

SDSTA

South Dakota Science Teaching Association

Fall Issue | Date: October 2, 2022

Science Educators,

School is officially in full swing! The weather is changing, the days are getting shorter, and it will be May before you know it! Hopefully the hustle and bustle of the new school year is starting to slow down. I encourage you to take some time to look back at your notes from last year and/or touch every page of a notebook from professional development that you took this summer. You have fresh ideas and new ways to reach students; sometimes all you need is a quick refresher. It is easy to get into a routine and do the same things that you did last year. Reflect on the notes you have, the growth you have made, and the new things you'd like to implement. Capitalize on the ah-ha's moments you had that are going to impact what you do with your students this year.

Here at SDSTA we are busy preparing for the 2023 SD STEM Ed Conference! To create the best conference experience for all attendees, we have worked hard to ensure that there are sessions for everyone. Sessions include focuses on elementary science, secondary science, administrators supporting science, pre-service teachers, engineering in science, and science in CTE classrooms. With the variety of topics, there's sure to be something for everyone and will create a great conference, full of collaboration!

This newsletter is FULL of upcoming events and highlights for the conference. I want to draw attention to a few.

~ [BREAKOUT SESSION PROPOSALS](#) are accepted

through the end of October! Think about things you do in your classroom that work well and would benefit teachers and students around the state.

~ [EARLY BIRD REGISTRATION](#) is open! Save money and register early! Better yet – get a group of teachers together from your district. Receive a discount and have a group of fellow teachers to reflect with after the conference (plus there are some great group sessions this year, ~with prizes~)!

~ [GRANTS ARE AVAILABLE](#) for Industrial Arts and Ag Teachers to attend the conference! Contact chad.ronish@bhsu.edu for more information!

~ FIRST YEAR TEACHERS should apply for the [Goehring/Vietz Leadership Scholarship](#) (conference registration covered). If you know first year teachers who would benefit from this professional development opportunity, please share the information.

~ SECOND – FIFTH YEAR TEACHERS should apply for the [Marian Filbrandt Memorial Scholarship](#). Again, if you know second through fifth year teachers who would benefit from this professional development opportunity, please share the information.

Ashley Armstrong
SDSTA President





SD STEM Ed

SD STEM Ed Conference

My Students Still Need Me

February 2, 3, & 4, 2023

MEET YOU AT THE **CROSSROADS EVENT CENTER, HURON, SOUTH DAKOTA!**

JOIN EDUCATORS FROM AROUND THE STATE TO COLLABORATE AND LEARN ABOUT SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS!

SESSION PROPOSALS



We are looking for STEM activities at all levels. Consider putting together a session to share with other educators from around the state. Each session will last about 50 minutes.

- Submit as many sessions as you want but you may not get acceptance of all.
- Both workshop or presentation styles are welcomed.
- Presenters must be registered or exhibiting at the conference.
- Proposals are due by October 31, 2022.
- You will receive confirmation of acceptance by December 1.
- Projectors will be supplied as needed, but not every type of cable connection is necessarily available. Presenters are welcome to bring their own devices. All other materials or technology is the responsibility of the presenter.

Submissions are taken online. 

If you have questions or concerns, please email your question to: James@SDSTA.org or Speaker@sdsta.org

**Battling Ignorance:
4 Words That Can
Change the World**

**Featuring Keynote Speaker
Dr. Stephen Pruitt**



Plan to attend the 2023 SD STEM Ed Conference Banquet Supper where Dr. Stephen Pruitt will include his keynote titled: "Battling Ignorance: 4 Words That Can Change the World."

Educators want to change the world. Educators are the ones that can. Join Dr. Pruitt, former science teacher and science/policy leader for a funny, yet current look at the role of teachers in changing the world. Dr. Pruitt will share his experiences, both personal and professional, to remind us of the power of teachers in his life and as we recover from COVID.

Dr. Pruitt has long been a member of NSTA and has worked for national importance of science education and support of teachers. His humorous storytelling and somewhat unique look at the world will engage you and inspire you as we all continue the fight against ignorance.

Dr. Astrid Northrup will join the 2023 SD STEM Ed Conference as the science featured speaker.

