

A Moment of Science from ISTA

Idaho Science Teaching Association President's Newsletter

November 2023



A Word (or two) From Your ISTA President!

Fostering grit in science students is essential for their long-term success, as it helps them overcome challenges, persevere through difficulties, and ultimately achieve their goals in the field of science. Grit

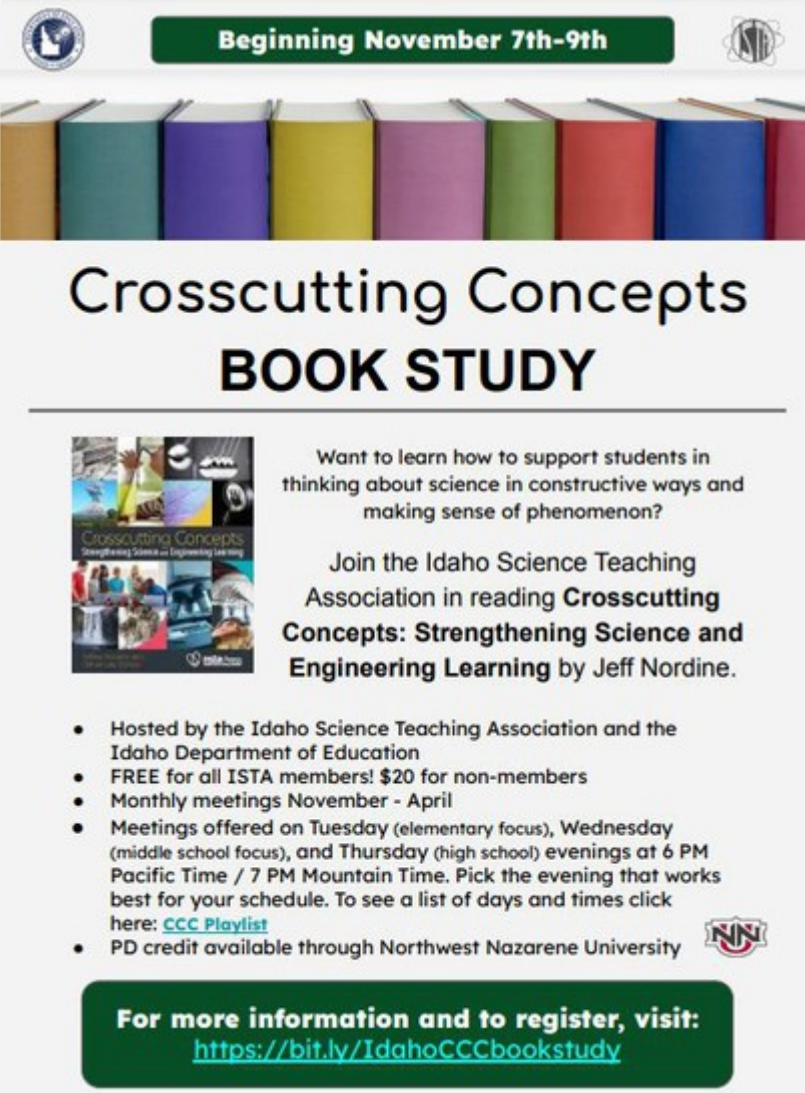
is the combination of passion and perseverance, and it can be nurtured and developed in students with the right strategies. Here are some tips for fostering grit in science students:

1. **Set High Expectations:** Establish high, yet attainable, expectations for your students. Encourage them to strive for excellence and challenge themselves to reach their full potential in science.
2. **Emphasize the Growth Mindset:** Teach students about the concept of a growth mindset, where they understand that intelligence and abilities can be developed with effort and practice. This mindset fosters resilience and perseverance in the face of setbacks.
3. **Provide Autonomy:** Give students some control over their learning by allowing them to choose research projects, experiments, or areas of interest within the science field. Autonomy can increase motivation and perseverance.
4. **Encourage Passion:** Help students discover their passion for science by exposing them to a variety of topics, experiments, and real-world applications. When students are passionate about a subject, they are more likely to persist in their studies.
5. **Supportive Environment:** Create a supportive and safe learning environment where students feel comfortable taking risks and making mistakes. Encourage a growth-oriented classroom culture that celebrates effort and resilience.
6. **Teach Goal Setting:** Help students set clear, achievable goals for their scientific endeavors. Break down larger goals into smaller, manageable steps, and celebrate their progress along the way.
7. **Teach Time Management:** Develop time management and organization skills in students to help them effectively balance their scientific studies with other responsibilities and activities.
8. **Provide Constructive Feedback:** Offer specific, constructive feedback that focuses on effort, strategies, and improvement. Encourage students to see setbacks and failures as opportunities for learning and growth.
9. **Mentorship:** Connect students with mentors in the field of science who can provide guidance, share their experiences, and inspire grit through their own stories of persistence.
10. **Resilience Building:** Engage students in activities that challenge them to develop resilience, such as problem-solving exercises, real-world projects, or participation in science competitions.
11. **Real-World Applications:** Show students the practical applications of their scientific knowledge and how it can make a difference in the world. Connecting classroom learning to real-life problems can motivate them to persevere.
12. **Celebrate Successes:** Recognize and celebrate students' achievements, no matter how small. Acknowledge their hard work and perseverance as they make progress in their scientific pursuits.
13. **Encourage Reflection:** Have students reflect on their experiences, including their challenges and how they overcame them. Encourage them to learn from their mistakes and continually adapt their strategies.
14. **Be a Role Model:** Demonstrate grit as an educator by sharing your own experiences of overcoming

challenges and setbacks in the field of science. Your example can inspire students to persevere.

Fostering grit in science students takes time and effort, but it is a valuable skill that will serve them well throughout their scientific careers. It helps them not only succeed academically but also contribute to the advancement of science and make a positive impact on the world.

Warm regards,
Tanya Elmer
President
Idaho Science Teachers Association




The graphic features a row of colorful books at the top. Below them, the title "Crosscutting Concepts BOOK STUDY" is prominently displayed. To the left is a small image of the book cover. To the right, text describes the study's purpose and details. A green button at the bottom provides a registration link.

Beginning November 7th-9th

Crosscutting Concepts BOOK STUDY

Want to learn how to support students in thinking about science in constructive ways and making sense of phenomenon?

Join the Idaho Science Teaching Association in reading **Crosscutting Concepts: Strengthening Science and Engineering Learning** by Jeff Nordine.

- Hosted by the Idaho Science Teaching Association and the Idaho Department of Education
- FREE for all ISTA members! \$20 for non-members
- Monthly meetings November - April
- Meetings offered on Tuesday (elementary focus), Wednesday (middle school focus), and Thursday (high school) evenings at 6 PM Pacific Time / 7 PM Mountain Time. Pick the evening that works best for your schedule. To see a list of days and times click here: [CCC Playlist](#)
- PD credit available through Northwest Nazarene University 

For more information and to register, visit:
<https://bit.ly/IdahoCCCbookstudy>

Cross Cutting Concepts: A Book Study

One of our goals in our strategic plan involves increasing our professional development opportunities for members in our state. We have formed a partnership with the State Department of Education to provide a free book from the NSTA Press on how to use cross cutting concepts and sense making to increase student understanding in a science classroom to our members. All of you who attended our fall conference have already received your copy of the book. Consider joining us this fall for a book study and earn some PD credit from CSI for being a part of conversations with other science educators from our state!

For more information on the book study Playlist, click [HERE](#).

To register for the book study, click [HERE](#).



Dr. Becca Wills Outstanding Science Educator Award

We would like to congratulate the winners for this year's Dr. Becca Wills Outstanding Educator Award. The ISTA is proud to partner with a financial sponsor to be able to put money into the hands of outstanding Idaho science educators. These educators were chosen because the person nominating them described their commitment to hands-on science education and their willingness to integrate real-world learning into their classroom setting.

K-6: Jessica Young, Sage Valley Middle School, Vallivue School District

7-12: Emily Sarha, Post Falls High School, Post Falls School District

The award comes in the form of a \$1000 cash prize to use in support of their science teaching.

A huge thanks to our anonymous donor who has made this award possible. His life was impacted by an awesome science teacher named Dr. Becca Wills from Wendell and he wants to pay that forward by funding this award in her name. His biggest request was that we put the money directly into the hands of teachers to do good things and we would like to make sure that he knows how much we appreciate him.



