pair a researcher with teachers? Find out in this session. USD professor Chris Anderson and teachers explored how research on, yes, chameleon tongues can be used to teach science. Learn a fun, hands-on activity and hear from a classroom teacher about how understanding how research works impacted her approach to teaching.

Friday, 8:30 AM **Dakota B**

Kristine Heinen South Dakota Discovery Center

360° Big Screen Adventures!

kristineheinen@sd-discovery.org Elementary, Middle School, High School Science, STEM

Gather round our planetarium, journey to the unknown! With limitless possibilities, this session gives you a taste of the SD Discovery Center's traveling dome. Ancient SD seas to the ends of the universe—start an unforgettable adventure and learn how to bring our Journey Beyond the Known Planetarium to your students.

Friday, 8:30 AM **Dakota C**

Dr. Ryan Schrenk Montana Digital Academy

Scale, Support, Succeed: Mastering Math Transitions with EdReady Classroom

ryan@mtda.org Middle School, High School, College Math

Get results! Master math transitions! Learn how we prepare students for middle/high school algebra and college math using Montana's proven EdReady Classroom model. With 12 years of experience and 25,000+ enrollments in 2024, our proficiency-based online program and expert support ensure students are ready for their next step.

Friday, 8:30 AM **Dakota E**

Betsy Schamber Dakota State University

Making Moon Craters: Inquiry into the Science and Engineering Practices

betsy.schamber@dsu.edu Elementary, Middle School Science

In this interactive session, participants will investigate moon craters through a hands-on inquiry project that embeds the Science and Engineering Practices from the Next Generation Science Standards. Using inquiry to explore each practice, participants will experience strategies that spark curiosity, encourage critical thinking, and deepen student-centered science learning.

Friday, 8:30 AM **Dakota F**

Raegan Kleinpeter South Dakota Discovery Center

Robotics in the Classroom

raegankleinpeter@sd-discovery.org Elementary, Middle School, High School Science, Math, STEM

Wondering how to bring robots into your classroom? No more! Explore multiple robots and different ways to include them in your existing cross-curricular lessons. From grab-and-go robots to more complex code engineering, you do not have to be an expert to spark your students' robotic curiosity!

Friday, 8:30 AM **Dakota G**

Matt Miller South Dakota State University

Utilizing Green Chemistry to Illustrate Science Concepts

Matt.Miller@sdstate.edu Middle School, High School Science, STEM

Green chemistry is the concept that we should be careful about what we use so as not to cause additional contamination from the products of our chemical activities. Various examples of green chemistry activities will be used in a hands-on workshop to illustrate green chemical principles.

Friday, 8:30 AM **Dakota H**

Louisa Otto, Benjamin Benson Sanford Research

Bringing Biomedical Research to the Classroom

louisa.otto@sanfordhealth.org benjamin.benson@sanfordhealth.org

Elementary, Middle School, High School, College Science, STEM

Sanford PROMISE, the outreach arm of Sanford Research, connects educators with current biomedical science. This session highlights recent research advances and shares classroom-ready resources to engage students in authentic inquiry. Participants are encouraged to provide feedback on how Sanford PROMISE can further support science teaching and learning.

Friday, 9:30 AM **Prairie A**

Katy Dornbos **Featured Speaker**

More Feedback, Less Grading

kldornbos@gmail.com Elementary, Middle School, High School, College Science, Math, STEM

Feedback is crucial to learning, and grading can be an obstacle to quick feedback. I will share small changes that increase feedback to students without requiring more time/energy from the teacher.

Friday, 9:30 AM **Prairie B**

John Golden **Featured Speaker** Grand Valley State University

Listen

goldenj@gvsu.edu Elementary, Middle School, High School Math

Eliciting learner thinking is a core teaching practice. We'll consider how to improve our questioning and investigate other opportunities to hear how learners are thinking and what their ideas are about important concepts and processes.

Friday, 9:30 AM **Prairie C**

RunningHorse Livingston **Featured Speaker** CEO of *Mathematize Inc.*

Bringing STEM Inquiry to Life in the Elementary Classroom

mathematize@outlook.com Math

This workshop introduces engaging, age-appropriate engineering challenges that support problem-solving skills and STEM confidence in students. Teachers will work in groups to plan, build, test, and refine simple designs using low-cost materials. We'll break down the engineering design cycle for early grades and discuss how to encourage productive struggle and reflection. We'll explore how to guide students to ask questions, test ideas, and communicate their reasoning. Participants will leave with classroom-ready challenge prompts and facilitation strategies to inspire young engineers of all abilities.

Friday, 9:30 AM **Dakota A**

Branden Hoefert University of South Dakota

From Play to Programming: Computational Thinking with Robots in the Elementary Classroom

branden.hoefert@usd.edu Elementary STEM

Integrating robotics into elementary classrooms fosters computational thinking and problem-solving skills. In this interactive session, participants will explore hands-on activities with Sphero Indi robots to see how young learners can develop foundational coding and problem-solving abilities while integrating robotics across the curriculum. No prior coding experience is required!

Friday, 9:30 AM **Dakota B**

Linda Stegemann **Featured Speaker** PhET Interactive Simulations

Meet PhET Studio: Interact Your Way

linda.stegemann@colorado.edu Elementary, Middle School, High School, College Science, Math, STEM

Be empowered with PhET Studio, PhET's first customization tool for teachers! Learn how to create unique sim experiences that fit your lessons and inspire students like never before. Join us to see Studio in action and start a free trial. Don't miss this exclusive opportunity!

Friday, 9:30 AM **Dakota C**

Maj. Lori M. Fussell, PhD South Dakota Wing Civil Air Patrol

Free STEM Resources from the Civil Air Patrol

Lori.Fussell@sdwg.cap.gov Elementary, Middle School, High School Science, Math, STEM

Civil Air Patrol (CAP) educates about the important role aviation, space, cyber, and STEM play in America's future. Learn about joining CAP as an Aerospace Education Member (AEM) to enjoy free aerospace/STEM educational resources and opportunities, including STEM Kits, standards-based K-12 curriculum materials, and teacher orientation flights.

Friday, 9:30 AM **Dakota D**

Laura Bain CPM Educational Program

When Math Gets Tough: Helping Students Thrive Through Productive Struggle

laurabain@cpm.org Middle School, High School Math

How can we help middle and high school students approach math challenges with confidence and curiosity? This session explores ways to make struggle productive by fostering understanding, agency, and positive math identities. Learn practical strategies for building community, planning purposeful challenges, and guiding students to embrace meaningful mathematical struggle.