Dr. Northrup obtained her B.S. and M.S. in petroleum engineering, working in the petroleum industry for several years before completing her Ph.D. in science education. She found her home as Professor of Engineering Science and Mathematics at Northwest College in Powell, WY. She serves on the Wyoming Professional Teaching Standards Board, on the Wyoming NASA Space Grant Board of Directors, and as Regional Coordinator for MathCounts. She is a published author on topics of women in engineering and K-12 computer science initiatives. Plan to attend her exciting conference sessions that will help you bring engineering into your classroom.



Dr. Astrid Northrup

South Dakota Science Teaching Association Industrial Arts and Ag Grants

The South Dakota Science Teaching Association (SDSTA) invites applications from South Dakota teachers for the SDSTA Industrial Arts and Ag Grants. The award seeks to encourage professional growth and involvement of those K-12 educators who teach STEM in South Dakota through school Industrial Arts and Agriculture classroom.

Available Funds

SDSTA has a maximum of \$1,000 available for grants to assist in the cover of costs to attend the SD STEM ED Conference for 4 to 5 educators.

Purpose

One of the cornerstones of STEM education is the integration of a wide variety of disciplines to provide tools for students to explore real questions and phenomena. There is no better place to find relevant phenomena than our Agriculture and Industrial Arts programs where students often take on complex science and engineering projects to solve real world problems and challenges.

The **SDSTA Industrial Arts and Ag Grants** were established and funded by the South Dakota Well Drillers Association to create a bridge between all STEM educators across the curriculum and to explore partnerships that can provide opportunities for students to investigate real world and real life phenomena with depth and rigor that will help prepare them for 21st century careers. Career and Technical Education courses utilizing STEM foundations and concepts will provide an experience for our students that will support them in a diverse variety of continuing education and career opportunities. The Annual SD STEM Ed Conference offers an opportunity for all K-12 teachers of STEM to grow professionally by learning and sharing best practices. This is an opportunity to network and learn from each other and to connect with mentors and local, state, and national leaders.

Scope of Program

Funds may be used to assist with the cost of attending the Annual SD STEM Ed Conference.

- Grant to attend the Annual SD STEM Ed Conference
A minimum of \$100 and a maximum of \$250 may be requested to cover the costs of attending the conference. Acceptable costs include the cost of a substitute (not to exceed \$100), motel room (1 or 2 nights), the Friday Night Banquet, conference registration, and travel. If you receive this grant, you are required to share what you learned with your school district.

Eligibility

Applicants must be:

- K-12 teachers of STEM who have not previously attended the South Dakota STEM Ed Conference or it has been 5 years or greater since you last attended.
- K-12 teachers who teach STEM and/or intentionally integrate STEM into other content areas such as Industrial Arts and Agriculture Programs.

Application Submission Guidelines and Deadline

- **Applications are due by December 1.**
- Awardees will be notified by December 15.

More information and form can be found at the [SDSTA website](#).

Contact Chad Ronish at chad.ronish@bhsu.edu, if you have any questions about the grant.



Officer Submissions

POGIL - Alison Bowers, SDSTA President Elect

If you looked at a POGIL, you might think that it's a worksheet. It doesn't look particularly fancy, it doesn't unfold into an interesting shape like some graphic organizers do, and the one I've included here doesn't really even use a cute font. However, I am a big fan of POGIL and I'd like to share why.



POGIL stands for process oriented guided inquiry learning (POGIL.org). While it may seem like an everyday worksheet, POGILs, when used correctly, allow your students to follow a process that guides them to understanding a particular concept. Typically, POGILs will provide students with a basic model of something and then use carefully scaffolded questions to guide students' observations and allow them to notice patterns and derive understanding from their conversations. Flinn Scientific has written both a Chemistry and AP Chemistry e-book filled with POGILs on various topics, but there are many that are freely available, including this sample one on isotopes that I wrote!

