

South Dakota Science Teachers Association South Dakota Council of Teachers of Mathematics

February 5, 6, & 7, 2015 Crossroads Hotel-Huron Event Center Huron, SD

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Graduate Credit is available through DWU-Mitchell.	
Next year's conference will be February 4, 5, & 6, 2016.	

Featured Speakers

BANQUET SPEAKER — Bill Zubke



Bill was born in South Dakota and grew up in North Dakota and Minnesota (or maybe just grew older...as the up has not yet been achieved!) He graduated with a BS degree (maybe the absolutely perfect descriptor for his style) in speech/theatre/English. Bill started teaching at Fargo North and finished teaching in Watertown 34 years later. He is currently retired, but enjoys an encore career speaking to groups. Bill has one wife that has been with him for 41 years and has had several dogs that have owned them. He was a Christa McAuliff award recipient, SD Teacher of the Year in 2000, and the SD Pork Cookoff King and national finalist thanks to beer and pork chops! (The beer was on the pork chops, but possibly in the judges as well!) Even though he views himself as a work in progress, his objective is to leave a positive legacy. His personal mission statement is "to add value to every circumstance I encounter."

OTHER FEATURED SPEAKERS

Roxie Ahlbrecht - Roxie Ahlbrecht is a second-grade teacher at Robert Frost Elementary School in Sioux Falls, South Dakota, USA. She recently spoke with Nicole Strangman, editorial assistant at ROL, about the Apple Bytes website created by her students. Using her knowledge of technology and interest in art, Roxie helped her class build a fun and exciting site that served to provide valuable writing lessons. "There is nothing like looking at a kid's eyes when they first see their work come up on a computer."

Marie B. Copeland - does extensive EMATHS training. She is bringing her presenting partner to assist with Embracing Mathematics, Assessment & Technology in High Schools. EMATHS professional learning experiences provide secondary mathematics teachers the opportunity to: 1) increase content knowledge and have deeper insights into mathematics, 2) maximize the effective use of technology in instruction, 3) use research-based pedagogy to create models of instruction that incorporate communication, inquiry and investigation; and 4) implement formative assessment for improved instruction in Algebra I, Geometry, and Algebra I.

Cathy Ezrailson - has been an Associate Professor of Science Education at USD for eight years. Cathy earned her Ph.D. From Texas A&M University in Curriculum & Instruction: Physics Education. She has taught high school physics geology, astronomy and geology, was a Physics Teaching Resource Agent and active member of AAPT for 30 years, and has been the managing editor of ThePhysicsFront.org - the Physics/Physical Science Digital Library for 12 year. Her research interests include science safety in the classroom and lab at all instructional levels. In 2000, Cathy was the PAEMST Science Teacher of the Year from Texas. She is currently finishing a book (with her co—author the oceanographer David Shonting) telling the story of the asteroid Chicxulub that hit the Earth 70 million years ago, causing the extinction of the dinosaurs.

SD Highway Patrol – Matthew Peterson, Mike Weber, John Lord w/Aros, and Brian Biehl w/Zara. After a total of 80 years of working for law enforcement, this team will be presenting on a variety of topics at our Math & Science Professional Development Conference. The STEM activities they'll be dealing with include Accident Reconstruction, the Biology of Drug Recognition, and the science of a dog's olfactory system to detect drugs.

2015 Joint Professional Development Conference

South Dakota Science Teachers Association South Dakota Council of Teachers of Mathematics

The meeting rooms for all sessions are in **The Crossroads Hotel/Huron Events Center**

Program

7:00 PM - 9:00 PM	Thursday, February 5, 2015 Evening Sessions	(See Program)
7:00 AM - 4:20 PM	Friday, February 6, 2015 Registration Open	Pre-Function Area
8:00 AM - 5:00 PM	Exhibits Open	Pre-Function Area
8:30 AM - 11:20 AM	Morning Sessions	(See Program)
11:45 AM - 1:10 PM	Friday Luncheon	Prairie A, B, C
1:30 PM - 4:20 PM	(cost included in the registration fee) Afternoon Sessions	(See Program)
4:30 PM	SDCTM Business Meeting SDSTA Business Meeting	Dakota C Dakota G
5:30-6:45 PM	Social Hour CASH BAR	Pre-Function Area
7:00 PM	Friday Evening Banquet (Cost is \$25)	Prairie A, B, C
	Saturday, February 7, 2015	
7:00 AM - 11:20 AM 7:00 AM - 8:00 AM	Registration Open Breakfast Meeting Presidential Awardees (Past & Prese	Pre-Function Area Salon nt)
8:30 AM - 11:20 AM	Morning Sessions	(See Program)
12:00 Noon - 1:00 PM	Saturday Luncheon (cost included in the registration fee)	Prairie A, B, C
1:00 PM - 3:50 PM	Afternoon Sessions	(See Program)
4:00 PM	Joint SDCTM & SDSTA Executive Board Meeting	Boardroom

Next Year's Conference will be February 4, 5, & 6, 2016

SDSTA/SDCTM Joint Conference 2015 Planner

Thursday, Feb. 5, 2015			
	First Choice	Second Choice	
	Session #:	Session #:	
7:00 PM	Location:	Location:	
	Title:	Title:	

Friday, Feb. 6, 2015				
	Remember to visit the exhibits in the Lobby and Hallways of the Crossroads Hotel.			
	First Choice Second Choice			
8:30	Session #:	Session #:		
8:30 AM	Location:	Location:		
	Title:	Title:		
9:30	Session #:	Session #:		
9:30 AM	Location:	Location:		
AM	Title:	Title:		
10:30 AM	Session #:	Session #:		
	Location:	Location:		
AIVI	Title:	Title:		
Noon	Friday Noon Luncheon in Crossroads Hotel – Prairie A, B, C			
	Session #:	Session #:		
1:30 PM	Location:	Location:		
	Title:	Title:		
	Session #:	Session #:		
2:30 PM	Location:	Location:		
	Title:	Title:		
3:30 PM	Session #:	Session #:		
	Location:	Location:		
	Title:	Title:		
4:30 PM	SDCTM BUSINESS MEETING in Dakota C SDSTA BUSINESS MEETING in Dakota G			
7 PM	Friday Night Banquet in Prairie Ballrooms A, B, C (Banquet Tickets Required-Cost is \$25)			

Saturday, Feb. 7, 2015				
	First Choice	Second Choice		
8:30 AM	Session #:	Session #:		
	Location:	Location:		
	Title:	Title:		
0.20	Session #:	Session #:		
9:30	Location:	Location:		
AM	Title:	Title:		
10:30 AM	Session #:	Session #:		
	Location:	Location:		
	Title:	Title:		
Noon	Saturday Noon Luncheon in Crossroads Hotel – Prairie A, B, C			
	Session #:	Session #:		
1:00 PM	Location:	Location:		
	Title:	Title:		
2:00 PM	Session #:	Session #:		
	Location:	Location:		
	Title:	Title:		
3:00 PM	Session #:	Session #:		
	Location:	Location:		
	Title:	Title:		
4:00 PM	SDCTM & SDSTA JOINT BOARD MEETING IN THE BOARDROOM			

Program for 2015 Joint Conference

Special thanks goes to TIE for the use of the projectors

Thursday 7 pm Friday 8:30 am

7:00-9:00 pm Session: 1 Dakota C Feb. 5, 2015

Grade Level: All

Presenter: Ellie Cooch

SDCTM

ecooch@spearfish.k12.sd.us http://www.sdctm.org

Math Sharing Session

Sharing lessons and activities will be the focus of this session. Bring 25 copies of your favorite activity or lesson. Or just come!