Friday, 9:30 AM **Dakota F**

Katrina Donovan South Dakota Mines

Ceramic & Glass Industry Science Kits

katrina.donovan@sdsmt.edu Elementary, Middle School, High School, College Science, STEM

Seven hands-on modules for attendees to experience. The attendees will learn about Glass Fibers, Magic Color Beads and UV Light, Silly Putty Science, Shape Memory Alloy, Fiber Optics, Heated Aluminum Nails, and Fluorescence. Attendees will walk out with their very own mini materials kit ($49 value for free!)

Friday, 9:30 AM **Dakota G**

Colin Marsh SDCTM

Conversations on Building Thinking Classrooms: What's Working & What's Hard

marshcolin180@gmail.com Elementary, Middle School, High School, College Science, Math

Come discuss the challenges and benefits of using Building Thinking Classrooms practices in your math classroom. This is an opportunity for both experienced educators and educators interested in using BTC to have conversations. I will provide a platform to discuss common questions regarding BTC.

Friday, 9:30 AM **Dakota H**

Ben Benson, Louisa Otto Sanford Research

Artificial Intelligence in the Biomedical Research Lab

Benjamin.benson@sanfordhealth.org Louisa.Otto@SanfordHealth.org

Middle School, High School, College Science, Math, STEM

This session builds AI literacy by exploring how computer science intersects with biology and biomedical research. Participants will examine AI's strengths, pitfalls, and potential harms, practice strategies for responsible use, and engage with hands-on tools. Reflection activities highlight ethical impacts while fostering cross-disciplinary connections for teaching and research.

Friday, 9:30 AM **Symposium**

Mark Iverson & Brooks Jacobsen Lake Area Technical College

Building South Dakota's STEM Teaching & Learning Community

mark.iverson@lakeareatech.edu Brooks.jacobsen@lakeareatech.edu Middle & High School, College STEM

Discover how Lake Area Technical College's NSF-ATE project is building a statewide Teaching & Learning Resource Community to connect and empower South Dakota's STEM and technical educators. Participants will gain access to classroom-ready resources, upcoming PD opportunities, and direct industry connections supporting hands-on, high-impact STEM teaching.

Friday, 9:30 AM **Salon**

Sandra Shipley Bison School

Algae Academy - A Free Resource for Hands-on Science

Sandra.Shipley@k12.sd.us Elementary & Middle School Science, STEM

Algae Academy is a great free and scripted resource to learn about algae and the many applications in our world today. It is easy to teach and fun to grow algae in the classroom.

Friday, 10:30 AM **Prairie A**

Katy Dornbos **Featured Speaker**

The Beauty & Fun of Graphs

kldornbos@gmail.com High School, College Science

Data, graphs, maps - they're wonderful, full of information, and fun to create. Participants will engage in two activities that get students thinking about data, wondering about how it's collected, and building a graph with real time data. Note: part of the session is chemistry specific.

Friday, 10:30 AM **Prairie B**

John Golden **Featured Speaker** Grand Valley State University

Play

goldenj@gvsu.edu Elementary Math

Play is at the heart of what it means to do math. We'll look at opportunities for - and try! - playful mathematics with small shifts, focused activities and actual games.

Friday, 10:30 AM **Prairie C**

RunningHorse Livingston **Featured Speaker** CEO of *Mathematize Inc.*

STEM Outdoors: Exploring Environmental Science and Engineering

mathematize@outlook.com Math

Discover simple, hands-on ways to connect STEM learning to the natural world right outside your classroom. In this session, participants will model investigations that use environmental restoration practices infused with Tribal Ecological Knowledge to tackle STEM challenges. We'll identify opportunities to integrate observation, measurement, data collection, and environmental stewardship while supporting curiosity and joyful learning. Teachers will learn how to honor diverse ways of knowing, engage students' identities, and connect learning to their real lives.

Friday, 10:30 AM **Dakota A**

Leanne Holdorf Sioux Falls Lutheran School

This Session is Under Lock and Key!

lholdorf@sflutheranschool.com Middle School, High School, College Science, Math, STEM

See in real time how breakout boxes can create memorable learning experiences for students. Build your own template to fit your classroom resources, including using Google Forms for a digital version.

Friday, 10:30 AM **Dakota B**

Linda Stegemann **Featured Speaker**

Take "OAIM" and Fire!: Inquiry Procedure Writing for Science Classes

linda.stegemann@colorado.edu Middle School, High School, College Science

We all teach our students to write lab procedures, but how many of us teach these students how to truly "write" a procedure? In today's session, participants will be introduced to the OAIM {Object, Action, Instrument, Measurement} procedure heuristic and learn how to use this simple, four-part acronym to give specific feedback on what your procedures are missing.

Friday, 10:30 AM **Dakota E**

Jeff Schneider Estelline High School

AI for Every Classroom: Real-World Skills & Student Agency Through the Design Thinking {beginning AI users}

Jeff.Schneider@k12.sd.us All Levels Science, STEM

Every teacher—regardless of subject or AI experience—can use Design Thinking to bring practical AI into the classroom. Explore hands-on strategies, prompt-writing, and reflection techniques that help learners build agency, critical thinking, and "learning how to learn" skills essential for thriving in a fast-changing, technology-driven world.

Friday, 10:30 AM **Dakota F**

Katrina Donovan, Matthew Whitehead South Dakota Mines

Art + Engineering - Drawing with a STEAM Purpose

katrina.donovan@sdsmt.edu matthew.whitehead@sdsmt.edu

Elementary, Middle School, High School, College Science, Math, STEM

Drawing is often thought of as an art—and while it certainly is, it's also a powerful tool for scientists, mathematicians, and engineers. From Leonardo da Vinci's notebooks to modern design labs, drawing helps us visualize ideas, sketch out inventions, and explore complex three-dimensional forms, like the structure of a crystal. Come learn how to draw in three dimensions with us.

Friday, 10:30 AM **Symposium**

Neal Connors, Ph.D. Chief Scientific Officer/Kyle Larson Dakota Bioworx, Brookings, SD

Biotech opportunities/ BCSI mini credentials

neal@dakotabioworx.org/kyle@dakotabioworx.org High School, College STEM

Presentation on Biotech-workforce development and presentation on use of BCSI mini credentials. Dakota BioWorx is made possible by the visionary support of the Bio Leadership Coalition: SDSU, SDSMines, POET, SD Corn Growers, SD Soybean Checkoff, the Research Park of SDSU, and South Dakota Biotech.

Friday, 10:30 AM **Salon**

Dr. Jessica Vogel SDSBVI Superintendent & Sp Ed Director

STEM Without Limits: Engaging Students of All Abilities

Jessica.Vogel@sdsbvi.northern.edu K-12 STEM

STEM learning should inspire curiosity, creativity, and confidence in every student, regardless of ability. This session explores practical strategies and innovative approaches to make Science, Technology, Engineering, and Mathematics accessible and meaningful for learners with diverse needs. Participants will discover how to adapt STEM lessons through multisensory instruction, assistive technology, tactile materials, and collaborative learning models.