My chemistry students do very well working with POGILs, but it didn't happen organically. The process has to be intentional and the teamwork has to be prioritized. When doing POGILs, the students' conversation is where deep understanding is developed. Therefore, I recommend these best POGIL practices:

- 1. Explain the value of the models and readings.** POGILs include models for students to look at because that is where the answers to these carefully crafted questions lie. Remind students that if they are engaging with the models and short readings, they will find the answers that they are looking for! This helps students feel confident in themselves and begin to see themselves as competent science learners.
- 2. Develop and adhere to classroom norms.** When students adhere to classroom norms, they know how they should treat each other, which leads to more effective group work. My personal favorite classroom norm is, "Everyone here has something to offer and everyone here has something to learn." This reminds students that their lived experiences are valuable and that they can make connections between chemistry and their real lives. It also reminds them that none of us knows everything, so none of us should be judgmental or rude when someone else has a different understanding than us.
- 3. Assign roles.** Assigning roles gives each student a task that they are in charge of. This helps with focus and ownership, but roles can also help disrupt power imbalances. Without roles, often the student who is most confident in the content can sometimes take over a conversation, while a student who is less confident simply nods along, but doesn't get to voice their ideas. In POGIL activities, I typically aim for groups of 3-4, with one person being assigned to each role: a leader who guides the conversation, a time keeper who ensures that they are within their allotted time, an equity manager who makes sure that each person gets to speak on each question, and a "CheerFlector." The role of CheerFlector was co-created by my 2021-2022 chemistry students. The person with this role has a two-part job of encouraging others and generating positivity while also reflecting on norm and role-following amongst the group.

After listening to the fantastic conversations that occur during a well-organized POGIL, I still recommend having a large-group debrief to ensure that all students got out of the activity what you needed them to. Often, POGILs will include stop signs where that check-in should occur and even a key icon where there is a key understanding that students should have reached. I highly recommend checking out POGIL.org to learn more and trying out your first POGIL soon!

Officer Submissions

SOUTH DAKOTA TEACHERS TAKE A ROAD TRIP TO THE CALIFORNIA COAST - Spencer Cody, SDSTA Treasurer

Spencer Cody, a secondary school teacher in Edmunds Central School District in South Dakota, was the recipient of an Ocean Exploration Education grant from NOAA Ocean Exploration and the National Marine Sanctuary Foundation designed to build capacity for ocean literacy and science, technology, engineering and mathematics workforce development. His proposal, titled 'The Great Plains Ocean Institute', enabled 16 middle and high school teachers, mostly from public and tribal schools in rural districts with significant Native American populations, the opportunity to participate in a professional development program. The teacher cohort developed marine science education modules to enhance ocean literacy and awareness of marine science career opportunities in students living over 1000 miles from the coast. The Institute culminated in a week-long road trip to national marine sanctuaries along the California coast on a school bus! Teachers used the wide array of field experiences in California to enhance and develop new ocean science lessons for their students. Follow along daily as Great Plains Ocean Institute teacher, Kaitlynn Krack, shares their week of adventures.

Day 1: Getting on the Road! Having made the trek from Hayti, South Dakota to Pierre, South Dakota, I boarded the bus with excitement! Traveling across the states of South Dakota and Wyoming made for a long day, but I saw things I had never had the opportunity to before.

We saw the Devil's Pass and Independence Rock. It was a great time to really get to know some of my fellow teachers from across the state. Rolling into Salt Lake City was a spectacular end to a long day on the bus.

Day 2: On the road to Monterey, California. Leaving Salt Lake City, we were able to see the massive Great Salt Lake and take in the sights of salt production. A quick stop at the Bonneville Salt Flats showed me that I really did not have good understanding of this unique land feature. The land here was soft and yet hard and probably one of the most interesting things I have ever encountered. Totally unique to the world!

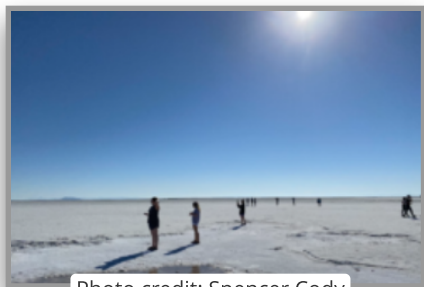


Photo credit: Spencer Cody

Day 3: Tide Pools and Aquariums! After the long bus ride, we finally made our way to Monterey, California. The first day we took in the sights along the shores of

[Monterey Bay National Marine Sanctuary](#),

including the Great Tide Pool in Pacific Grove, Ed Ricketts's Workshop, and the Monterey Bay Aquarium. The tide pool provided a glimpse at an ever-changing world. Animals and plants living within this habitat are