7:00-9:00 pm Session: 2 Dakota G Feb. 5, 2015

Grade Level: All

Presenter: Liz McMillan

SDSTA

Elizabeth.McMillan@SanfordHealth.org

http://www.sdsta.org

Science Sharing Session

Bring an idea to share with the group. If it is a lab idea, bring 30 copies to pass out to the participants.

8:30-10:20 am Session: 3
Prairie A Feb. 6, 2015

Grade Level: 9-12

FEATURED SPEAKERS

Marie Copeland & Michael Lehman

EMATHS-Embracing Mathematics Assessment Technology in High School mariecopeland@gmail.com

A Look at the Unit Circle

Let's introduce our students to the study of trigonometry on the unit circle and then build the trigonometric ratios using transformations. This approach naturally leads to a smooth transition to the study of the trigonometric functions and right triangle trigonometry.

Do you have your banquet Ticket?
You can still buy one
from Steve until Noon

\$25.00

Speaker-Bill Zubke 7 pm Friday

8:30 am

Friday

8:30 am

8:30-9:20 am Session: 4 Prairie B Feb. 6, 2015 8:30-9:20 am Dakota A

Grade Level: K-12

Session: 6 Feb. 6, 2015

Grade Level: K-12

FEATURED SPEAKER
Mike Welter

SD Highway Patrol mike.welter@state.sd.us

Presenter: Mark Iverson

Watertown Middle School Mark.a.iverson@k12.sd.us

The Biology of Drug Recognition

This session will focus on the effects drugs have on humans and how different human reactions identify the type of drug that has been ingested. Pupil dilation, body temperature and eye convergence are some of the physical characteristics use with a classification matrix to determine the drugs used in the cases presented.

Demonstrations to Shock and Amaze

If you have been looking for ways to "spice-up" your lessons, this is for you. I will offer several different demonstrations I have found to capture student attention and take the fear out of using bangs and booms in class.

8:30-10:20 am Session: 5 Prairie C Feb. 6, 2015

Grade Level: K-5

FEATURED SPEAKER

Roxie Ahlbrecht

pebbles@sio.midco.net

8:30-10:20 am Session: 7 Dakota B Feb. 6, 2015

Grade Level: 6-12

Presenter: Sharon Rendon

CPM Educational Program
rendon@cpm.org

http://www.cpm.org

Multiplicative Thinking

Students develop multiplication and division conceptually through building knowledge of units and composites. This session will focus on instructional activities to build student understanding of multiplicative thinking.

Empowering Students to Make Mathematical Connections

Participate in activities designed to develop a rich understanding of the connections between tables, graphs, rules, and situations. Learn to help students move from each representation to the others while developing a deep understanding of the CCSS mathematical practices. Leave with ideas and materials you can use in your own algebra classes.

8:30 am

Friday

8:30 am

8:30-9:20 am Dakota C Session: 8 Feb. 6, 2015 8:30-9:20 am Dakota E Session: 10 Feb. 6, 2015

Grade Level: 9-12

Grade Level: 9-12

Repeat of Session 93

Presenter: Emily Koehler

DeSmet HS

Emily.koehler@k12.sd.us

Presenter: Anne Lewis

SD Discovery Center

anne.lewis@sd-discovery.com http://www.sd-discovery.com

Twitter for Teachers

Come join the wonderful world of Twitter!
Teachers across the globe have flocked to Twitter as a source of instant, personal professional development. Come see why teachers say that Twitter is the best place to learn, share ideas, and meet other teachers like you! (All levels, all subjects.)

GLOBE in South Dakota

GLOBE is a world wide, hands-on, school based science education program. The SD Discovery Center and Outdoor Campus West are partnering to support this exciting opportunity to investigate and monitor environmental systems here in SD. Get a sneak peek at our summer professional development as well as a few GLOBE goodies.

8:30-9:20 am Session: 9
Dakota D Feb. 6, 2015

Grade Level: K-5

Presenter: Sue Brokmeier, Lynda Venhuizen &

Larry Browning

SDSU

Sue.Brokmeier@sdstate.edu

Learning neuroscience should be fun. <u>Seriously</u>.



To Hands-on--and Beyond!

In order to build physical science content knowledge and confidence in teaching K-5, a number of strategies including hands-on, robotic, concept mapping, and web-based research activities will be discussed. Results from introducing these strategies in higher education and elementary education classrooms will be presented.

Try iNeuron® and see for yourself.

- Get iNeuron on the App Store.
- Come to our presentation, play iNeuron. Hijinks may ensue.
- Visit the Andamio Games booth. Learn more. Get cool stuff. Geek out about edtech.
- Visit the Andamio Games booth. Learn more. Get cool stuff. Geek out about edtech.

adam.gordon@andamiogames.com

Dakota F

8:30-10:20 am

8:30 am

Session: 11 Feb. 6, 2015

Grade Level: K-5 **Repeat of Session 71**

Presenter: Peggy Norris

BHSU/Sanford Underground Research Facility

pnorris@sanfordlab.org

SciGirls: Proven Strategies for Engaging Girls in STEM

This hands-on workshop will highlight science, engineering, and technology activities designed to engage upper elementary and middle school students in STEM, developed by PBS in conjunction with the SciGirls television program. The SciGirls approach is rooted in research about how to engage girls in STEM. Participants will take home sample kits.

8:30-9:20 am Session: 12 Dakota G Feb. 6, 2015

Grade Level: 9-12

Presenter: Olga Stafford

SDSU

olga.stafford@sdstate.edu

Experimenting with a Pipe Flute (Part 1)

A simple pipe flute will be built using pieces of PVC pipe. The flute can be used to measure resonance frequencies of open or closed pipes. The pipe flute allows students in a physics class to study an example of an "edge tone" device that produces discrete sound frequencies.

Friday

9:30 am

9:30-10:20 am Prairie B Session: 13 Feb. 6, 2015

Grade Level: K-12

FEATURED SPEAKER Matthew Petersen

SD Highway Patrol matthew.petersen@state.sd.us

Accident Reconstruction— STEM on the Highways of SD

Trooper Petersen has very specialized accident reconstruction skills that require intense training in physics, trigonometry, and engineering. He will immerse participants in investigating crash scenes using examples of actual accidents that he has reconstructed using his skills to determine velocity, speed and impact.

Continue your education as a Coyote! University of South Dakota School of Education

Undergraduate Teaching Majors

K–8 Elementary Education

7–12 Biology, Chemistry, Earth Science, English, History, Mathematics, Physics, Political Science, Speech Communication, Theatre

K–12 Art, French, German, Music, Physical Education, Spanish, Special Education*

*Double Major: The Special Education major must be paired with Elementary Education or a 7–12/K–12 teaching major.

Undergraduate Non-Teaching Majors

Kinesiology and Sport Science (Exercise Science or Sport Management Specialization)



SCHOOL OF EDUCATION STUDENT SERVICES 414 East Clark Street | Vermillion, SD 57069 www.usd.edu/ed | 605-677-5612

9:30 am

Friday

9:30 am

9:30-10:20 am Dakota A Session: 14 Feb. 6, 2015 9:30-10:20 am Dakota D Session: 16 Feb. 6, 2015

Grade Level: 6-8

Grade Level: K-5

Repeat of Session 90

Presenter: Dr. Erin Nyren-Erickson

HQC Biosciences, Inc/Great Plains STEM Ed Center

nyrenerickson@hqcbio.com http://www.hqcbio.com **Presenter:** Danette Jarzab

SD Discovery Center

danettejarzab@sd-discovery.com http://www.sd-discovery.com

Chemistry Techniques for the 6-8 Classroom

Methods and techniques in chemistry play an important role in a variety of STEM fields. Early introduction to these techniques presents a valuable opportunity for students to be more competitive for STEM jobs. Commonly used techniques, such as chromatography, ELISA, electrophoresis, and more are presented for the middle school classroom.