Friday, 1:10 PM **Prairie A**

Nicole Mehlhaff Yankton School District

Elementary Science Sit Down

Nicole.Mehlhaff@k12.sd.us Elementary Science, STEM

Have you ever been asked what you need? This is just the time and place. Come sit and visit with other Elementary Science Teachers and discuss what is needed to make your science classes successful. Be heard, share ideas, and come out with a plan!

Friday, 1:10 PM **Prairie B**

Linda Stegemann **Featured Speaker** PhET Interactive Simulations

PhET Hacks for Student-Centered Science

linda.stegemann@colorado.edu Elementary, Middle School, High School, College Science, Math, STEM

Whether you're new to using PhET sims or you have been doing it for years, this session is sure to have something for you. Learn about our Teacher Tips docs, query parameters, translation features, and thousands of free activities!

Friday, 1:10 PM **Prairie C**

Nicole Goerges CPM Educational Program

Launching the Lesson with Data Science

nicolegoerges@cpm.org Middle School, High School Math

Participants experience data science launches through instructional routines. We explore benefits of data science launches and the instructional routines. Connections are made between data science and content standards. Participants explore resources to find data and infographics and develop a plan to implement data science launches in their own classrooms.

Friday, 1:10 PM **Dakota A**

Megan Howard JPL Solar System Ambassador

BLAST OFF into NASA Resources for Educators! (Elementary)

megan.m.howard@northern.edu Elementary Science, STEM

Explore education tools from NASA! Short classroom activities, multi-day engineering units, Pi-day worksheets, citizen science projects... NASA has it all and more! After you've explored the teacher tools, take a quick trip through the stars in the STARLAB portable planetarium!

Friday, 1:10 PM **Dakota B**

Mark Kreie Brookings High School

Becoming a Leader in STEM Education

Mark.Kreie@k12.sd.us Elementary, Middle School, High School Science, Math, STEM

Interested in developing your STEM Education leadership skills? The SD STEM Leadership program is accepting applications for cohort 2. Learn about the details and expectations of the program as well as steps you can take to move into STEM Education leadership roles at the local, state, and national levels.

Friday, 1:10 PM **Dakota E**

Catherine Moulder & Hosog Yoon South Dakota School of Mines and Technology

Teaching Chemistry Concepts via Pragmatic Applications

Catherine.Moulder@sdsmt.edu Hosog.Yoon@sdsmt.edu Middle & High School, College Science, STEM

We make habanero jelly and explain the relevant chemistry concepts being used and observed along the way. When abstract concepts are demonstrated through pragmatic applications, the complex material becomes easier to understand.

Friday, 1:10 PM **Dakota F**

Shalese Stroup ExploreLearning

🎉 “Fact Fluency Fun with Reflex: Power Up Your Math Block!” 🎮

shalese.stroup@explorelearning.com Elementary, Middle School Math

Level up math fluency with Reflex! This fast-paced, game-based tool makes fact practice fun and effective. Discover easy ways to integrate Reflex, motivate students, and track progress—all while transforming your math block into an engaging, data-driven adventure.

Friday, 1:10 PM **Dakota G & H**

Lunch

Cleanup

Friday, 1:10 AM **Symposium**

Neal Connors, Ph.D. Chief Scientific Officer/Kyle Larson Dakota Bioworx, Brookings, SD

Biotech opportunities/ BCSI mini credentials

neal@dakotabioworx.org/kyle@dakotabioworx.org High School, College STEM

Presentation on Biotech-workforce development and presentation on use of BCSI mini credentials. Dakota BioWorx is made possible by the visionary support of the Bio Leadership Coalition: SDSU, SDSMines, POET, SD Corn Growers, SD Soybean Checkoff, the Research Park of SDSU, and South Dakota Biotech.

Friday, 1:10 PM **Salon**

Sharon Vestal, SDCTM President, SDCTM Vice President, SDCTM Secretary

Discussion of Proposed SD K – 12 Math Standards

sharon.vestal@sdstate.edu Elementary, Middle School, High School, College Math

Come join SDCTM board members for a review and discussion of the recently proposed K – 12 Math Standards from the South Dakota Department of Education. Attendees will be split into grade band tables: K – 2, 3 – 5, 6 – 8, and 9 – 12 to review the standards and share feedback. Whether this is your first time reviewing the standards or you've already submitted feedback to the state, your perspective is valuable. Together, we will explore how SDCTM can support teachers if the proposed standards are adopted.

Friday, 2:10 PM **Prairie A**

James Stearns, Larry Browning & Darwin Daugaard SD - AAPT

SD - AAPT Business Meeting & Photo Contest

James.Stearns@k12.sd.us Larry.Browning@SDstate.edu; DDaugaard@ogknights.org H S, College Science

This is the annual meeting of the SD Section of the American Association of Physics Teachers (SD AAPT). The group will share experiences and classroom activities, and seek answers to questions and problems. Everyone is welcome to attend & bring their physics & physical science questions. Final voting on the Physics Photo Contest will take place.

Friday, 2:10 PM **Prairie B**

John Golden **Featured Speaker** Grand Valley State University

The Best Elementary Math Games

goldenj@gvsu.edu Elementary Math

We will play several of the best elementary math games that are flexible, use simple materials, have high engagement, and are accessible.

Friday, 2:10 PM **Prairie C**

RunningHorse Livingston **Featured Speaker** CEO of *Mathematize Inc.*

STEM With Meaning: Biomimicry Innovation in the Classroom

mathematize@outlook.com Math

This hands-on session provide ideas for high school teachers to incorporate biomimicry into STEM learning. The practice of learning from natural systems, designs, and relationships to solve human challenges is becoming popular. This session will emphasize culturally rooted understandings of humans' relationship to the environment. Participants will engage in model activities where students analyze how plants, animals, and ecosystems solve problems such as water filtration, fish species revitalization, and structural innovation. We will also explore examples of Indigenous ecological knowledge and how many Tribal communities have long designed technologies based on reciprocal relationships with the land.

Friday, 2:10 PM **Dakota A**

Megan Howard JPL Solar System Ambassador

BLAST OFF into NASA Resources for Educators! (Middle School/High School)

megan.m.howard@northern.edu Middle School, High School Science, STEM

Explore education tools from NASA! Short classroom activities, multi-day engineering units, Pi-day worksheets, citizen science projects... NASA has it all and more! After you've explored the teacher tools, take a quick trip through the stars in the STARLAB portable planetarium!