Nature + Design = Transformative STEM Learning

The [Youth Design Challenge](#) (YDC) is a free, hands-on, project-based learning experience that provides classroom and informal educators with a new framework to introduce biomimicry and an interdisciplinary approach to science and environmental literacy. Working in teams with an adult coach, students explore the wonders of the natural world and apply what they learn to create innovations that support a healthier planet.

Registration Opens: September 2023

Registration Deadline: April 2024

Submission Deadline: April 2024 (5pm, Pacific Time)

Awards: May 2024

Virtual Biomes



Explore Biomes in Virtual Reality

While it is fun to visit and explore each biome in person, it is not likely that you can get to all of them. So Ask A Biologist has gathered [some 360 views of the different biomes](#) that you can use to explore and learn about each biome. It is like having your own private window looking into these amazing places.

There are three ways to view each biome. You can use a computer and click and drag to look around. You can also use your smart phone like an iPhone or Android with their gyroscope enabled function to look into each biome. In this mode you can move the phone around as you to look into the biome. Finally, if you have Virtual Reality (VR) goggles like Google Cardboard, you can immerse yourself into each biome. Be sure to stand up and turn and look around to view all of the space.

There's still time!



Expert or beginner...
Code for Congress!

**SUBMIT
YOUR APP
BY NOV. 1ST**

JOIN US AT
www.CongressionalAppChallenge.us

Congressional App Challenge

Calling all Idaho middle and high school students! Do you have an idea for an app that you just can't get out of your head? There's still time! The [Congressional App Challenge](http://www.CongressionalAppChallenge.us) is the perfect place to get started. No matter the level of your coding experience, you have the chance to make a winning app and represent Idaho on a national level.

Don't miss this chance to Code for Congress while building your college resume - register today!



The Wonder of Science

Want to see more? Be sure to interact with posts or say from time to time! New to NGSS?? I can't say enough great things about [The Wonder of Science website!](#) If you're struggling to understand the NGSS and/or are looking for ideas for lessons, consider watching the Performance Expectations videos for clarification. They are very short and organized by grade level and topic! Included in the video clip are:

- background info for the teachers
- connections to elementary, middle, & high school
- what teachers should focus on and ideas for phenomena

Be sure to also check out their site for posters, graphic organizers, inquiry process, assessment ideas, phenomena list, and many other NGSS resources for FREE!

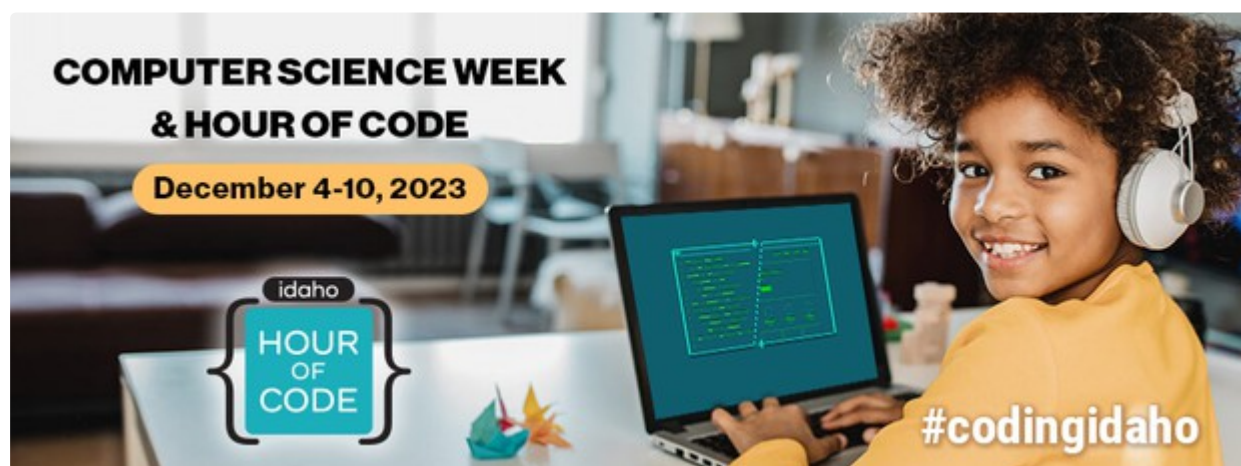


The Bird and The Tree

Hey teachers!