9:30-10:20 am Session: 15 Dakota C Feb. 6, 2015

Grade Level: 9-12

Presenter: Kelly Kukull & Barb Stoflett

Pearson

http://pearsonsystemofcourses.com/

Math-Ready to Go!

Our GEMS (Great Explorations in Math & Science) kits are filled with ready-to-go math activities that support state standards. This session will include activities from these math kits: Build It Festival (K-6), Frog Math (K-3), Math on the Menu (3-5), and In All Probability (3-6).

9:30-10:20 am Session: 17 Dakota E Feb. 6, 2015

Grade Level: 9-12

Presenter: David Doherty

Bitwixt Software Systems

ddoherty@bitwixt.com http://www.bitwixt.com

The System of Courses

Looking for a modern digital mathematics solution? We invite you to examine the possibilities with this dynamic new comprehensive program to meet the needs of every student in your classroom. Welcome to the next generation of teaching and learning.

Facilitating Students' Understanding of the Structure and Properties of Matter

Progressing from middle to high school, expectations are that students' understanding of the structure and properties of matter will increase in complexity.

We will demonstrate inquiry-based curriculum that uses interactive 3D atomic and molecular models, on iPads and laptops, to visually facilitate and empower this growth in students' understanding.

9:30 am

Friday

9:30 am

9:30-10:20 am Dakota G

Session: 18 Feb. 6, 2015

9:30-10:20 am Session: 20 **Symposium** Feb. 6, 2015

Grade Level: 9-12

Grade Level: 9-12

Presenter: Olga Stafford

SDSU

olga.stafford@sdstate.edu

Facilitator: Dan VanPeursem, USD

SD BOR Representatives for Mathematics

Dan.VanPeursem@usd.edu

Experimenting with a Pipe Flute (Part 2)

A simple pipe flute will be built using pieces of PVC pipe. The flute can be used to measure resonance frequencies of open or closed pipes. The pipe flute allow students in a physics class to study an example of an "edge tone" device that produces discrete sound frequencies.

Discussions with Higher Education

Come and ask questions about policies affecting your students as they transition to higher education. We will also have data on how the first year went with the low tuition and dual enrollment courses.

9:30-11:20 am Session: 19

Dakota H Feb. 6, 2015

Grade Level: 9-12

Presenter: Nick Restivo

MOEMS

nrestivo@moems.org

Friday 10:30 am

10:30-11:20 am Session: 21 Dakota A Feb. 6, 2015

Grade Level: 9-12 **Repeat of Session 80**

Presenter: Sheila McQuade

O'Gorman HS

smcquade2@sfcss.org

Unpacking Geometry from Boxes You Create Transform used greeting cards into boxes, while discovering geometry concepts that rely on definitions associated with parallelograms. Real life, non-routine problems using those properties will be explored.

Using the TI-Nspire in Geometry

As a teacher, my favorite activities lead my students to discover geometry concepts. Participants will use Nspire and work through some of the activities I use with my students. The activities I will present could be re-written to be used with Geometer's Sketchpad, Geogebra, or the Cabri Jr. app on the TI-84. Presenter will have Nspires for participants to use.

Have you checked out "Share the Classroom Treasures"?

Stop in Salon II and see what is there.

10:30-11:20 am

Dakota B

Session: 22 Feb. 6, 2015

10:30 am

10:30-11:20 am Dakota D

Grade Level: K-5

Friday

10:30 am Session: 24

Feb. 6, 2015

Repeat of Session 96

Grade Level: 9-12

Presenter: Sharon Rendon

CPM Educational Program
rendon@cpm.org

Presenter: Danette Jarzab
SD Discovery Center

danettejarzab@sd-discovery.com http://www.sd-discovery.com

Exponential Explorations

Come and explore and investigate problems around the concept of exponential equations. Learn how your students can develop an understanding of this concept through connections to geometric sequences and multiple representations. You will leave with problems you can implement this year.

Science-Ready to Go

Our GEMS (Great Explorations in Math & Science) kits are filled with ready-to-go science activities that support state standards. This session will include activities from these science kits: Bubble Festival (K-6), Liquid Explorations (1-3), Electric Circuits (3-6), and Space Science (3-5).

10:30-11:20 am Dakota C Session: 23 Feb. 6, 2015 Dakota E

10:30-11:20 am

Grade Level: 9-12

Session: 25 Feb. 6, 2015

Grade Level: K-5

Presenter: Kathleen Cotter Lawler

RightStart Mathematics Kathleen@RightStartMath.com http://www.rightstartmath.com Presenter: Adam Gordon & Julie S. Mike

Andamio Games

adam.gordon@andamiogames.com http://www.andamiogames.com

Place Value: The Foundation of Number Sense

Place value is the foundation, the most important concept, in arithmetic. Place value has a static component, indicating how numbers are recorded, and a dynamic component occuring during an arithmetic operation, involving trading between denominations. We need to teach this right from the start.

Collaborative STEM Games for Mobile Devices

iNeuron, available on the App Store, teaches the basics of neuroscience, first with individualized instruction, then with group challenges, all delivered on classroom mobile devices. We'll demonstrate how serious games and scaffolded, standards-based curriculum can lead to authentic collaboration and effective learning. Then we'll all play iNeuron together!

10:30 am

FRIDAY

NOON

10:30-11:20 am Dakota F Session: 26 Feb. 6, 2015

Grade Level: 6-8

Presenter: Chris Larson, Sharon Vestal

& Gary Hatfield

SDSU

christine.larson@sdstate.edu

Practicing Mathematical Practices: Probability & Statistics

The Practicing the Mathematical Practices workshop will focus on demonstrating the eight Standards for Mathematical Practice while reviewing content standards in 6-8 statistics and probability. We will provide 6-8 teachers with hands-on activities for their classroom while aligning with the CCSS-M statistics and probability standards.

9:30-10:20 am Session: 26.5 Dakota H Feb. 6, 2015

Grade Level: 9-12

Presenter: Judy Vondruska & Olga Stafford

SDSU

judy.vondruska@sdstate.edu

Recruiting Girls into STEM

Gender imbalances exist in many STEM fields. Among first-year university students, women are much less likely than men to say they intend to major in STEM. How can this be changed? This session will convey the results of efforts across the country to increase the number of females in STEM. Participants will discuss implications for efforts in SD.

Noon-1:00 pm Session: 27 Prairie A, B & C Feb. 6, 2015

Grade Level: All

Presenters: Ellie Cooch & Julie Olson SDCTM & SDSTA Presidents

Lunch

Friday

1:30 pm

1:30-3:20 pm Session: 28 Prairie A Feb. 6, 2015

Grade Level: 9-12

FEATURED SPEAKERS

Marie Copeland & Michael Lehman EMATHS-Embracing Mathematics Assessment Technology in HS mariecopeland@gmail.com

Using Data Collection in Algebra

What if we taught functions through modeling? We will explore the use of data collection devices to generate data that can be used by students to understand and write functions without the use of regression. This process engages students in their own learning while at the same time developing a depth of understanding.

1:30 pm

Friday

Dakota B

1:30-3:20 pm

1:30 pm

Session: 31

Feb. 6, 2015

1:30-2:20 pm Prairie B Session: 29 Feb. 6, 2015

Grade Level: 9-12

Grade Level: 6-8

FEATURED SPEAKER
Cathy Ezrailson

USD

cathy.ezrailson@usd.edu

Pioneer Science (and math) on the Prairie: Exploring Our Roots

Native Americans and early settlers used creative ways to survive (and often thrive) in our unpredictable climates and terrains. This session will demonstrate some of the uses of science on the prairie and in prairie schools.