Friday, 2:10 PM **Dakota B**

Mark Kreie Brookings High School

Target Based Grading in a High School Mathematics Classroom

mark.kreie@k12.sd.us Middle School, High School Math

Have you considered changing to a target-based (or standards-based) grading system? Come and learn about why I redesigned the way I assess students to a target-based system, how I implemented the system, and its effect on student learning.

Friday, 2:10 PM **Dakota C**

Lisa Weier South Dakota Education Association

"Hacking Questions" A Fresh Perspective on the Art of Questioning

Lisa.Weier@sdea.org Elementary, Middle School, High School, College STEM

Hacking Questions offers a fresh approach to inquiry and student engagement. Explore strategies like kicking the "IDK" bucket and discover new ways to keep curiosity alive. This session shares practical techniques to ask better questions that draw students in, spark discussion, and maintain active participation in your classroom.

Friday, 2:10 PM **Dakota D**

Spencer Cody Edmunds Central School District

SD Honey Production Education & Curriculum Development Program

Spencer.Cody@k12.sd.us Elementary, Middle School, High School Science, STEM

Interested in learning more about the impact South Dakota's commercialized bees have on agriculture? Join us to learn about the exciting site-based learning opportunities available to all South Dakota PreK-12 educators. Educator opportunities span three institutes in 2026 in South Dakota, California, and Mississippi.

Friday, 2:10 PM **Dakota E**

Stephanie Higdon, Ally Bowers & Mary Mitchell CIRCLES Alliance/Black Hills State University

Teaching Culturally in Math and Science

stephanie.higdon@bhsu.edu alison.bowers@k12.sd.us mary.mitchell@ohitika.com

Elementary, Middle School, High School, College Science, Math, STEM

Math and science become more meaningful when learning is rooted in place and community. Culturally respectful, place-based practices spark curiosity and help students recognize the value of their own knowledge and experiences. In this session, participants will learn about the CIRCLES Alliance and explore strategies for connecting STEM instruction to land, culture, and community. Together, we will reflect on practices that affirm identity, celebrate mistakes, encourage collaboration, and connect learning to real-world contexts. Join members of the CIRCLES Alliance to discover how honoring place and community transforms STEM classrooms into spaces of creativity and joy!

Friday, 2:10 PM **Dakota F**

Tasha Pravecek Todd County High School

Catch the Wind, Shine with Solar: Hands-On Renewable Energy Education

tasha.pravecek@k12.sd.us Elementary, Middle School, High School Science, STEM

Discover how KidWind resources bring renewable energy to life! Build a MacGyver windmill, explore lesson plans tailored to South Dakota classrooms, and learn how to spark student engagement with solar and wind. Attendees will also gain insider tips for entering the 2026 South Dakota Wind and Solar Challenge in Winner.

Friday, 2:10 PM **Dakota G**

Ricardo Palma Fraga South Dakota Mines - Industrial Engineering

Industrial Engineering in Action through Classroom Activities

Ricardo.PalmaFraga@sdsmt.edu Middle School, High School, College STEM

Industrial engineers (IE) use math and science to determine the best, fastest, and safest way to achieve a goal. This session introduces engaging classroom activities, from managing supply chains to streamlining assembly lines, where students can apply math, science, and engineering design concepts to tackle problems – just like IEs do.

Friday, 2:10 PM **Dakota H**

Liz Pettit Jefferson High School, SFSD

The Math of SURF

pettitelizabetha@gmail.com Middle School, High School Math, STEM

Come explore math activities inspired by the Sanford Underground Research Facility. Multiple activities will be presented and are geared towards Middle and High School classrooms using: Pythagorean Theorem, Similar Triangles, Volume, Inequalities, Arc Length, and Secant Lines. Activities are available to be piloted through SURF E&O.

Friday, 3:30 PM **Prairie A**

OPEN

Friday, 3:30 PM **Prairie B**

John Golden **Featured Speaker** Grand Valley State University

Create

goldenj@gvsu.edu Elementary Math

Why do we study mathematics? There are many answers, but one of them is it enables us to solve the problems that allow us to make, build and design. We'll discuss opportunities to create in math class for some memorable moments.

Friday, 3:30 PM **Prairie C**

OPEN

Friday, 3:30 PM **Dakota A**

Linda Stegemann **Featured Speaker** PhET Interactive Simulations

Using Challenge Questions to Explore Student Learning

linda.stegemann@colorado.edu Elementary, Middle School, High School, College Science, Math, STEM

Many PhET simulations include a list of challenge questions designed to spark rich discussions around key topics explored within the simulation. Explore this teaching method and learn how to incorporate these questions into your science or math class in this session.

Friday, 3:30 PM **Dakota B**

Mark Kreie Brookings High School

Desmos 201: Using Desmos to Make Connections

mark.kreie@k12.sd.us Middle School, High School Math

Desmos Graphing Calculator is the default calculator for the digital ACT exam. In this session, participants will learn best practices using Desmos to help students make connections between mathematical concepts, along with strategies students can use to help succeed on the digital ACT. All Desmos tools are free. Intended for grades 8-12; bring an iPad or laptop.

Friday, 3:30 PM **Dakota C**

Kate Hay PASCO Curriculum Education Consultant

Supercharge OpenSciEd with Sensor Technology: Engaging Students Through Real-Time Data Collection

khay@pasco.com Middle School, High School Science

Experience how PASCO Technology + OpenSciEd help students collect and analyze real-time data, build evidence-based models, and engage in authentic scientific practices, all core expectations of South Dakota's performance standards aligned with the NGSS. Ideal for middle and high school teachers, this session is especially valuable for educators looking to increase student engagement and outcomes.

Friday, 3:30 PM **Dakota D**

Steven Rokusek SDPB

Science Demonstrations

steven.rokusek@state.sd.us na Elementary, Middle School, High School Science

During this session, participants will review classic science demonstrations for use in the classroom. The session will be educational and entertaining! You do not want to miss this!

Friday, 3:30 PM **Dakota E**

Raegan Kleinpeter South Dakota Discovery Center

Robotics Unplugged

raegankleinpeter@sd-discovery.org Elementary STEM

Be the first to play while learning about our newest traveling program at the SD Discovery Center: Robotics Unplugged! A perfect STEMventure for introducing younger students to the engineering design process through hands-on activities. Use grab-and-go robots to explore fundamental technology concepts such as coding and sequencing. No computers required!

Friday, 3:30 PM **Dakota F**

Shalese Stroup ExploreLearning

Math That Moves! 🚀 Dive Into Discovery with Gizmos

shalese.stroup@explorelearning.com Middle School, High School Math

Make math unforgettable with ExploreLearning Gizmos! This session shows how interactive simulations and visual models spark curiosity, deepen understanding, and personalize instruction. Walk away with ready-to-use tools that energize your classroom and turn math into a world of possibilities.

