



HAPPY NEW YEAR!

Going 3D with GRC Science Investigations with National Presenter Brett Moulding

[REGISTRATION OPENS HERE Tuesday, January 4th!](#)

Going 3D with GRC Science Investigations with National Presenter Brett Moulding

6-12 Educators



March 11 & 12

K-5 Educators



March 25 & 26

**REGISTRATION
NOW OPEN!**

Science Professional Learning Session Details:

- 2 days- Friday evening virtual session & Saturday in-person session
- Additional opportunities will be offered to develop lessons aligned to the Arizona Science Standards w/Brett Moulding
- Engage in 3-dimensional science investigations
- Materials & texts provide by SRP & Brett Moulding
- PD clock hours provided



Sponsored by ADE & SRP



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6-12 Educators - March 11th & 12th | K-5 Educators March 25th & 26th

***NEW* Online Self-Paced Course Available for PD Credit!**

[Click here to register for this course!](#)

▼ Recorded Webinars

Webinars

Each recorded webinar has a link to the video of the live webinar session, a PDF of the presentation slides, and the Resource Page used during the webinar. Not sure which webinar to watch first? Use [this guide](#) to help you decide which recorded webinars might work for you!

Pathway #1- New to 3-Dimensional Instruction? START HERE! Introduction to the AZSS & 3-Dimensional Instruction

- [A Look at Arizona's New Science Standards Video | PDF | Resource Page | *NEW* Online Course for PD Credit](#)

K-5 Educators- Deeper Dive for K-5 - Apply to be a part of a collaborative team to construct a science unit for AZ Science Standards



Do you want to bring in more science opportunities to your K-5 classroom and expose yourself to integrating science into what you do? We know that all elementary educators are also science educators. Be part of this unique experience! **Arizona Science Teachers Association (ASTA) in partnership with Arizona Department of Education (ADE) is accepting team applications to build a K-5 Deeper Dive: Constructing 3-Dimensional Units Program.**

Educators will work to build a relevant science unit with multiple 5E lessons using the Gather, Reason, and Communicate similar to [#Going3Dw/GRC](#) through collaboration with other educators on your team. To find out more information click [here](#). Team applications are currently open and will close **March 4, 2022**. To learn more about this opportunity and the application, click [here](#). This program is financially supported by APS Foundation and the Burton Family Foundation. **Please contact deeper_dive@azsta.org for assistance if needed.** [Click here to find all the Middle School science units that were developed in the 6-8th grade Deeper Dive!](#)

PAEMST AWARDS

ADE Announcements

PAEMST K-6 Awards

The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) are the nation's highest honors for teachers of mathematics and science (including computer science). Nominations and applications open for mathematics and science teacher grades K-6 are open. To submit a nomination, you only need the teacher's contact information. If you know more than one teacher deserving this award, you may submit more than one nomination. Teachers may also initiate the application process themselves at www.paemst.org.

Nominate
This year's awards will honor science, technology, engineering, mathematics, and/or computer science teachers working in grades K-6. Nominations close on January 7, 2022.

Apply
Applications for K-6th grade teachers are now open. Applications must be completed by February 6, 2022.

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Administrators Webinar & Toolkit

Arizona Department of Education

Guidance for Administrators: What to Look For in a 3-Dimensional Science Classroom

Rebecca Garelli
Science & STEM Specialist
Rebecca.Garelli@azed.gov

Sarah Sleasman
Science & STEM Director
Sarah.Sleasman@azed.gov

NEW [Guidance for Administrators- What to Look For in a 3-Dimensional Science Classroom PD Video | PDF | Resource Page](#) - A webinar for Administrators to help with supporting educators with the transition to the 2018 Science Standards. Additionally, we have an Administrators Toolkit full of resources to help administrators support science educators. Click on our [main science website](#) and scroll down to "Administrators Toolkit."

Webinars on the go! Watch a webinar on YOUR TIME!