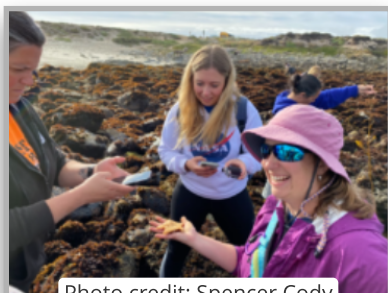


Photo credit: Spencer Cody

particularly adapted to an ever-changing home due

to rhythmic tidal movements. I was able to see first-hand the beauty in all the diversity of life in the tide pools. We were able to see starfish, many anemones, crabs, and clams all living in the shallow waters. We examined massive kelp and other algal life too. This was the first time during our trip that I really got a sense of how important the ocean is and how interconnected everything is.

After the tide pools we headed on to explore Ed Ricketts's workplace—[The Pacific Biological Laboratories Museum](#). Ed was the inspiration for Doc Ricketts in the John Steinbeck novels *Cannery Row* and *Sea of Cortez*. This man was responsible for collecting many of the samples sent to be studied at universities around the world. He is also credited with starting a theory of ecology that all things are interconnected and should be studied as such.

After learning about the fascinating history of Ed Ricketts, we moved on to the [Monterey Bay Aquarium](#). This was amazing! The care and attention this

organization has put into their aquarium really shows. It is a

spectacular experience from start to finish. Read more about the trip [here](#) and [here](#).

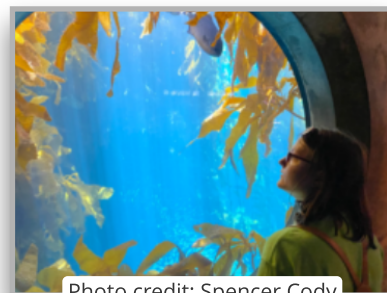


Photo credit: Spencer Cody



Officer Submissions

POSITIVE Physics and Chemistry - Tiffany Kroeger, SDSTA Secretary



Positive Physics now has a Chemistry Course! They are also Beta testing an Engineering course as well. No more trying to create practice problem worksheets and the dreaded grading of said worksheets. Let Positive Physics do it for you. Check out the website and the open units to see if it will work for your classroom. Jack (the creator) is super helpful whenever you have questions or ideas for improvement. It has been a big game changer for my physics course!



Save the date! The Annual SD STEM Ed Professional Development Conference will be held in Huron February 2-4, 2023. This annual conference is hosted by SDCTM and SDSTA.

Sessions presented by South Dakota's best (that's you) comprise a very large part of the success of this conference. If you have presented before, thank you. We hope that you will present again for the 2032 event. If you have not presented before, please consider it this year. Let others benefit from your ideas and experiences. You can present with partner(s) if you are hesitant to go it alone the first time. Presenting a session is a fun and rewarding experience. You can be certain that you will have a friendly audience!

Breakout Session forms are now available. Forms will be submitted electronically. Follow the links on the [conference page](#). **The submission window closes on Oct. 31, 2022.** We can't wait to see what you all have in mind for your sessions!

Mysterious Tadpoles - Jeff Peterson

Bait stores are few and far between in the glacial lakes area and you can legally catch and transport specific baits such as sunfish, salamanders, and frogs. (see SDGFP regulations for details). I don't use these species for bait myself, but the kids and I love to catch and observe. This summer my son Leighton and I managed to catch some tadpoles. Initially I thought they were bullheads, then leopard frog tadpoles, then concluded mud puppies. I decided to house a couple for my Biology class, and to my surprise by the end of the summer one had morphed into a tiger salamander. The neighborhood kids were so intrigued that I decided to use my [Ambitious Science Teaching](#) training to develop a lesson for my Biology kids. During this 3 week activity one of the class salamanders morphed from the late tadpole stage to the adult stage! Students investigated, illustrated, modeled, constructed and revised explanations. Topics covered included diffusion, mitosis, apoptosis, meiosis, differentiation, enzymes, and DNA . HS-LS-3, HS-LS-4, HS-LS-6.