Friday, 3:30 PM **Dakota G**

Matt Miller South Dakota State University

An Easy-To-Assemble Three-Part Galvanic Cell

matt.miller@sdstate.edu High School Science, STEM

In an article in the Journal of Chemical Education, a red LED can be energized using a 3-part galvanic cell. Paper soaked in copper sulfate, paper soaked in sodium sulfate, and a piece of magnesium ribbon can be used to create a galvanic cell with enough potential to light the red LED.

Friday, 3:30 PM **Dakota H**

Emily Siemonsma Sanford Underground Research Facility / Wyoming Space Grant Consortium

Going With The Flow: Integrating Underground Data Science in MS/HS Classrooms *siemonsmaemily@yahoo.com* Middle School, High School Math, STEM

Join us to learn about real life math at the Sanford Underground Research Facility! We will delve into underground air flow data and discuss ways your students can explore this data. Please bring your computer to engage in a data exploration activity.

- Business Meetings, Social & Banquet -

Friday, 4:30 PM **Dakota A**

SDSTA SDSTA.org

Business Meeting

All members or interested members of the SD Science Teaching Association are invited to attend. This is the annual SDSTA business meeting and this is an election year – all members are eligible to vote.

Friday, 4:30 PM **Dakota B**

SDCTM SDCTM.org

Business Meeting All members or interested members of the SD Council of Teachers of Mathematics are invited to attend this discussion about our organization and the state of Mathematics Education in South Dakota and across the country. This is the annual SDCTM business meeting and all members are eligible to attend.

Friday, 6:30 PM **SD STEM Ed Awards Banquet** **Prairie A, B & C**

Featured Speaker :

Saturday, 7:00 AM **Prairie C**

Allen Hogie & Ann Anderson SD PAEMST

Breakfast for SD PAEMST State Level Finalists and Past Awardees

allen.hogie@k12.sd.us Ann.M.Anderson@k12.sd.us; Allen.Hogie@k12.sd.us

Elementary, Middle School, High School Science, Math

A breakfast honoring 2024 and 2025 State Level Finalists & all Past Awardees.

Saturday, 8:00 AM **Prairie A**

Katy Dornbos **Featured Speaker**

More Feedback, Less Grading

kldornbos@gmail.com Elementary, Middle School, High School, College Science, Math, STEM

Feedback is crucial to learning, and grading can be an obstacle to quick feedback. I will share small changes that increase feedback to students without requiring more time/energy from the teacher.

Saturday, 8:00 AM **Prairie B**

John Golden **Featured Speaker** Grand Valley State University

Create

goldenj@gvsu.edu Elementary Math

Why do we study mathematics? There are many answers, but one of them is that it enables us to solve the problems that allow us to make, build, and design. We'll discuss opportunities to create some memorable moments in math class.

Saturday, 8:00 AM **Prairie C**

Greg Schwebach Southeast Technical College

Math that Builds: STEM Skills for Architecture, Engineering and Construction

gregory.schwebach@southeasttech.edu Middle School, High School Math, STEM

Learn activities that connect core math concepts – from percentages and fractions to algebra and geometry – to problem solving in Architecture, Engineering, and Construction (AEC). Also discover opportunities that enhance dual credit course offerings and open new STEM pathways for students.

Saturday, 8:00 AM **Dakota A**

Linda Stegemann **Featured Speaker**

Take “OAIM” and Fire!: Inquiry Procedure Writing for Science Classes

linda.stegemann@colorado.edu Middle School, High School, College Science

We all teach our students to write lab procedures, but how many of us teach these students how to truly "write" a procedure? In today's session, participants will be introduced to the OAIM {Object, Action, Instrument, Measurement} heuristic and learn how to use this simple, four-part acronym to give specific feedback on what your procedures are missing.

Saturday, 8:00 AM **Dakota B**

Liz Pettit

Math of SURF

Math activities inspired by the Sanford Underground Research

Saturday, 8:00 AM **Dakota C**

Laura Shumaker Technology Teacher Howard School District

Micro:Bits and Robotics Workshop

Laura.shumaker@k12.sd.us Elementary, Middle School, High School STEM

Discover how to integrate micro:bits and Robotics Workshop activities into your classroom to inspire creativity, problem-solving, and collaboration. This session offers hands-on ideas and resources to help teachers bring coding, engineering, and STEM concepts to life for students of all ages and skill levels.

Saturday, 8:00 AM **Dakota D**

Mark Kreie Brookings High School

Becoming a Leader in STEM Education

Mark.Kreie@k12.sd.us Elementary, Middle School, High School Math, Science, STEM

Interested in developing your STEM Education leadership skills? The SD STEM Leadership program is accepting applications for cohort 2. Learn about the details and expectations of the program as well as steps you can take to move into STEM Education leadership roles at the local, state, and national levels.

Saturday, 8:00 AM **Dakota E**

Tina Belden, Hannah Caffee & Ben Benson Estelline School District

Exploring South Dakota K–8 Standards: From Breakdown to Practice

tina.belden@k12.sd.us hannah.caffee@bhsu.edu; benjamin.benson@sanfordhealth.org

Elementary, Middle School STEM

In this interactive session, participants will explore the South Dakota K–8 standards with a focus on breaking down the language of the standards and turning them into meaningful classroom activities. We'll walk through a simple process for unpacking standards—identifying what students should know and be able to do—and then apply this process through hands-on activities designed for three grade bands: K–2, 3–5, and 6–8.

Saturday, 8:00 AM **Dakota F**

John Williams University of South Dakota

Teaching Ecosystems through Birding with Merlin ID: Place-Based Science that Builds Engagement through Technology-Enhanced Observations.

john.williams@usd.edu Middle School, High School Science

Learn how to use the popular Merlin ID Birding app to teach ecosystems for middle and high school students. The session will include some synthetic practice with the app and demonstrate a place-based approach to learning ecosystems concepts.

Saturday, 8:00 AM **Dakota G**

Madhav Nepal and Team , Mara Johnson, Barb Wielenga, Larry Browning, Matt Miller, Srnivas Janaswamy, Jiyul Chang South Dakota State University

iLEARN Project Outcomes and Classroom Innovations

madhav.nepal@sdstate.edu Mara.Johnson@k12.sd.us Barb.Wielenga@k12.sd.us Larry.Browning@sdstate.edu; Matt.Miller@sdstate.edu Elementary, Middle School, High School, College STEM

The iLEARN Team will share outcomes from the USDA-NIFA funded iLEARN Project, emphasizing strategies integrating science, agriculture, and local culture. iLEARN teachers will highlight classroom implementations of project modules, illustrating how the initiative fosters student engagement and advances culturally responsive STEM learning across diverse educational settings.