Presenter: Curt Olson

Augustana College colson@augie.edu

Exploding Dots: An MTC Activity

Experience an example of an activity enjoyed by middle school mathematics teachers when they attend the Sioux Falls Area Math Teachers' Circle. A brief description of FyIG (the SFAMTC) will be given prior to the joy of doing mathematics together. (Other grade levels may even enjoy the fun.)

1:30-2:20 pm Session: 30 Dakota A Feb. 6, 2015

Grade Level: K-5

Presenter: Arnie Lund & Angelo Casaburri

Retired NASA team leader at Kadoka & NASA Educator PD Specialist badlander@kadokateko.com

Journeying through the Solar System

Building scale models of the solar system is a challenge because of the vast distances and huge size differences involved. Use a meter of cash register tape to construct a linear scale model of the solar system using Astronomical Units (AU), fractions, ratios, decimals, and percentages. Learn new definitions for a planet and dwarf planet.

 1:30-2:20 pm
 Session: 32

 Dakota C
 Feb. 6, 2015

Grade Level: K-5 Repeat of Session 97

Presenter: Kathy Grotta

LEGO education

kathy.grotta@lego.com

http://www.legoeducation.us

LEGO More to Math Teachers Grade 1-2

More to Math is a hands-on educational tool for teaching problem solving bridging to mathematical facts. It provides practice in core mathematical competencies such as reasoning, perseverance, precision, modeling and representation through individual and team problem solving experiences.

1:30 pm

Friday

1:30 pm

1:30-2:20 pm Dakota D Session: 33 Feb. 6, 2015 1:30-2:20 pm Dakota F

Grade Level: K-5

Session: 35 Feb. 6, 2015

Grade Level: 9-12

Presenter: Jennifer Dolejsi & Allison Schmitz

NSU

Jennifer.Dolejsi@northern.edu

Presenter: Steven Rokusek

SD Public Broadcasting steven.rokusek@state.sd.us http://sdpb.org/learn

Labs Are Not Just for Science

Learn about the mathematics laboratory program at NSU and how this model can translate into cooperative group learning in your classroom. There will be several hands-on activities presented and strategies to get students talking when working in groups.

1:30-2:20 pm Session: 34 Dakota E Feb. 6, 2015

Grade Level: K-12 Repeat of Session 83

Presenter: Dan Van Peursem, Matt Miller,

& Sharon Vestal
USD & SDSU
Dan.VanPeursem@usd.edu

Meet the Future Teachers

Prospective science and math teachers from all South Dakota institutions will be invited to engage in conversation with veteran science and math teachers attending the conference. The goal is to provide support and encouragement for the next generation of teachers by providing advice, encouraging stories, and successful strategies.

Hands-on Science and Math Activities

During this session participants will learn about science and math activities that will keep the children in their care entertained and educated. The activities will include, but are not limited to, a recycling game called Trash Dash, an ecosystem game called Chomp, Nibble, Grow, Grow, Grow, and more.

1:30-2:20 pm Session: 36 Dakota G Feb. 6, 2015

Grade Level: K-12

Presenter: Pat Bruinsma & Joy Korman

USD

joy.korman@usd.edu http://www.usd.edu/ed

USD School of Education M.S. in Technology for Education and Training

Considering a graduate degree? Learn about programs available through USD that will enhance your teaching practice and positively impact student learning. Experience an introduction to instructional tools to bring back to your math and/or science classroom.

1:30 pm

Friday

2:30 pm

1:30-2:20 am Dakota H Session: 37 Feb. 6, 2015

Grade Level: K-5

Presenter: Chris Larson, Sharon Vestal

& Gary Hatfield

SDSU

christine.larson@sdstate.edu

Practicing Mathematical Practices: Probability & Statistics

The Practicing the Mathematical Practices workshop will focus on demonstrating the eight Standards for Mathematical Practice while reviewing content standards in K-5 statistics and probability. We will provide K-5 teachers with hands-on activities for their classroom while aligning with the CCSS-M statistics and probability standards.

Don't forget the business Meetings from 4:30-5:30.

Science in Dakota G

Math in Dakota C

All members of SDSTA and SDCTM are welcome and are encouraged to attend.

2:30-3:20 pm Session: 38 Prairie B Feb. 6, 2015

Grade Level: K-12

FEATURED SPEAKERS

John Lord & Brian Biehl

SD Highway Patrol

john.lord@state.sd.us

Police Service Dogs and Drug Interdiction

The troopers will bring their K9 partners (Aros and Zara) to discuss the science of a dog's olfactory system and their ability to detect drugs despite incredible human efforts to conceal them. Along with a live dog demonstration Troopers Lord and Beihl with also educate participants on the officer's skills of observing people under great stress, drug paraphernalia and other warning signs of drug use.

2:30-4:20 pm Session: 39 Prairie C Feb. 6, 2015

Grade Level:

FEATURED SPEAKER

Roxie Albrecht pebbles@sio.midco.net

Place Value: Developing Conceptual Understanding

Traditional models teach positional place value in isolation. This session looks at developing a student's understanding of place value conceptually. We will explore various instructional experiences which will enhance conceptual understandings.

2:30 pm

2:30-3:20 pm

Dakota A

Session: 40 Feb. 6, 2015

Grade Level: K-5

Presenter: Joan Brooks & Randy Brooks

Core Educational Solutions--NSTA jbrooks@coredsolutions.com

Using Picture Books to Guide Inquiry in K-5 Science

Learn the theory behind using the 5E Model and blending that with using picture books to integrate science into your elementary classroom. Participate in a model lesson and gain exposure to the SDTA series: Picture Perfect Science.

2:30-4:20 pm Dakota C

Session: 41 Feb. 6, 2015

Grade Level: K-5

Presenter: Kathleen Cotter Lawler

RightStart Mathematics Kathleen@RightStartMath.com http://www.rightstartmath.com

Math Card Games to Master the Facts

Rote memorization of math facts is daunting. Instead, let's play math card games to master the facts! Games are fun and exciting, provide practice, and most importantly, become an application for newly learned information. Join us for some FUN as we learn addition, clock, money, multiplication, and fraction games.

Friday

2:30 pm

2:30-4:20 pm

Session: 42 Feb. 6, 2015

Dakota D

Grade Level: 9-12

Presenter: Peter Vitiello and Darwin Daugaard

Sanford Research

peter.vitiello@sanfordhealth.org

http://www.sanfordresearch.org/education

Protein Biology for the Classroom

Proteins play important metabolic, structural, and communication functions in cells. In this session, Sanford Research scientists will present a protein gel electrophoresis activity to demonstrate how proteins from biological samples are separated and visualized. Participants have access to these materials at no cost through The Sanford PROMISE.

2:30-3:20 pm

Dakota E

Session: 43 Feb. 6, 2015

Grade Level: 9-12

Presenter: Matt Miller

SDSU

Matt.Miller@sdstate.edu

The Ebb and Flow of the Laboratory: Learning in the Lab

In a study of both an undergraduate chemistry teaching laboratory and a research laboratory, certain types of interactions played key roles in learning. This session will discuss the results from the study and how these ideas can be translated to the secondary teaching laboratory.

2:30 pm

2:30-3:20 pm Dakota F Session: 44 Feb. 6, 2015

Grade Level: K-5

Presenter: Kevin Smith

DSU

kevin.smith@dsu.edu http://kevindsmith.org

Kid Cave: A PBL Project to Teach STEM

Come and learn about a PBL project in which students design a "Kid Cave" using an app on the iPad. We'll walk through the steps involved in implementing the project in your class and talk specifically about the STEM content addressed in the project. If you have an iPad, you'll have a chance to play with the app.