PROFESSIONAL DEVELOPMENT VIDEOS

- ▶ Recorded Webinars
- ▶ Science Standards Videos
- ▶ Timeline and Resources

ADE is pleased to announce that we have many newly recorded webinars available for use on our main Science Standards website located [here](#). Scroll down and click on the drop-down menu titled "Recorded Webinars." The webinars are now "packaged" on the website and include the video of the webinar, a PDF of the presentation, and

a resource page with links to all resources used during the live webinar! Are you new to 3-dimensional instruction and don't know what webinar to start with? Or are you ready for instructional practices to support 3-dimensional teaching and learning? ADE has a [Webinar Pathways for 3-Dimensional Science Instruction](#).

Here are the new recorded webinar packages (click links):

- ***Updated 2/21*** [A Look At Arizona's New Science Standards Video | Pdf | Resource Page](#)
- [5-E Instructional Model And Science Notebooks Video | Pdf | Resource Page](#)

- ***Updated 3/31*** [Phenomenon-Based 3-Dimensional Instruction Video | Pdf | Resource Page](#)
- [Science And Engineering Practices: 1 Of The 3 Dimensions Of The Az Science Standards Video | Pdf | Resource Page](#)
- [Crosscutting Concepts: 1 Of The 3 Dimensions Of The Az Science Standards Video | Pdf | Resource Page](#)
- [Constructing Explanations And Arguing From Evidence Using Claims, Evidence, Reasoning \(Cer\) Video | Pdf | Resource Page](#)
- [Core Ideas: 1 Of The 3 Dimensions Of The Az Science Standards Video | Pdf | Resource Page](#)
- [What Secondary Science Educators Need To Know About Performance Tasks Video | Pdf | Resource Page](#)
- [What Elementary Science Educators Need To Know About Performance Tasks Video | Pdf | Resource Page](#)
- [Sep Asking Questions: Students Drive Instruction With Driving Question Boards! Video | Pdf | Resource Page](#)
- [Transforming Science Learning: Engaging Students In The Science & Engineering Practices Using Digital Tools Video | Pdf | Resource Page](#)
- [Seps, Cccs, And Core Ideas: Putting The 3-Dimensions Together Video | Pdf | Resource Page](#)

Gather, Reason, Communicate (GRC) Lessons



Are you looking for an instructional approach, and resources, that align to 3-Dimensional Instruction? Brett [Moulding's #Going3Dw/GRC website](#) has a

collection of vetted, three-dimensional lessons aligned to the Next Generation Science Standards and state standards developed from the Framework for K-12 Science Education. The lessons were developed by teachers across districts and states utilizing local phenomena. The teachers who developed these lessons participate in professional development with Brett D. Moulding and Kenneth L. Huff over the past five years. Brett was on the committee that wrote the Framework for K-12 Science Education and a lead writer of the NGSS. Kenneth was also on the NGSS writing team and has spent the last 5 years applying these lessons in his classroom. Good news! Arizona educators have written a few Arizona-specific lessons that align to the 2018 AZ Science Standards!

Disciplinary Literacy & the 2018 AZ Science Standards



Disciplinary literacy in science focuses on how reading, writing, speaking, and listening are used to develop sense-making in science. ADE has created documents that illustrate how disciplinary literacy skills develop in science and possible strategies teachers can use while helping their students deepen

their understanding of science content and practices. Here are links to the ADE Disciplinary Literacy documents by grade-band: [K-2](#), [3-5](#), [6-8](#), [9-12](#).

Productive Science Talk & Student Discourse in Science

Science talk is an instructional discourse practice that capitalizes on this enthusiasm and gives students regular and deliberate opportunities to process their thinking and communicate about what they have seen and done. Through exchanging views with others, students develop their understanding of the science beyond what could be achieved individually. The ultimate goal of **science talk** is to create a discourse-rich classroom culture where the natural synergy between language and meaning making supports all students in expressing ideas, developing language and acquiring new knowledge of scientific phenomena. Here are a few resources to help you engage your students in Productive Science Talk: [Talk Science Primer](#), [Talk Moves Checklist](#), [STEM-Teaching-Tool-6-Productive Science Talk](#).