(See next page for student worksheet)

Draft of Assessment -



Student Work Examples -

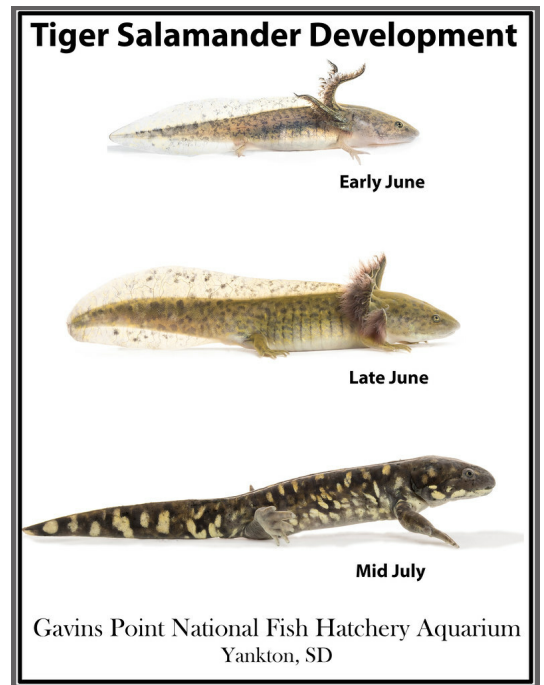


Mysterious Tadpoles

Name _____ Period _____

How is this possible? What is happening? Use the sentence starters to express your thoughts on the amazing phenomena of metamorphosis.

1. I notice that.....
2. I wonder if.....
3. Changes are occurring in.....
4. The reason for this happening might include.....
5. Things happening that I can't see....
6. Why.....
7. The salamander made of.....
8. Growth....
9. Energy.....
10. Factors that are directing/driving change in the stages might include....
11. I want to learn more about...



Part 2: Use depictions, arrows, labeling, and short descriptions to show your ideas. Remember, models show those interactions, or things we can't see because they are invisible, too small, or too big. Try to fill this entire page. Make sure to include the 3 stages. Early June-Late June, Mid July

Nature Notes

~ Sharing info pertaining to science education in South Dakota



Fall 2022

Local and Relevant Current Science

Any grade level and science course have a place for sharing natural events and news with students that are local and relevant to them. If something you choose does not correlate with your current topic, use it to reinforce students' skills with the [Science and Engineering Practices](#).

My favorite example of this is to keep a dissecting stereoscope available with objects to view. Items currently being viewed in the classroom are a dead moth, moss, a snake shed, and a pebble. Students are always bringing new items exciting to them to investigate under magnification.



Side Note: Want your students looking up? Model proper smartphone use with a sky map app.

Celebrating Seasons

Mark your planning calendars to celebrate **Winter Solstice and Vernal Equinox** this school year!

What a better way to model seasons, sunrise & sunset locations on the horizon, and offering the explanation to why it becomes dark so soon in the winter. **Every science classroom needs a globe**, and this is one reason why! Paired with a shadeless lamp in the center of the room will offer an interactive demo to remember and revisit throughout the year!

Side Note: [Remember Steve's Dissection 101 videos as you plan and share with colleagues!](#)

Cell Biology with Nat Geo!

National Geographic's Resource Library is indeed something to browse! Items for a variety of grades are available and I'm looking at the [Cell Biology](#) section. Jigsawing an article and asking questions about a video will be occurring in my classroom this next month! I'm excited to differentiate my students' activities and modes of receiving information.



For more information, please contact Jennifer Fowler,
DrRangerJen@gmail.com

Grants

Kelly Lane Earth and Space Science Grant

\$10,000 total for two awards:

For SD science and math teachers only- Science and math teachers at public, private, or tribal schools in South Dakota may now apply for the **17th annual (2023) “Kelly Lane Earth and Space Science Grant”** provided by the NASA South Dakota Space Grant Consortium. **Up to two \$5,000 grants** will be awarded to selected teachers. The award seeks to improve STEM education in the state through the support of innovative programs in precollege education. Preference will be given to applications focusing on topics pertaining to space science, earth science, and/or the use of geospatial technology. Applications must be received by **Jan. 5, 2023**. Details at:

<http://sdspacegrant.sdsmt.edu/KellyLaneTeacherGrant.htm>

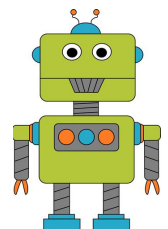


Daniel Swets Robotics Materials Award

\$13,000 total:

For SD science and math teachers and informal educators- The NASA South Dakota Space Grant Consortium invites applications for the **12th annual (2023) “Daniel Swets Robotics Materials Award”**. The award is open to South Dakota teachers/educators who either: A) have taken robotics training or plan to take robotics training and want to begin new robotics programs and teams, or B) have sustained robotics programs/curriculum in their classrooms or at their schools and are in need of additional support due to growth in the number of student participants or aging robotics materials. Applications must be received by **Jan. 5, 2023**. Details at:

<http://sdspacegrant.sdsmt.edu/DanSwetsRoboticsAward.htm>



Join the StellarXplorers National Space Design Competition

Each year, StellarXplorers hosts a National Space Design Competition, which challenges teams of students across the country to solve real-world orbit determination, satellite component planning, and launch vehicle selection scenarios presented in a series of online rounds. Students have the opportunity to solve real-world space design challenges, and the best part is **no prior experience is required** for participation. We provide all the necessary training and software resources needed for success. We also have a technical mentor program that allows industry professionals to volunteer their time and help teams prepare.

Team registrations for the ninth season of competition (StellarXplorers IX) are being accepted through October 17, 2022. Competition rounds are scheduled to begin in late October, and every team is guaranteed three rounds of participation. If you're interested in learning more (schedule, cost, team composition, registration process, etc.), please visit our website:



STELLAR
XPLORES
SPACE STEM PROGRAM



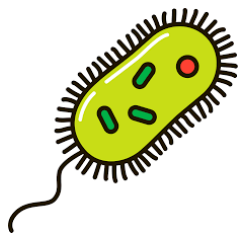
Some Great Science Jokes - submitted by Sabrina Henriksen

Why did the germ cross the microscope?

To get to the other slide.

What do you call an educated tube?

A graduated cylinder.



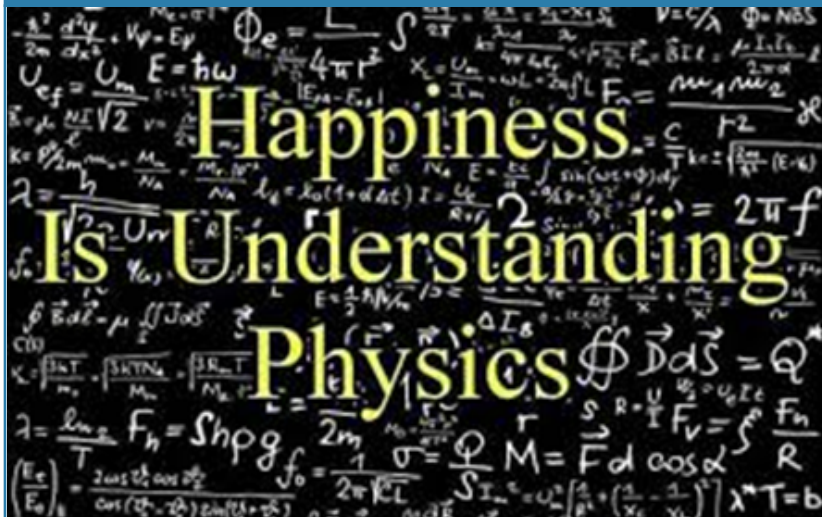
What does one tectonic plate say when it bumps into another?

"Sorry. My fault!"

What kind of dog does a scientist have?

A Lab.

Multi Section American Association of Physics Teachers meeting on Zoom



Saturday, April 15, 2023

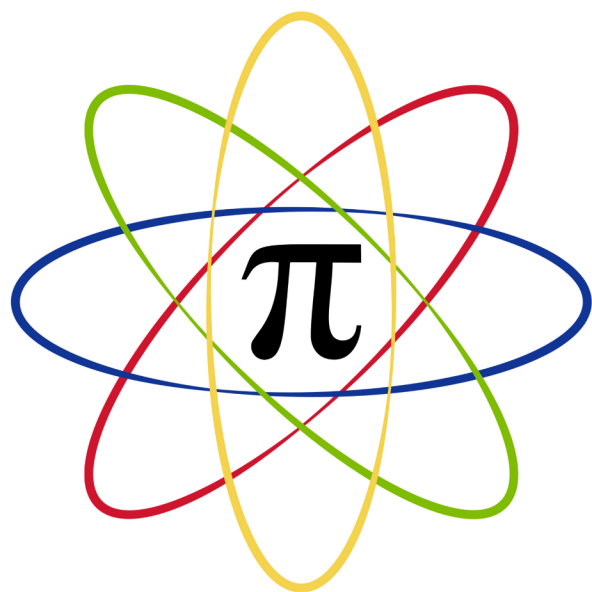
Contact Larry Browning -
Larry.Browning@sdsta.edu -
if you have questions or suggestions