2:30-3:20 pm Dakota G Session: 45 Feb. 6, 2015

Grade Level: 9-12

Presenter: Sam Glantzow & Larry Browning

Selby Area School & SDSU sam.glantzow@k12.sd.us

Turn Your Town into a Solar Observatory

Streets and buildings of your town can be used as a solar observatory just as certain rocks at Stonehenge and streets in Manhattan mark the cycles of the sun. This presentation will show teachers how they can turn their town into a "henge" to demonstrate annual solar motion.

Next year's conference is February 4, 5, 6, 2016 **Friday**

2:30 pm

2:30-3:20 pm

Dakota H

Session: 46 Feb. 6, 2015

Grade Level: 9-12

Presenter: Judy Vondruska

SDSU

judy.vondruska@sdstate.edu http://etfworkshop.wikispaces.com

Using Conductive Copper Tape to Teach Circuits

Teaching circuits can be a challenge especially if using a setup with numerous wires. Teachers spend more time checking the wiring than helping students learn the underlying circuit principles. Participants in this session will use low-cost copper foil tape with a conductive adhesive to more easily design and analyze basic circuits.

Friday

3:30 pm

3:30-4:20 pm Prairie B Session: 48 Feb. 6, 2015

Grade Level: K-12 Repeat of Session 66

Presenter: Mary Colson

NSTA

mcolson@moorheadschools.org

Professional Learning Resources@NSTA, K-12

The National Science Teachers Association is more than its journals and conferences. A plethora of online resources are available to enhance your teaching and help you as you delve into the ideas and practices of science. We will explore the NSTA Learning Center and NGSS@NSTA hub. Appropriate for K-12 teachers.

3:30 pm

Friday

3:30 pm

3:30-4:20 pm Dakota A Session: 49 Feb. 6, 2015

3:30-4:20 pm Dakota E Session: 51 Feb. 6, 2015

Grade Level: K-5

Grade Level: K-5

Repeat of Session 62

Presenter: Sonya McNamara

Project Lead the Way smcnamara@pltw.org http://www.pltw.org **Presenter:** Danette Jarzab

SD Discovery Center

danettejarzab@sd-discovery.com http://www.sd-discovery.com

PLTW-Launch-Elementary STEM

Learn about this exciting new STEM hands-on program addressing the new Next Generation Science Standards and other national and state standards. Through hands-on learning (project and problem-based learning) for kindergarten through fifth grade, students learn important, future-changing lessons. Taking risks, making mistakes, and employing critical thinking.

Getting Kids Eating Fruits and Veggies

Harvest of the Month, an adaptable, easy to use program gets kids excited about eating fruits and vegetables and has them asking their parents for more! We have added kinesthetic activities and created new learning plans. Discover how you can impact your community's health with this free state-wide program.

3:30-4:20 pm Dakota B Session: 50 Feb. 6, 2015 3:30-4:20 pm Dakota G Session: 52 Feb. 6, 2015

Grade Level: 9-12

Repeat of Session 98

Grade Level: 9-12

Presenter: K-Dog & G-Trog

(withheld to protect the guilty) cindy.kroon@K12.sd.us

Presenter: James Stearns & Larry Browning

SD AAPT

James@SDSTA.org http://SDAAPT.SDSTA.org

Mathematical Idol: The Reunion Tour!

Due to increasing fan request (n>0), the infamous duo returns! In their words, "We've made fools of ourselves in front of our students for years. Now is the time to do it in front of our colleagues." The ability to carry a tune, sing, dance, or have rhythm is NOT a requirement for this session!

SD-AAPT Photo Contest & Annual Meeting

All Physics and/or Physical Science teachers are invited to the annual meeting for the final voting and judging of the photos and essays that have been submitted. Check out the photos in the hall Thursday night and/or Friday and put in your two cents worth. Vote by putting in a penny for your top choice or two. All physics or physical science teachers are invited to this meeting.

4:30 pm

Friday

7:00 pm

4:30-5:30 pm Dakota C Session: 53 Feb. 6, 2015

Grade Level: All

Presenter: Ellie Cooch

SDCTM

SDCTM Business Meeting

7:00 pm---Prairie A, B & C Session: 56 Feb. 6, 2015

Grade Level: All

Facilitators: Ellie Cooch & Julie Olson

SDCTM & SDSTA Presidents

Banquet

Speaker—Bill Zubke

4:30-5:30 pm Dakota G Session: 54 Feb. 6, 2015

Grade Level: All

Presenter: Julie Olson

SDSTA

SDSTA Business Meeting

Friday 5:30 pm

5:30-6:45 pm Session: 55 Vendor area Feb. 6, 2015

Grade Level: All

Social Hour

Come and visit with other science and math teachers. Light snacks will be provided. There will be a cash bar.

Saturday

7:00 am

7:00-8:00 am

Session: 57 Feb. 7, 2015

Library

Grade Level: Presidential Awardees

Presenter: Allen Hogie & Ramona Lundberg

PAEMST Coordinators

Breakfast for Awardees and Finalists

8:00-8:30 am Session: 58 Dakota H Feb. 7, 2015

8:00 am

Grade Level: 9-12

Presenter: Judy Vondruska & Suzette Burckhard

SDSU

judy.vondruska@sdstate.edu http://etfworkshop.wikispaces.com

Engineering the Future Workshop Sharing Session

This is a closed session for participants of the summer 2014 Engineering the Future Workshop at SDSU. Session participants will share their experiences implementing activites from this summer as well as sharing new ideas.

Saturday

8:30-10:20 am Session: 60 Prairie B Feb. 7, 2015

8:30 am

Grade Level: K-5

Presenter: Nicholas J. Restivo

MOEMS

nrestivo@moems.org

A Problem a Day Keeps the Cobwebs Away

Generate excitement among students by modeling how to take risks in mathematical problem solving. Energize and enrich your students to dialogue with each other. Through the use of problems with multiple solution paths, learn techniques that will help you reduce the need to "cram."

Saturday 8:30 am

8:30-10:20 am Session: 59 Prairie A Feb. 7, 2015

Grade Level: 9-12

FEATURED SPEAKERS

Marie Copeland & Michael Lehman

EMATHS-Embracing Mathematics Assessment Technology in HS mariecopeland@gmail.com

Rethinking Quadratics

What if we thought of quadratic functions as the product of two linear functions? How would that change our students' understanding of quadratics and factoring? This session will explore this option as an alternative to the "typical" approach to quadratics. Come see where this might lead us.

8:30-9:20 am Session: 61 Prairie C Feb. 7, 2015

Grade Level: K-5

FEATURED SPEAKER Roxie Ahlbrecht

pebbles@sio.midco.net

Structuring: The Gateway to Mathematical Understanding

Structuring is a basic skill which supports and enhances efficiency when solving additive and subtractive tasks. As students compose and decompose numbers, efficient strategies are developed through an understanding of how to structure which builds a student's capacity to mentally compute multi-digit problems with efficiency and accuracy.

8:30 am

Saturday

8:30 am

8:30-9:20 am Dakota B Session: 62 Feb. 7, 2015 8:30-9:20 am Dakota E Session: 64 Feb. 7, 2015

Grade Level: K-5

Repeat of Session 51

Grade Level: K-5

Presenter: Danette Jarzab

SD Discovery Center

danettejarzab@sd-discovery.com http://www.sd-discovery.com Presenter: Mari Biehl
SD Inovation Lab

mbiehl@sdinnovationlab.org http://sdinnovationlab.org

Getting Kids Eating Fruits and Veggies

Harvest of the Month, an adaptable, easy to use program gets kids excited about eating fruits and vegetables and has them asking their parents for more! We have added kinesthetic activities and created new learning plans. Discover how you can impact your community's health with this free state-wide program.

Designing Learning with Kids

Designing their own learning--that's crazy talk! Or is it? By allowing students to work through the design process they are encouraged to build, modify, and share—a universal attribute of human thinking. Find out how to give kids the tools to think and plan using the design cycle with you as their guide on their learning adventure.