Additional STEM Teaching Tools that can help educators support student discourse include: [#16](#), [#35](#), and [#48](#).

NEW ADE Guidance for Evaluating Science Instructional Materials

The screenshot shows a checklist titled "Checklist: Goals for Productive Discussions and Nine Talk Moves". It is organized into sections with blue headers: "Good One Help Individual Students Share, Expand and Clarify Their Own Thinking", "Good Two Help Students Listen Carefully to One Another", "Good Three Help Students Deepen Their Reasoning", and "Good Four Help Students Think With Others". Each section contains a numbered list of talk moves with checkboxes and example questions.

Main ADE Website:
azed.gov

Looking for guidance when evaluating science instructional materials? Use this helpful tool, which is full of resources to help educators and district leaders understand how the Arizona Science Standards compare to the Next Generation Science Standards, as well as tools for evaluating instructional. For a quick review of this tool, watching the short video that accompanies it! [ADE Guidance for Evaluating Science Materials Resource Page | Video](#)

AzSCI – Arizona Science Test

The Arizona Department of Education Assessment team has an [AzSCI Resource Suite](#) that highlights resources, including test blueprints, sample tests, and item specification documents. Science Standards and Assessment

Computer Science with the Arizona Science Center



Never stop wondering.
Never stop imagining.™

Current Arizona educators, with support from Arizona Science Center, CSTA Arizona Chapter, and Code.org, the AZ CS standards have been worked to align with the AZ CTE Software and Applications standards, and the CS Principles Framework. These documents were developed to help teachers, schools, and districts who are working to bring computer science to their school

or district as a CTE pathway.

[Document anchored with AZ CS standards](#)

[Document anchored with AZ CTE Software and Apps Design standards](#)

As the Regional Partner for Code.org, the Arizona Science Center offers monthly CS Fundamental workshops for K-5 educators. The cost of these workshops are \$20 each and includes all required teacher resources, Code.org Swag, and a general admission ticket to Arizona Science Center. Virtual and in-person options are available. To learn more and register click [HERE](#). In addition, applications for 2022 CS Discoveries and CS Principles cohorts will open January 11, 2022. Space is limited so apply early. To learn more click [HERE](#).

SRP Learning Grant



The Salt River Project (SRP) Learning Grant application process opened on Oct. 1, 2021. Teachers in K-12 can apply for up to \$5000 in funding from SRP. The process closes on February 28, 2022, and funding is given in May. Information, application, and grant-writing tips are at

<https://www.srpnet.com/education/grants/default.aspx>

All K-12 educators in metropolitan Phoenix, Pinal County, Gila County, Yavapai County, Page, St. Johns, and NGS community chapters are eligible to apply.

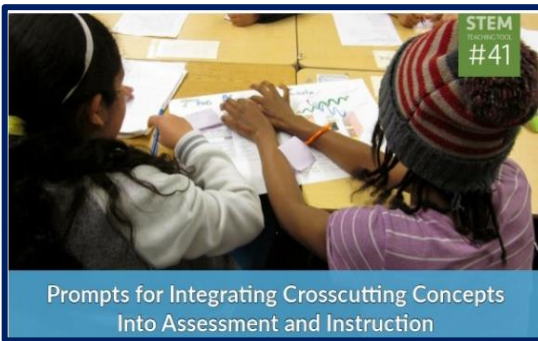
- * Develop projects and programs geared toward state-mandated competencies.
- * Use funds for innovative teaching strategies that improve student performance objectives in math and science.

Get SET for STEM Scholarship



- Develop projects and programs geared toward state-mandated competencies.
- Use funds for innovative teaching strategies that improve student performance objectives in math and science.
- Certified AZ teachers: apply NOW for a \$2,000 professional development (PD) scholarship. Teachers have three years to use the \$2000. Apply at [Arizona Department of Education's website.](#)
- Professional development must support a certificated teacher in gaining additional credentials (e.g., qualify to teach dual enrollment physics or chemistry) and/or certifications in math, a science subject, technology, engineering or career & technical education.