Saturday, 8:00 AM **Dakota H**

Raghav Sriram Yogeeswari & Daniel Cox South Dakota Game, Fish, and Parks

Bringing the Prairie to Your Classroom: SD's New Grasslands Education Curriculum

Raghav.SriramYogeeswari@state.sd.us *Daniel.Cox@state.sd.us* Middle School Science, Math, STEM

South Dakota Game, Fish and Parks (SDGFP) is proud to introduce the pilot and preview of South Dakota's new Grasslands Education Curriculum for middle school students. This engaging and cross-curricular resource helps educators integrate South Dakota's prairies—the world's most endangered ecosystem—into their classrooms. Designed to inspire students with the natural and cultural importance of our grasslands, the curriculum provides hands-on activities and lesson plans to connect students with these vital landscapes.

Saturday, 8:00 AM **Dakota H**

Shalese Stroup ExploreLearning

"Fraction Frenzy & Math Mayhem: Dive into Frax & Gizmos!"

shalese.stroup@explorelearning.com Elementary Math

Discover how Frax and Gizmos make fractions and math concepts fun and interactive! This session is perfect for 3rd–5th grade teachers looking to boost engagement, deepen understanding, and bring excitement to math with ready-to-use digital tools.

Saturday, 9:00 AM **Prairie A**

Katy Dornbos **Featured Speaker**

The Beauty & Fun of Graphs

kldornbos@gmail.com High School, College Science

Data, graphs, maps - they're wonderful, full of information, and fun to create. Participants will engage in two activities that get students thinking about data, wondering about how it's collected, and building a graph with real-time data. Note: Part of the session is chemistry-specific.

Saturday, 9:00 AM **Prairie B**

John Golden **Featured Speaker** Grand Valley State University

Math and Art

goldenj@gvsu.edu Elementary Math

We will look at a few different math and art projects and give one a go. Be ready for big ideas, engaging activities, and an opportunity for learners to create.

Saturday, 9:00 AM **Prairie C**

RunningHorse Livingston **Featured Speaker** CEO of *Mathematize Inc.*

STEM Outdoors: Exploring Environmental Science and Engineering

mathematize@outlook.com Math

Discover simple, hands-on ways to connect STEM learning to the natural world right outside your classroom. In this session, participants will model investigations that use environmental restoration practices infused with Tribal Ecological Knowledge to tackle STEM challenges. We'll identify opportunities to integrate observation, measurement, data collection, and environmental stewardship while supporting curiosity and joyful learning. Teachers will learn how to honor diverse ways of knowing, engage students' identities, and connect learning to their real lives.

Saturday, 9:00 AM **Dakota A**

Bree Oatman

Litter Detective Engage Students

Build a light box.

Saturday, 9:00 AM **Dakota B**

Nathaniel Raak Mitchell Technical College

We Blew a Fuse

nathaniel.raak@mitchelltech.edu High School Science, Math

Have you ever lost power using too many kitchen appliances at once? This session will cover how Ohm's Law can be used with inexpensive hands-on simulations to visually see how expressions and real-life applications work together, predicting when the fuse is going to blow.

Saturday, 9:00 AM **Dakota C**

Matt Miller South Dakota State University

Bath Bombs and Chemical Kinetics

matt.miller@sdstate.edu Elementary, Middle School, High School Science, STEM

Chemical kinetics is an important concept for students to understand when studying chemical reactions. This workshop will use bath bombs to illustrate the impact of temperature on chemical reactions. Bath bombs will be created from common grocery store materials and then reacted over a series of temperatures.

Saturday, 9:00 AM **Dakota D**

Karin Lang & Krista May MATHCOUNTS

Making Math Count with MATHCOUNTS

karin.lang@bartwest.com KristaM@infrastructuredg.com Middle School Math, STEM

Learn about the engaging math program for middle schoolers that challenges students to solve complex problems and think critically. Test your skills in a fun practice showdown!

Saturday, 9:00 AM **Dakota E**

Louisa Otto Sanford PROMISE Sanford Research

Bringing Biomedical Research to the Classroom

louisa.otto@sanfordhealth.org Elementary, Middle School, High School, College Science, STEM

Sanford PROMISE, the outreach arm of Sanford Research, connects educators with current biomedical science. This session highlights recent research advances and shares classroom-ready resources to engage students in authentic inquiry. Participants are encouraged to provide feedback on how Sanford PROMISE can further support science teaching and learning.

Saturday, 9:00 AM **Dakota F**

John Williams University of South Dakota

Retro Tools to Rock the Science Classroom: 3 Top-Rate Simulation Tools from Yesteryear and How to Use Them to Support Science Learning Today

john.williams@usd.edu Middle School, High School Science, STEM

In this session, we will explore several classic digital tools that are simple, yet effective, simulators of concepts in secondary science. Lesson plans that make use of each tool will be shared, and we will spend time exploring the functions and practical advantages of each tool.

*** * * * Mini - Session * * * ***

Saturday, 9:00 AM **Dakota G**

Carrie Cox Chamberlain High School

Science Literacy: Building Vocabulary and Reading Skills in the Science Classroom

carrie.cox@k12.sd.us Elementary, Middle School, High School Science, STEM

Incorporating literacy into the science classroom can be challenging, but it's also a powerful way to build deeper understanding, critical thinking, and academic language skills. In this breakout session, let's discuss best practices, methods to increase vocabulary knowledge and reading skills, and come up with a plan to add a bit of literacy in your STEM classroom every day.

Saturday, 9:00 AM **Dakota G**

Henry Red Cloud & Gloria Reyes-Red Cloud Red Cloud Renewable

Solar Water Pumping and Lights in a Bucket

johnrc@redcloudrenewable.org High School STEM

Presents basic concepts of understanding photovoltaic cell conversion of sunlight to electrons and tabletop wiring of a simple circuit.

Saturday, 9:00 AM **Dakota G**

Sandra Shipley Bison School

Generation Genius Discussion

Sandra.Shipley@k12.sd.us Elementary & Middle School Science, STEM

We are using Generation Genius for our elementary curriculum. If you are interested in learning about it or if you want to discuss your own experiences - please stop by!

Saturday, 9:00 AM **Dakota H**

Tyler Murphy SD STEM Leadership

Conscientious Conversations: the Bridge Between Science and Misunderstanding

tyler.murphy@k12.sd.us Elementary, Middle School, High School, College Science, Math, STEM

This presentation explores the growing distrust of science in America through philosophical, emotional, and social lenses. It examines political polarization, misinformation, and identity-driven resistance to evidence, highlighting frameworks for understanding complex trust problems. Emphasizing empathy, curiosity, and community engagement, it proposes strategies to rebuild trust through connection, transparency, and shared purpose.