8:30-9:20 am Dakota C Session: 63 Feb. 7, 2015 8:30-9:20 am Dakota F Session: 65 Feb. 7, 2015

Grade Level: K-5

Presenter: Jan Martin

SD DOE

jan.martin@state.sd.us

Grade Level: K-8

Presenter: Steven Rokusek

SD Public Broadcasting steven.rokusek@state.sd.us http://sdpb.org/learn

Cut scores, descriptors, and more -Smarter Balanced Update

So what will my students be expected to know and do in math? What are the cut scores? What resources are available to help in the classroom? The session will focus on the cut scores, achievement level descriptors, and supporting resources available for Smarter Balanced. A look at score reports will also be provided.

Engaging Science Activities: The Senses

During this session participants will learn about science activities that will keep the children in their care entertained and educated. The session will include, but is not limited to sight, balance, and skin sensitivity activities.

Saturday 8:30 am

8:30-9:20 am Session: 66 Dakota G Feb. 7, 2015

Grade Level: K-12 Repeat of Session 48

Presenter: Mary Colson

NSTA

mcolson@moorheadschools.org

Professional Learning Resources@NSTA, K-12

The National Science Teachers Association is more than its journals and conferences. A plethora of online resources are available to enhance your teaching and help you as you delve into the ideas and practices of science. We will explore the NSTA Learning Center and NGSS@NSTA hub. Appropriate for K-12 teachers.

8:30-9:20 am Session: 67 Dakota H Feb. 7, 2015

Grade Level: 9-12

Presenter: Judy Vondruska & Suzette Burckhard

SDSU

judy.vondruska@sdstate.edu

Using the Human Body to Study Torque and Engineering Design

Many of the muscle and bone systems of the human body act as levers. In this session simple and reproduceable models of the human forearm and back will be used to collect data about forces and torques. More complex models will be used to demonstrate the engineering principles associated with these systems.

Saturday 8:30 am

8:30-9:20 am Session: 68 Salon I Feb. 7, 2015

Grade Level: K-12

Presenter: Allen Hogie & Ramona Lundberg

PAEMST Coordinators

Tips for Winning Money

Would you like to receive \$10,000? Every year, South Dakota is able to give two \$10,000 awards, one in science and one in math. The Presidential Award is sponsored by the White House and the National Science Foundation.

Saturday 9:30 am

9:30-10:20 am Session: 70 Prairie C Feb. 6, 2015

Grade Level: K-5

FEATURED SPEAKER
Roxie Ahlbrecht
pebbles@sio.midco.net

Addition and Subtraction: Developing Understanding

Students develop their understanding of addition and subtraction working with concrete materials, moving to representations before they are developmentally ready for the abstract tasks. Let's explore activities to build our instructional toolbox to include concrete materials and representations in our instruction.

9:30 am

Saturday

9:30-10:20 am

Dakota C

9:30 am

9:30-11:20 am

Dakota A

Session: 71 Feb. 7, 2015 Session: 73 Feb. 7, 2015

Grade Level: K-5

Repeat of Session 11

Grade Level: 6-8

Presenter: Peggy Norris

BHSU/Sanford Underground Research Facility

pnorris@sanfordlab.org

Presenter: Jan Martin

SD DOE

jan.martin@state.sd.us

SciGirls: Proven Strategies for Engaging Girls in STEM

This hands-on workshop will highlight science, engineering, and technology activities designed to engage upper elementary and middle school students in STEM, developed by PBS in conjunction with the SciGirls television program. The SciGirls approach is rooted in research about how to engage girls in STEM. Participants will take home sample kits.

Cut scores, descriptors, and more-Smarter Balanced Update

So what will my students be expected to know and do in math? What are the cut scores? What resources are available to help in the classroom? The session will focus on the cut scores, achievement level descriptors, and supporting resources available for Smarter Balanced. A look at score reports will also be provided.

9:30-10:20 Dakota B Session: 72 Feb. 7, 2015

9:30-10:20 am Dakota D

Grade Level: K-5

Session: 74 Feb. 7, 2015

Grade Level: 9-12

Presenter: Chris Larson, Sharon Vestal

& Gary Hatfield

SDSU

christine.larson@sdstate.edu

Presenter: William Kliche & Lori Stverak

Rapid City Schools william.kliche@k12.sd.us

Practicing Mathematical Practices:
Probability & Statistics

The Practicing the Mathematical Practices workshop will focus on demonstrating the eight Standards for Mathematical Practice while reviewing content standards in 9-12 statistics and probability. We will provide 9-12 teachers with hands-on activities for their classroom while aligning with the CCSS-M statistics and probability standards.

Strategies for Teaching Understanding in Fractions

We will provide hands-on ideas for teaching fractional understanding.

Next year's conference is February 4, 5, 6, 2016

9:30 am

Saturday

10:30 am

9:30-10:20 am Dakota G Session: 76 Feb. 7, 2015 10:30-11:20 am Dakota B

Grade Level: 6-8

Session: 78 Feb. 7, 2015

Grade Level: 9-12

Presenter: Darwin R. Daugaard

Dell Rapids Public High School darwin.daugaard@k12.sd.us http://dd045.k12.sd.us **Presenter:** Tammy Jo Schlechter

Hermosa School

tammyjo.schlechter@k12.sd.us

Doc's Master Plan (Finding Quantum Numbers)

Doc's Master Plan is a model of the electrons around an atom. This model will be introduced and its uses demonstrated. Find quantum numbers, electron configuration notation, and schematics and electron-dot notation can be easier to find using Doc's Master Plan. This is a chemistry topic for regular chem or advanced chem.

Turn Your Classroom into a Habit for Mathematicians

Energize your classroom with best practices discovered by Tammy Jo, Tammy Jo's students and colleagues. This workshop will promote planning and activities that lead to productive dispositions in not only students but their teachers as well. This workshop is listed for middle school, but with a creative perspective, it can apply to K-12 teachers.

9:30-10:20 am Dakota H Session: 77 Feb. 7, 2015

10:30-11:20 am Dakota C Session: 79 Feb. 7, 2015

Grade Level: 9-12

Presenter: Suzette Burckhard & Judy Vondruska

SDSU

suzette.burckhard@sdstate.edu

Grade Level: 9-12

Presenter: Jan Martin

SD DOE

jan.martin@state.sd.us

The Science and Engineering of Tower Building

Skyscrapers and telecommunications towers are both tall structures supported by a similar internal structure. In this session, participants will build towers in phases using an increasing amount of engineering content while still emphasizing science principles.

Cut scores, descriptors, and more --Smarter Balanced Update

So what will my students be expected to know and do in math? What are the cut scores? What resources are available to help in the classroom? The session will focus on the cut scores, achievement level descriptors, and supporting resources available for Smarter Balanced. A look at score reports will also be provided.

10:30 am

Saturday

10:30 am

10:30-11:20 am

Session: 80 Feb. 7, 2015

10:30-11:20 am

Session: 82 Feb. 6, 2015

Grade Level: 9-12

Dakota D

Repeat of Session 21

Grade Level: K-8

Dakota F

Presenter: Sheila McQuade

O'Gorman HS

smcquade2@sfcss.org

Presenter: Mark Iverson & Chad Lentsch

Watertown Middle School Mark.a.iverson@k12.sd.us

Using the TI-Nspire in Geometry

As a teacher, my favorite activities lead my students to discover geometry concepts. Participants will use Nspire and work through some of the activities I use with my students. The activities I will present could be re-written to be used with Geometer's Sketchpad, Geogebra, or the Cabri Jr. app on the TI-84. Presenter will have Nspires for participants to use.

Science Dojo: Add a Little Kick to Your Lessons.