STEM Teaching Tool #41

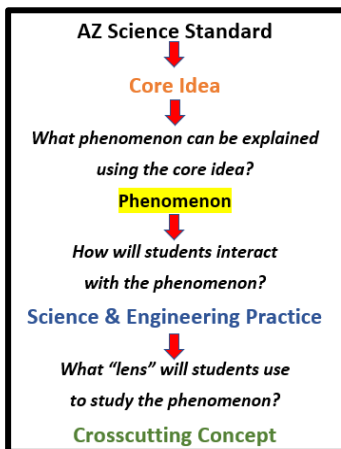


[STEM Teaching Tool #41](#), Prompts for Integrating Crosscutting Concepts Into Assessment and Instruction, is a set of prompts is intended to help teachers elicit student understanding of crosscutting concepts in the context of investigating phenomena or solving problems.

These prompts should be used as part of a multi-component extended task. These prompts were developed using the Framework for K-12 Science Education and Appendix G of the Next Generation Science Standards, along with relevant

learning sciences research.

Phenomena-Based 3-Dimensional Instruction Resources

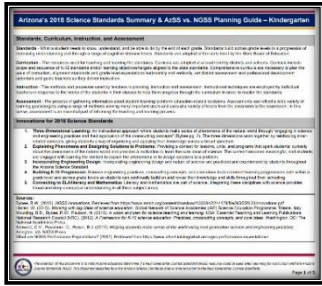


Phenomena are observable events that can be explained or explored. ADE developed a [tool](#) to help guide the selection of three dimensions to integrate during instruction and also encourage educators to focus on phenomena. In addition, here are two resources that can also help with selection of phenomena and designing 3-dimensional instruction: [STEM Teaching Tool #42](#) and [STEM Teaching Tool #28](#).

(The department recognizes that the acronym NGSS is consistently used throughout resources provided on our website. To ensure clarity and avoid confusion the new Arizona Science Standards and the National NGSS standards are both designed from the A Framework for K-12 Science Education with a focus on three-dimensional instruction, this includes: Science and Engineering Practices, Crosscutting Concepts and Core Ideas. Arizona Science standards also used Working with Big Ideas of Science Education when creating the Core Ideas.)

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***NEW* Complete Set K-12 Summaries that Compare the AzSS to NGSS**



A new addition, a [complete set for K-12](#) combined into one document! Curious to know how each of the new Arizona Science Standards (AzSS) compares to the Next Generation Science Standards (NGSS)? The ADE, with the help of our Educator Leadership Team, created a new document called "Arizona's 2018 Science Standards Summary and AzSS vs. NGSS Planning Guide". These documents describe if the Next Generation Science Standards have a "strong," "partial," or "no correlation" to the Arizona Science

Standards. This planning summary and guide can help districts and educators find resources, plan lessons, and understand more deeply how Arizona Science Standards compare to the national standards. Here are the documents for each grade level, and you can also [visit our website](#) and click "Planning Tools" to find these documents.

[Kindergarten](#) | [First Grade](#) | [Second Grade](#) | [Third Grade](#) | [Fourth Grade](#) | [Fifth Grade](#) | [Sixth Grade](#) | [Seventh Grade](#) | [Eighth Grade](#) | [High School](#)

LOCAL PARTNERS

STEMAZING Project- *NEW* Resources Aligned to Arizona Science Standards!!!