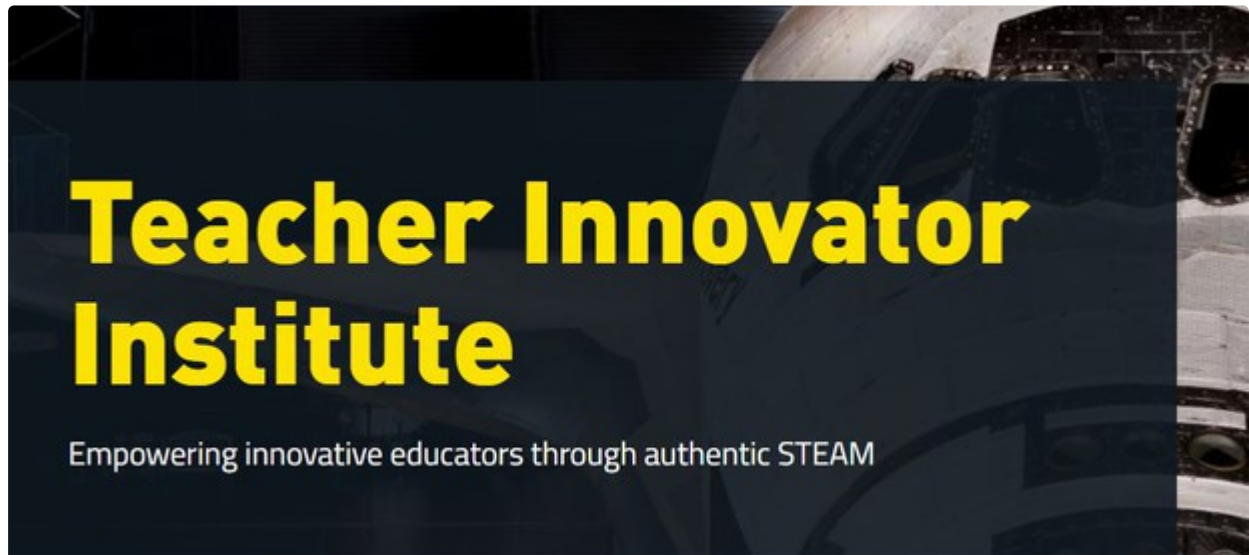
Yellowstone has a new movie about science and the mountain ecosystem... [The Bird and The Tree...](#) check it out!

Whitebark pine trees grow in some of the steepest, harshest environments in North America. They thrive and support a diversity of life in places where most trees can't grow. How these trees have come to define an entire mountain ecosystem is the result of an ancient relationship with the bird that plants their seeds- the Clark's Nutcracker. Conceived as a visitor center film for Yellowstone National Park, The Bird and The Tree tells the story of one of nature's greatest duos and reveals how two very different organisms have co-evolved to live intertwined lives that are at the center of a remarkable web of life in the mountains.



Hour of Code

Save the date! Plan an Hour of Code event for your classroom or volunteer to help students learn a love of computer science this year. Learn more and sign up today at the Idaho STEM Action Center's



National Air and Space Museum's Teacher Innovator Institute

Applications are now open for the National Air and Space Museum's [Teacher Innovator Institute!](#) Spend two weeks in Washington, DC, working with education and STEAM experts to explore the connections between informal STEAM education and authentic learning. Teachers will remain with the program for two summers, returning to Washington, DC, in year two to reconnect, develop their practice, and mentor the newest class of Teacher Innovators. There is no cost for teachers to participate and most expenses are paid by the museum.

High School Applications close Nov 6



[The NCWIT Aspirations in Computing High School Award](#) honors 9th-12th grade women, genderqueer, or non-binary students for their computing-related achievements and interests, and encourages them to pursue their passions.

Aspirations in Computing Award

[Apply now](#) for the Aspirations in Computing Award!

NCWIT's Aspirations in Computing Awards recognize female students and the educators who support them for their efforts in computer science. Awardees receive (depending on level of award) prizes, cash, membership in the AIC community, and public recognition.

W.IN is proud to be the Idaho AIC Affiliate.

ward recipients are selected based on their aptitude and aspirations in technology and computing, as demonstrated by their computing experience, computing-related activities, leadership experience, tenacity in the face of barriers to access, and future plans.

Awardees receive (depending on level of award) prizes, \$\$\$ cash \$\$\$, membership in the AIC community, and public recognition.

This is a great recognition to have on college applications and we encourage applying even if you are just starting out in computer science!