Sanford PROMISE is committed to making sure all students have authentic science experiences in school. The **PROMISE Equipment Lending Library** has lab equipment, reagents, and full lesson plans available. Check out our catalog to get started.



Stay up to date by subscribing to our newsletter.

promise.sanfordhealth.org | @SanfordPROMISE



SD STEM Ed

Proposal deadline is
October 31

SD STEM Ed Conference
February 2, 3, & 4, 2023
Huron, SD

INTERESTED IN PRESENTING?



WE'D LOVE TO HEAR YOUR IDEAS!

SEE THIS **FORM** TO
SUBMIT A SESSION PROPOSAL

Professional Development



University of South Dakota QuarkNet Mini-Workshop 2022

When: Saturday, October 15, 2022

1:00 – 6:00 PM (includes pizza/discussion @ 5:00 PM)

plus optional public lecture from 6:30 – 8:30 PM

Where: University of South Dakota – Sioux Falls

4801 North Career Avenue, Sioux Falls

Stipend: \$100

Jing Liu, associate professor of physics at the University of South Dakota, is working with QuarkNet national staff to open a new QuarkNet center at the University of South Dakota!

Learn more about QuarkNet, how to become involved, and sample some of QuarkNet classroom activities at this introductory mini-workshop. You can see the full agenda here:

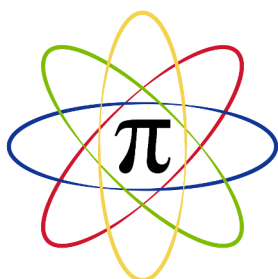
<https://tinyurl.com/prairieqn> If interested in attending: Please register using the form you can access here (<https://tinyurl.com/SDQNform22>).



February

2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				



Mark your calendar!

SD STEM Ed Conference 2023

February 2nd, 3rd, & 4th

Resources



Gizmos

Districts that use the State Assessment system have access to Gizmos.

A special account called TE-Science is needed within the State Assessment system to link you to Gizmos.

The directions to access Gizmos:



After having your TE-Science account set-up, create an account in Gizmos to link to the TE-Science account in the State Assessment system. Gizmos is under "Assessments and Resources", toward the bottom, at the following link:



NSTA Resources

If you visit <https://www.nsta.org/free-account>, anyone can sign up and have access to many of the free resources offered by NSTA, including some great webinars.



Also, if webinars of of specific interest, they are listed at <https://www.nsta.org/webseminars>.



Districts that use the State Assessment system have access to TUVA.

A special account called TE-Science is needed within the State Assessment system to link you to TUVA. The directions to access TUVA:



After having your TE-Science account set-up, create an account in TUVA to link to the TE-Science account in the State Assessment system. TUVA is under "Assessments and Resources", toward the bottom, at the following link:



Sanford Underground Research Facility Resources and Opportunities

As the school year kicks off, consider bringing the Sanford Underground Research Facility into your school or classroom. The Education and Outreach staff have developed an array of original K-12 education resources—including school presentations, phenomena-based curriculum units, and field trip experiences that introduce your students to the cutting-edge science and engineering taking place at the Sanford Underground Research Facility in Lead, South Dakota.

[Bring the Sanford Underground Research Facility into your school or classroom!](#)



Our presentations are available to schools across South Dakota, free of charge. These are short, engaging presentations suitable for a large group assembly or individual classroom groups. There are options for virtual or face to face formats!

[Borrow a curriculum module to use with students!](#)

Sanford Lab's innovative curriculum modules highlight the science of Sanford Lab and are designed to inspire and challenge every student, from kindergarten through high school. Modules are aligned to South Dakota science standards and include almost everything you need to teach the unit.