Saturday, 9:00 AM **Salon**

Shalese Stroup ExploreLearning

Spark Wonder: Bring K–5 Science to Life with Gizmos & Science4Us!

shalese.stroup@explorelearning.com Elementary Science

Turn your classroom into a science playground! Discover how Gizmos and Science4Us bring K–5 science to life with interactive simulations, ready-to-use lessons, and time-saving strategies. Whether you're new or experienced, leave energized and equipped to spark curiosity, critical thinking, and a lasting love of learning.

Saturday, 10:00 AM **Prairie A**

Katy Dornbos **Featured Speaker**

Feeling the Consequences of Accuracy & Precision

kldornbos@gmail.com High School Science, STEM

Teachers will experience the consequences of accuracy and precision, and go home with two activities that are full of iteration, debate, and collaborative comparison with a clear end in mind.

Saturday, 10:00 AM **Prairie B**

Cindy Kroon Montrose High School

Family Math: Greatest Hits

cindy.kroon@k12.sd.us Elementary Math

Take-home activities designed to uncover the fun and engaging side of mathematics. Family math is not: flash cards, worksheets, or math homework. Family math is: puzzles, games, and engaging activities. Play around with math in a family-friendly environment and (hopefully) change perceptions about math. This session is hands-on!

Saturday, 10:00 AM **Prairie C**

Andrew Sathoff & Georgie Kolbeck Dakota State University

Teaching Science with Physical Models from 3D Molecular Designs

andrew.sathoff@dsu.edu georgie.kolbeck@trojans.dsu.edu Middle & High School, College Science

Exploring scientifically accurate models can inspire wonder in students of all ages. Interactive models from 3D Molecular Designs give words meaning by focusing on core ideas and intersecting concepts in biology, chemistry, and physical science. We'll demonstrate a protein folding modelling activity and have a giveaway kit for one participant.

Saturday, 10:00 AM **Dakota A**

Linda Stegemann **Featured Speaker** PhET Interactive Simulations

Using Challenge Questions to Explore Student Learning

linda.stegemann@colorado.edu Elementary, Middle School, High School, College Science, Math, STEM

Many PhET simulations include a list of challenge questions designed to spark rich discussions around key topics explored within the simulation. Explore this teaching method and learn how to incorporate these questions into your science or math class.

Saturday, 10:00 AM **Dakota B**

Amy Schander Gayville-Volin School District

Navigating the Challenges and Opportunities of AI in the Classroom

Amy.Schander@k12.sd.us Middle School, High School, College Math

AI is changing the way students learn. How do we, as educators, make sure that those changes are positive? Bring your computer and explore how students can use AI to facilitate their learning. We will also discuss strategies for holding students accountable for their learning.

Saturday, 10:00 AM **Dakota C - D**

Setup

Lunch

Saturday, 10:00 AM **Dakota E**

Mark Kreie Brookings High School

Target Based Grading in a High School Mathematics Classroom

mark.kreie@k12.sd.us Middle School, High School Math

Have you considered changing to a target-based (or standards-based) grading system? Come and learn about why I redesigned the way I assess students to a target-based system, how I implemented the system, and its effect on student learning.

Saturday, 10:00 AM **Dakota F**

John Williams University of South Dakota

Scarcity in Engineering: Using the Concept of Scarcity to Increase Critical Thinking in Engineering STEM Activities

john.williams@usd.edu Elementary, Middle School, High School Science, Math, STEM

In this model lesson, participants will take on an engineering challenge to build a windproof house…on a tight budget. We will see how real-world concerns of cost and capability lead to innovations and critical thinking while engineering a house to survive the wind. (Lesson plans/ digital materials will be provided)

Saturday, 10:00 AM **Salon**

Shalese Stroup ExploreLearning

Gizmos in Action: Let's Make Science Seriously Fun!

shalese.stroup@explorelearning.com Middle School, High School Science

Make science unforgettable with Gizmos! Dive into virtual labs and NGSS-aligned activities that spark curiosity, boost discourse, and energize your classroom. Whether it's life, earth, or physical science, Gizmos helps students explore, discover, and geek out—because science should be seriously fun.

Saturday, 10:40 PM **Dakota G - H**

Setup

Lunch

Saturday, 12:40 PM **Prairie A**

Linda Stegemann **Featured Speaker** PhET Interactive Simulations

PhET Hacks for Student-Centered Science

linda.stegemann@colorado.edu Elementary, Middle School, High School, College Science, Math, STEM

Whether you're new to using PhET sims or you have been doing it for years, this session is sure to have something for you. Learn about our Teacher Tips docs, query parameters, translation features, and thousands of free activities!

Saturday, 12:40 PM **Prairie B**

Anne Lewis, Carrie Olson-Manning & Bree Oatman South Dakota Discovery Center

Research to Classrooms Using Milkweed

annelewis@sd-discovery.org carrie.olsonmanning@augie.edu, boatman@olc.edu Middle-High School Science

Join Dr. Carrie Olson-Manning, Augustana professor researching milkweed hybridization in South Dakota, and a team of educators to learn how to extend Carrie's place based research to your classroom. When you connect students to research, research data, and researchers, learning becomes relevant and fun!

Saturday, 12:40 PM **Prairie C**

Nicole Goerges CPM Educational Program

Launching the Lesson with Data Science

nicolegoerges@cpm.org Middle School, High School Math

Participants experience data science launches through instructional routines. We explore the benefits of data science launches and the instructional routines. Connections are made between data science and content standards. Participants explore resources to find data and infographics and develop a plan to implement data science launches in their own classrooms.

Saturday, 12:40 PM **Dakota A**

Liz Pettit Jefferson High School, SFSD

Tracking, Let's Talk About It

pettitelizabetha@gmail.com Elementary, Middle School, High School Science, Math, STEM

Come join me for a discussion about tracking in math programs. We will examine research on ability grouping, share classroom experiences, and discuss mixed-ability learning supports. Come prepared to have an open-minded conversation!

Saturday, 12:40 PM **Dakota B**

Dan Van Peursem, Matt Miller & Sharon Vestal USD

Meet Your Future Teachers

dan.vanpeursem@usd.edu Elementary, Middle School, High School Science, Math, STEM

Come meet the teacher ed candidates from our various colleges and universities to help explain what they can expect in their first year teaching.

Saturday, 12:40 PM **Dakota C - D**

Cleanup

Lunch

Saturday, 12:40 PM **Dakota E**

Christine Larson South Dakota State University

Building Thinking Classrooms in Calculus

christine.larson@sdstate.edu High School Math

Have you heard about Building Thinking Classrooms and want to learn more? I have been using many of the practices in my Calculus classes for the past 3 years. See what I have been doing, how these changes have impacted my students, and what you can do on Monday.