Important dates

Applications close: Nov 6

Educator endorsement & parent approval due: Nov 16

Awardees are selected and notified in February.

Awardees are honored in late March / early April.



Introducing our newest presentation in partnership with the Environmental Working Group

OUR CARBON FOOTPRINT

According to **The Environmental Working Group**, by 2050, greenhouse gas emissions from animals and the production of their feed could easily account for one-third of U.S. emissions.

Our classroom-designed presentation includes:

- 18 MINUTE VIDEO
- DISCUSSION PROMPTS
- QUIZZES AND LESSON PLANS
- GUIDED NOTES

Explore our educational presentations at **ECPROGRAM.ORG**

Our Carbon Footprint Resources

Access presentations for your students about the environment and other educational topics at the [EC Program website](https://ecprogram.org).

Celebrate Bat Week with Project WILD!

Bat Blitz Online:
A Mini Course for Educators

ASSOCIATION of FISH & WILDLIFE AGENCIES
Project WILD

ee360+

BAT WEEK

- October 24-December 31, 2023
- FREE educator professional development
- Self-paced
- Two-hour commitment
- Ideal for teachers of grades 3-8
- Online access to Project WILD activity "Bat Blitz"
- Certificate of Completion provided

SIGN UP at www.projectWILD.org
or scan the QR code below



Project WILD brings standards-based, cross-curricular activities that incorporate topics about wildlife and environmental stewardship into school curriculum and out-of-school programming.

Bat Blitz Online

Celebrate [#batweek](https://twitter.com/batweek) with a free [#ProjectWild](https://www.projectwild.org) mini-course called Bat Blitz! Open until December 31. Sign up at the [Project Wild website!](https://www.projectwild.org)



Movement And Mutualism: Modeling Ecosystem Interactions

Even though traditional dances and teachings are less common today, it is important to acknowledge them and continue to learn from their teachings. In this STEAM learning experience, students will learn the science behind the relationships organisms have within ecosystems and create representations of them through culturally-relevant dance, honoring the past and carrying the teachings into the future.

Check out this [great article from Science Friday](#) for more information on bringing this experience to your classroom!

The poster features the Boise State University logo (a blue 'B') and the text 'BOISE STATE UNIVERSITY' at the top left. The background is a colorful, abstract illustration of a person in a space suit floating in space, surrounded by planets and a green rocket ship. The main title 'STEM TEACHING FELLOWSHIP' is written in large, bold, white letters on an orange background. Below the title, there is a blue box with the text 'Fully Paid Tuition + Salary Supplement'. The bottom section of the poster is orange and contains the heading 'Eligibility Requirements' followed by a list of five bullet points.

STEM TEACHING FELLOWSHIP

Recruiting now for a community-based cohort of Master's in Teaching candidates dedicated to high quality STEM teaching in Idaho's rural-serving schools.

Fully Paid Tuition + Salary Supplement

Eligibility Requirements

- » Primary residence in southwest Idaho (Regions 3 & 4)
- » STEM-related bachelor's degree
- » Not previously certified to teach in Idaho
- » Desire to teach in Grades 6-12 rural-serving schools
- » Commitment to pursue the program full-time

STEM Teaching Fellowship

Boise State University is offering a STEM Teaching Fellowship for a community-based cohort of Master's in Teaching candidates.

Candidates must be dedicated to high-quality STEM teaching in Idaho's rural-serving schools.

Program features:

- » Initial teacher certificate & Master in Teaching degree
- » FULLY paid tuition and fees -AND- a stipend for living expenses
- » \$10,000/year salary supplement for first 4 years teaching
- » and more!

Interested in participating? Complete this form: <https://ow.lv/hObX500CE9>

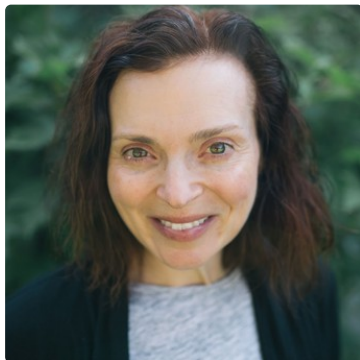
Cohort starts May 2024.

Please share this opportunity with STEM-focused candidates in your district!

ISTA Board Members 2023-2024

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Tanya Elmer



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2023-2025



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Germanium
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51
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75
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51
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