This sharing session will focus on the hard to teach concepts in your curriculum. Bring your problems, frustrations or failures to have the group slice and dice your lessons into something amazing. Bring your katana and your resources for the good of the group.

10:30-11:20 am

Dakota G

Session: 83 Feb. 7, 2015

10:30-11:20 am Session: 81 Dakota E

Repeat of Session 34

Grade Level: 9-12

Feb. 7, 2015

Grade Level: K-12

Presenter: Dan Van Peursem, Matt Miller,

Presenter: Jeff Schneider

SD Innovation Lab

USD & SDSU

& Sharon Vestal

jschneider@pastfoundation.org http://sdinnovationlab.org

Dan.VanPeursem@usd.edu

Teaching the Common Core Standards in Three Schools at Once!

How I teach a Transdisciplinary Problem Based Learning class in three schools, simultaneously. How I cover all the Common Core Standards. This session will include links to relevant sites/information/resources, an extensive question and answer session, and LOTS of ideas for projects that have been proven in multiple classrooms.

Meet the Future Teachers

Prospective science and math teachers from all South Dakota institutions will be invited to engage in conversation with veteran science and math teachers attending the conference. The goal is to provide support and encouragement for the next generation of teachers by providing advice, encouraging stories, and successful strategies.

10:30 am

Saturday

1:00 pm

10:30-11:20 am

Dakota H

Session: 84 Feb. 7, 2015

Grade Level: 9-12

Presenter: Suzette Burckhard

SDSU

suzette.burckhard@sdstate.edu

The Science and Engineering of Windmills

Windmills and related machines have been used for centuries to produce power. Modern windmill/wind turbine designs have changed in terms of the tower configuration and the blade design. In this session, participants will design, build, and test a variety of windmills and discuss the underlying science and engineering principles.

Saturday

NOON

Noon-1:00 pm Session: 85 Prairie A, B & C Feb. 6, 2015

Grade Level: All

Presenters: Julie Olson & Ellie Cooch SDSTA & SDCTM Presidents

Lunch

Next year's conference is February 4, 5, 6, 2016 1:00-2:50 pm Prairie A

Session: 86 Feb. 7, 2015

Grade Level: 9-12

FEATURED SPEAKERS Marie Copeland & Michael Lehman

EMATHS-Embracing Mathematics Assessment Technology in HS mariecopeland@gmail.com

Using Origami to Introduce Geometry

Engage your students on day one. Use origami paper to build three dimensional figures to visualize and explore special right triangles, area and volume. Connections between the size of the paper and the size of the figure we create will be discovered, which explores the ratios of similar figures.

The Sanford PROMISE

Program for the Midwest Initiative in Science Exploration



Inspiring the next generation of scientists

Opportunities for

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SANF#RD

800-11051-0082 11

1:00 pm

Saturday

1:00 pm

1:00-1:50 pm Prairie B

Session: 87 Feb. 7, 2015

1:00-1:50 pm Dakota A

Grade Level: K-5

Session: 89 Feb. 7, 2015

Grade Level: 6-8

Presenter: Peggy Norris & David Demuth

BHSU/Sanford Underground Research Facility

pnorris@sanfordlab.org

Project Lead the Way smcnamara@pltw.org http://www.pltw.org

Presenter: Sonya McNamara & David Hosick

Connect Your Students with Scientists:

The K-12 STEM Series

Connect your students to scientists and modern scientific research, whether it's looking deep into space or deep into molecules. In its second year, Dakota's K-12 STEM Initiative is a collaborative effort among partners across K-12, higher education and research centers across the Dakotas, using technology to connect students with scientists.

PLTW: STEM Journey

Project Lead the Way is the leading STEM education program in the nation. Now five PLTW programs, a K-12 STEM journey, give students the opportunity to develop world class skills and knowledge preparing them for post-secondary education and the global economy. Learn about the new Launch, Gateway and high school programs.

1:00-1:50 pm **Prairie C**

Session: 88

Dakota B

1:00-1:50 pm

Session: 90 Feb. 7, 2015

Grade Level: 9-12

Feb. 7, 2015

Grade Level: K-5 Repeat of Session 16

FEATURED SPEAKERS Cathy Ezrailson

USD

cathy.ezrailson@usd.edu

Presenter: Danette Jarzab **SD Discovery Center**

> danettejarzab@sd-discovery.com http://www.sd-discovery.com

Why a Lab Safety Protocol Could Save Your Life

Do you teach science in a classroom or lab? Do you have a method for buying, storing, organizing and using science equipment? Have you ever experienced (or know of a fellow teacher who has experienced) a mishap while teaching or demonstrating in a science class? Perhaps a science safety protocol could help.

Math-Ready to Go!

Our GEMS (Great Explorations in Math & Science) kits are filled with ready-to-go math activities that support state standards. This session will include activities from these math kits: Build It Festival (K-6), Frog Math (K-3), Math on the Menu (3-5), and In All Probability (3-6).

1:00 pm

Saturday

1:00 pm

1:00-1:50 pm Dakota D Session: 90.5 Feb. 7, 2015 1:00-1:50 pm Dakota F Session: 92 Feb. 7, 2015

Grade Level: 9-12

Presenter: Chris Larson

SDSU

christine.larson@sdstate.edu

Grade Level: 6-8

Presenter: Janet Briggs
BHSU

janet.briggs@bhsu.edu

Using Algebra Tiles to Teach HS Algebra

Algebra Tiles can be used to explore a variety of algebraic concepts. Come see how they can be used to teach basic concepts like combining like terms, using the distributive property, and solving linear equations, to more complex concepts like factoring, solving linear inequalities, and solving systems of linear equations.

Low-Maintenance School Gardens

Learn about low-maintenance gardens that you and your students can plant and manage, including supporting Monarch butterflies and two of South Dakota's endangered butterflies, planting a xeriscape garden with native plants, and more. Hear how Master Gardener volunteers can assist throughout the process.

1:00-1:50 pm Dakota E Session: 91 Feb. 7, 2015 1:00-1:50 pm Dakota G Session: 93 Feb. 7, 2015

Grade Level: K-5

Presenter: Julie Olson

Mitchell Senior High School julie.olson@k12.sd.us

Grade Level: 9-12 Repeat of Session 10

Presenter: Anne Lewis

SD Discovery Center anne.lewis@sd-discovery.com

http://www.sd-discovery.com

Simple Research Ideas for Elementary Students

Engage elementary students in research that doesn't require a lot of money, materials, or space.

Next year's conference is February 4, 5, 6, 2016

Have you thought about presenting?

GLOBE in South Dakota

GLOBE is a world wide, hands-on, school based science education program. The SD Discovery Center and Outdoor Campus West are partnering to support this exciting opportunity to investigate and monitor environmental systems here in SD. Get a sneak peek at our summer professional development as well as a few GLOBE goodies.

2:00 pm

Saturday

2:00 pm

2:00-2:50 pm Dakota A Session: 95 Feb. 7, 2015 2:00-2:50 pm Dakota C Session: 97 Feb. 7, 2015

Grade Level: K-5

Grade Level: K-5

Repeat of Session 32

Presenter: Sonya McNamara & David Hosick

Project Lead the Way smcnamara@pltw.org http://www.pltw.org **Presenter:** Kathy Grotta

LEGO education kathy.grotta@lego.com http://www.legoeducation.us

PLTW-Launch-Encouraging Critical Thinking

Through hands-on learning (project and problem-based learning) for kindergarten through fifth grade, students learn important, future-changing lessons. Taking risks, making mistakes, and employing critical thinking are all part of exciting problem solving activities. Teachers and students learn and discover together, becoming far more engaged.

LEGO More to Math Teachers Grade 1-2

More to Math is a hands-on educational tool for teaching problem solving bridging to mathematical facts. It provides practice in core mathematical competencies such as reasoning, perseverance, precision, modeling and representation through individual and team problem solving experiences.