[Explore SURF!](#)

Please keep in mind that opportunities to visit the lab are limited and we only have a select few dates in September and October. If you have questions or would like to discuss field trip options send us an email and one of our team members will be in touch!

Further details and scheduling instructions are available at <http://www.sanfordlab.org/educators>

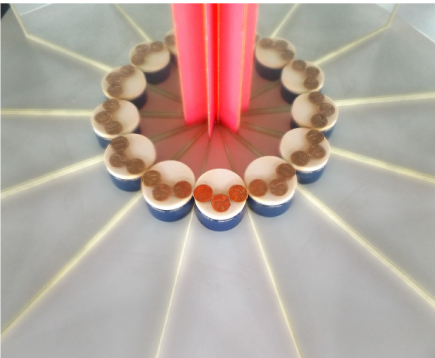
Unsure where to begin? We're happy to make recommendations based upon your grade level and subject matter content. Feel free to reach out to us at SURFEducation@bhsu.com and we will do our best to assist in

SD AAPT HS Photo Contest

Photo Contest Details

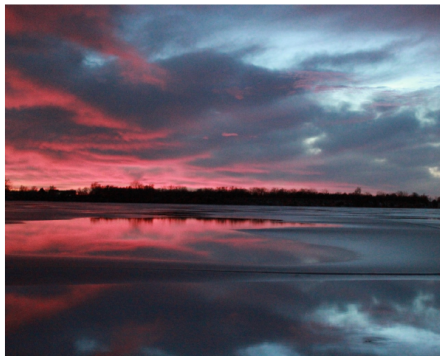


The contest is open to high school students in grades 9-12 (or equivalent international grade level). **Students must print out, sign, and return the Contest Rules & Entry Agreement, [HTML](#) version or [WORD](#) version, when submitting their entry. Failure to submit this form will invalidate the contest entry.** (Photo, description & entry agreement may be email to James@SDSTA.org) Entries are limited to 6 per teacher per school each year. Photo and description must be the student's original work.



Categories Photos may be in one of two categories described below, and will be judged on the quality of the photo and the accuracy of the physics in the explanation that accompanies the photograph. Students may submit an entry in one (not both) of two categories:

- Natural — any situation that you saw occurring and photographed
- Contrived — a situation where the objects were manipulated to produce the phenomena photographed



Prizes SD-AAPT will award cash prizes & certificates. (Usually given to the top three places only.)

Judging The photos entered will be displayed and judged during the annual Winter Meeting at the SD Stem Ed (or Joint Science & Math Conference) in Huron in February. If more than 100 entries are received, a group of volunteer

physics teachers will determine the 100 best entries to be displayed & judged in Huron. Failure to abide by all rules will result in disqualification.

Deadline This year's entry deadline is January 1.

Submissions Send submissions to: James Stearns
15 North Fifth Street
Groton, SD 57445-2024

Questions Please email James Stearns at James@SDSTA.org
<https://sdsta.k12.sd.us/SDAAPT/PhotoContest.htm> or <https://sdsta.k12.sd.us/SDAAPT/sdaapt.doc>

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UPCOMING EVENTS

October 31

Speaker Proposals Due

for the SD STEM Ed Conference

December 12

Newsletter Submissions due

Any member may submit lessons, ideas, links...

December 15

Early Bird Registration Ends

February 2-4, 2023

SD STEM Ed Conference

Huron, SD

The SDSTA Newsletter is published four times a year and is e-mailed to 67 paid members. The membership year in SDSTA starts with the February conference and ends the thirty-first of January. Dues are due at each conference for member discount rates. SDSTA members may give a one year free membership to their student teachers by submitting the student teacher's name & address. One paid conference registration may be given to the SDSTA member that has made a submission to the newsletter (or given a presentation at the conference) and has referred at least three new members. Members may also earn a 10% finder's fee for any science related ads placed in the newsletter. Our rates are \$50 per page (or 3 to 4 quarter pages).



Mail to:

Spencer Cody, SDSTA Treasurer
105 1st Ave PO box 317
Roscoe, SD 57471

Become a Member!

\$5 Student, K-6, Retired **\$20** All Others

Name _____ Home Phone _____

Home Address _____ E-mail _____

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Referred by _____