Saturday, 12:40 PM **Dakota F**

Joy Lundgren & Michelle Wysuph Calvary Christian School, Rapid City

Computational Thinking with and without Computer Science

sm0keybearsd@gmail.com Elementary, Middle School Science, Math, STEM

A basic introduction to Computational Thinking (CT), examples of plugged and unplugged activities to teach CT, and a hands-on entry-level Computer Science (CS) activity that utilizes CT pillars and at least one example to help students create CS models using CT skills using Code.org and Scratch.

Saturday, 12:40 PM **Salon**

Jeff Schneider Estelline High School

AI for Every Classroom: Real-World Skills & Student Agency Through the Design Thinking {previous AI users}

Jeff.Schneider@k12.sd.us Middle School, High School, College Science, STEM

Every teacher—regardless of subject or AI experience—can use Design Thinking to bring practical AI into the classroom. Explore hands-on strategies, prompt-writing, and reflection techniques that help learners build agency, critical thinking, and “learning how to learn” skills essential for thriving in a fast-changing, technology-driven world.

Saturday, 1:40 PM **Prairie A**

Linda Stegemann **Featured Speaker** PhET Interactive Simulations

Meet PhET Studio: Interact Your Way

linda.stegemann@colorado.edu Elementary, Middle School, High School, College Science, Math, STEM

Be empowered with PhET Studio, PhET's first customization tool for teachers! Learn how to create unique sim experiences that fit your lessons and inspire students like never before. Join us to see Studio in action and start a free trial. Don't miss this exclusive opportunity!

Saturday, 1:40 PM **Prairie B**

Open

Saturday, 1:40 PM **Prairie C**

RunningHorse Livingston **Featured Speaker**

STEM With Meaning: Biomimicry Innovation in the Classroom

mathematize@outlook.com Math

This hands-on session provide ideas for high school teachers to incorporate biomimicry into STEM learning. The practice of learning from natural systems, designs, and relationships to solve human challenges is becoming popular. This session will emphasize culturally rooted understandings of humans' relationship to the environment. Participants will engage in model activities where students analyze how plants, animals, and ecosystems solve problems such as water filtration, fish species revitalization, and structural innovation. We will also explore examples of Indigenous ecological knowledge and how many Tribal communities have long designed technologies based on reciprocal relationships with the land.

Saturday, 1:40 PM **Dakota A**

OPEN

Saturday, 1:40 PM **Dakota B**

Kristine Heinen South Dakota Discovery Center

360° Big Screen Adventures!

kristineheinen@sd-discovery.org Elementary, Middle School, High School Science, STEM

Gather round our planetarium, journey to the unknown! With limitless possibilities, this session gives you a taste of the SD Discovery Center's traveling dome. Ancient SD seas to the ends of the universe—start an unforgettable adventure and learn how to bring our Journey Beyond the Known Planetarium to your students.

Saturday, 1:40 PM **Dakota E**

Ben Benson & Louisa Otto Sanford Research

Artificial Intelligence in the Biomedical Research Lab

Benjamin.benson@sanfordhealth.org Louisa.Otto@SanfordHealth.org

Middle School, High School, College Science, Math, STEM

This session builds AI literacy by exploring how computer science intersects with biology and biomedical research. Participants will examine AI's strengths, pitfalls, and potential harms, practice strategies for responsible use, and engage with hands-on tools. Reflection activities highlight ethical impacts while fostering cross-disciplinary connections for teaching and research.

Saturday, 1:40 PM **Dakota F**

John Williams University of South Dakota

Radiation Shielding: A Hands-On Middle School Engineering Activity for Those Who Like to Build

john.williams@usd.edu Elementary, Middle School, High School Science, STEM

In this model lesson, first written by SURF and expanded by USD preservice teachers, students tackle the problem of protecting a sensitive instrument from radiation. While the real-life scenario concerns many types of radiation, the student version focuses on eliminating all visible light. (Lesson plans / digital materials will be provided)

Saturday, 1:40 PM **Dakota G**

Laura Shumaker Technology Teacher Howard School District

Edison Robots

Laura.shumaker@k12.sd.us Elementary, Middle School, High School STEM

Explore how Edison robots can transform STEM learning in your classroom! This session introduces hands-on activities, coding challenges, and real-world problem-solving using Edison robots. Learn how to engage middle and high school students in robotics, programming, and engineering through accessible, affordable, and curriculum-aligned technology.

Saturday, 1:40 PM **Dakota H**

Nicole Mehlhaff Yankton School District

Elementary Science Sit Down

Nicole.Mehlhaff@k12.sd.us Elementary Science, STEM

Have you ever been asked what you need? This is just the time and place. Come sit and visit with other Elementary Science Teachers and discuss what is needed to make your science classes successful. Be heard, share ideas and come out with a plan!

Saturday, 1:40 PM **Salon**

Mark Kreie Brookings High School

Desmos 201: Using Desmos to Make Connections

mark.kreie@k12.sd.us Middle School, High School Math

Desmos Graphing Calculator is the default calculator for the digital ACT exam. In this session, participants will learn best practices using Desmos to help students make connections between mathematical concepts, along with strategies students can use to help succeed on the digital ACT. All Desmos tools are free. Intended for grades 8-12; bring an iPad or laptop.

Saturday, 2:40 PM **Dakota A**

Sharon Vestal, Susan Gilkerson, Amy Schander, & other SDCTM Board members SDCTM President

Discussion of Proposed SD K – 12 Math Standards

sharon.vestal@sdstate.edu susan.gilkerson@k12.sd.us; amy.schander@k12.sd.us

Elementary, Middle School, High School, College Math

Come join SDCTM board members for a review and discussion of the recently proposed K – 12 Math Standards from the South Dakota Department of Education. Attendees will be split into grade band tables: K – 2, 3 – 5, 6 – 8, and 9 – 12 to review the standards and share feedback. Whether this is your first time reviewing the standards or you've already submitted feedback to the state, your perspective is valuable. Together, we will explore how SDCTM can support teachers if the proposed standards are adopted.

Saturday, 2:40 PM **Dakota C**

Matt Miller & Larry Browning South Dakota State University

More Demonstrations

matt.miller@sdstate.edu larry.browning@sdstate.edu

Elementary, Middle School, High School Science, STEM

There is an outside chance that Larry Browning will be back in February. If not, we will have fun doing chemistry demonstrations!!!!! New science demonstrations which connect to typical science content will be presented.

Saturday, 3:40 PM **Dakota A & B**

SDCTM & SDSTA Officers

Math & Science Wrap-ups & Reflections