2:00-2:50 pm Dakota B Session: 96 Feb. 7, 2015 2:00-2:50 pm Dakota D Session: 98 Feb. 7, 2015

Grade Level: K-5

Repeat of Session 24

Grade Level: 9-12

Repeat of Session 50

Presenter: Danette Jarzab

SD Discovery Center

danettejarzab@sd-discovery.com http://www.sd-discovery.com Presenter: K-Dog & G-Trog

(withheld to protect the guilty) cindy.kroon@K12.sd.us

Science-Ready to Go

Our GEMS (Great Explorations in Math & Science) kits are filled with ready-to-go science activities that support state standards. This session will include activities from these science kits: Bubble Festival (K-6), Liquid Explorations (1-3), Electric Circuits (3-6), and Space Science (3-5).

Mathematical Idol: The Reunion Tour!

Due to increasing fan request (n>0), the infamous duo returns! In their words, "We've made fools of ourselves in front of our students for years. Now is the time to do it in front of our colleagues." The ability to carry a tune, sing, dance, or have rhythm is NOT a requirement for this session!

2:00 pm

Saturday

2:00 pm

2:00-2:50 pm Dakota E Session: 99 Feb. 7, 2015 2:00-2:50 p m Dakota H Session: 101 Feb. 7, 2015

Grade Level: 9-12

Presenter: Julie Olson

Mitchell Senior High School julie.olson@k12.sd.us

Grade Level: 9-12

Presenter: Matt Miller & Larry Browning

SDSU

Matt.Miller@sdstate.edu

Mitosis in Onion Roots

Fix, stain, and view onion roots then learn how to utilize this procedure to engage your students in research related to cell division, cancer, and mitosis in general. There will be music, on-line resources, and student/teacher worksheets to utilize.

Demonstrations to Spark Their Interest

Come and see if we get it right this year. After melting the carpet and melting chocolate we've learned how to whip our students into shape and teach them about acids and bases.

2:00-2:50 pm Session: 100 Dakota F Feb. 7, 2015

Grade Level: K-12

Presenter: Mark Iverson

Watertown Middle School mark.a.iverson@k12.sd.us

Saturday

3:00 pm

3:00-3:50 pm Session: 102 Dakota C Feb. 7, 2015

Grade Level:

Presenter: Ellie Cooch

Math Wrap UP

3:00-3:50 pm Session: 103 Dakota G Feb. 7, 2015

Grade Level:

Presenter: Julie Olson **Science Wrap Up**

Weather Ballooning: Taking Your Teaching Out of this World

If you have ever wanted to start a weather balloon project with your class this session is for you. I am by no means an expert but will offer my experience, resources, fails and accomplishments and get you in contact with the experts that guided me.

Saturday

4:00 pm

4:00-???? Session: 104 Boardroom Feb. 7, 2015

Presenter: Jean Gomer

Joint Board Meeting (for Officers)

Representatives will be exhibiting on Friday from 8:00 AM until 5:00 PM. These include:

Activities for Learning Kathleen Cotter Lawler
Andamio Games Adam Gordon

Andamio Games

Bitwitx Software Systems

Adam Gordon

Lindi Doherty

Black Hills Raptor Center

Carolina Curriculum

John Halvorson & Maggie Engler

Michelle Reed (Corporate) & Bob Friedel

Core Educational Solutions Joan Brooks & Randy Brooks

CPM Educational Program
Houghton Mifflin Harcourt
LEGO Education
McGraw Hill

Carol Heisel

MOEMS-Math. Olympiads for Elem & MS

Nick Restivo

Any Klotz (Corporato) & Kovi

NascoAmy K Amy Klotz (Corporate) & Kevin Hart

NSTA Mary Colson
Pearson Mike Limmer

Sanford PROMISE Liz McMillan, Jill Weimer & Tamara Ledeboer

Sanford Underground Research Facility Peggy Norris

SD Discovery Center (Pierre) Anne Lewis & Marie Steckelberg

SD PBS Steven Rokusek Carl Fellbaum

SDSU Plant Science Dept. Carl Fellbaum
Technology and Innovation in Education Mary Lou McGirr

USD Joy Korman

*Name Tag Lanyards are compliments of SD Game Fish and Parks

South Dakota Science Teachers Association Business Meeting will be held in Dakota G at 4:30 pm on Friday, February 6, 2015

SD Council of Teachers of Mathematics Business Meeting will be held in Dakota C at 4:30 pm on Friday, February 6, 2015

Graduate Credit

Conference credit will be offered through Dakota Wesleyan University. You may register for one hour of credit at the 499 or 599 level. Attendance at a sharing session is required to earn graduate credit from Dakota Wesleyan University. There will be personnel available to register you for the credit on Thursday night from 7:00 to 9:00 pm, and on Friday morning from 7:30 to 8:30 am. Check in the hotel lobby for the DWU table. A syllabus listing course requirements will be available at the time of registration. For more information, contact Rocky Von Eye at (605) 995-2625.

Next year's conference will be **February 4, 5, & 6, 2016**

SDSTA

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Julie Olson 600 W. 3rd Ave. Mitchell, SD 57301 Julie.Olson@k12.sd.us

President-Elect:

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2015 Mathematics and Science Conference SDSTA & SDCTM

Please take time to respond to the following questions concerning the conference. This information will help the program committee take steps to improve future conferences. Circle one in each group:

Content Area:	Math	Science	Both
Grade Band:	Elementary	Middle School	High School
What presentation	or presentations did yo	u feel were the most useful or he	elpful?
What made it (or	them) good?		
Were there any pr	resentations that disappo	inted you?	
Please give us you share.	ur overall assessment of	the conference along with any c	omments you would like to
	the following for a final	prize to be sent after the conferon form.	ence. To register for the prize
	Name		
	Address		_
	City. State. Zip C	ode	

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The 2015 Conference Committee would like to offer a Special Thanks to ...

Dakota Weslyan University and Rocky Von Eye for handling the credit.

Coke for helping provide refreshments throughout the conference.

All speakers for their dedication to the future of mathematics and science education.

All exhibitors for their enthusiastic participation.

The **Huron Area Chamber of Commerce**, The **Huron Convention and Visitors Bureau** for a great deal of help and cooperation.

The Huron Events Center & Crossroads Hotel for their help and generous hospitality.

All the conference participants who make all of our efforts worthwhile and without whom there would be no conference.

A SPECIAL THANKS GOES TO **TIE** FOR HELPING US WITH PROJECTORS!

Next year's conference will be February 4, 5, & 6, 2016.

The 2015 Spring Conference is a joint venture of the South Dakota Science Teachers Association (SDSTA) and the South Dakota Council of Teachers of Mathematics (SDCTM)

Note: There is a common registration form for the conferences. One form is used to register for all activities, including SDSTA and SDCTM memberships.

ONE-day (SDCTM or SDSTA members) \$50 Non-members \$100 Students \$15 includes the Noon Luncheon for that day

TWO-day (SDCTM or SDSTA members) \$75 Non-members \$125 Students \$25 includes the Noon Luncheon for both days

The Friday Night Banquet is **NOT** included in the registration fee. A ticket for the banquet may be obtained at an additional cost of \$25.

Because of a limited printing budget, the program was available in advance at the SDCTM website [www.sdctm.org] or SDSTA web site [www.sdsta.org]. Printed programs were not mailed, but were distributed on site with the registration materials.

Are you planning to attend the NSTA Conference in Chicago in March? Consider sharing an activity with other teachers at Meet Me in the Middle 2:00-4:00 pm on Friday, March 13th. Register for the Share-a-Thon at: tinyurl.com/MMITM2015.