DaNel Hogan from Pima County Superintendent Office has a project called STEMAZing! Her team has tons of resources, professional development opportunities, and digital notebook examples! Look for the AzSS-Aligned Resources by grade level in the [K-2](#), [3-5](#), [6-8](#), [HS](#) grade band folders. Visit the [STEMAZing project](#), resources, or [register for an upcoming event!](#)

***NEW* and growing [list of AZSS-Aligned Resources](#)**

You can also follow the STEMAZing project on social media & sign up for the newsletter:

[Facebook](#) [Twitter](#) [Sign up for The STEMAZing Newsletter!](#)

Arizona Project WET Professional Development

Arizona Project WET provides real world and relevant resources to engage students' natural curiosity about the world and their place in it. Project WET's academies and workshops activate learning through engagement, exploration, concept invention and reflection. Teachers receive Arizona Science Standards-based lessons that have students doing science rather than learning about science! See opportunities at this link: [Workshops & Academies | Teacher PD \(arizona.edu\)](#)

National PARTNERS

National Science Teaching Association (NSTA) Web Seminars



Web Seminars are free, live professional learning experiences that use online learning technologies to allow participants to interact with nationally acclaimed experts, NSTA Press authors, and scientists, engineers, and education specialists from NSTA partner organizations. All web seminars are recorded for watching on-

demand. [Register for upcoming WebSeminars. Check out the NEW NSTA calendar.](#)

Session Schedule: (Please note all times reflect Pacific Standard Time)

For more information on the NASA Ames Exploration Encounter, please visit our [website](#).

Computer Science

Computer Science Professional Development Fund

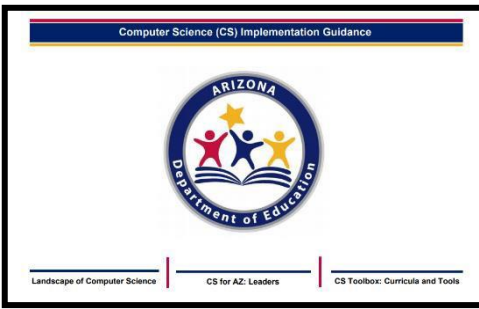
An advertisement for the Computer Science Professional Development Program. It features a woman in a light blue shirt pointing to the right. The text reads: "COMPUTER SCIENCE PROFESSIONAL DEVELOPMENT PROGRAM. Don't miss the opportunity to receive a grant for up to \$25,000! Apply now! Who Qualifies? Public Schools that offer instruction in grades 9 through 12 and are seeking professional development to train educators to offer a new course(s) in computer science." There is a QR code on the left and a small circular logo on the right. A note at the bottom states: "Note: Priority is given to schools that are defined as a rural school as defined in section 15-249.13 and have at least 60% of student enrolled who are eligible for free and reduced-price lunches under the national school lunch and child nutrition act. Schools that do not meet these are not precluded and can still apply." The URL "https://goo.gl/HwE3A5" is at the bottom.

Don't miss the opportunity to receive a grant for up to \$25,000! Public Schools that offer instruction in grades 9 through 12 and seek professional development to train educators to offer a new course(s) in computer science can qualify for up to \$25,000. The [Computer Science Professional Development \(CSPD\)](#) grant funding is designed to be used to provide professional development for a high school teacher or teachers to **teach a computer science course that is not currently offered at the high school**. For example, if High School J offers a Code.org class and would like add a new course in Java scripting, it could apply for funding to use to provide professional

development to one or more of its teachers to begin offering the Java course. Or, if High School J does not offer any computer science courses, it could apply for funding to use to provide professional development to one or more of its teachers to begin offering a computer science course. Attached are the [Application Rubric](#) and the [Guidance Document](#) to assist you with the application process. Please reach out to Sarah.Sleasman@azed.gov if you have any questions.

Computer Science Implementation Guidance Document and Endorsement

Arizona released K-12 Computer Science Standards in October 2018 and two options for Computer



Science endorsement for K-12 teachers. To support the implementation of these standards, we are excited to present a ***Computer Science Implementation Guidance document***. This document's primary purpose is to introduce LEAs to resources that support the implementation of the new ***Arizona K-12 Computer Science Standards***. Whether integrating C.S. and computational thinking across the curriculum or adopting it as a stand-alone course, there is a need to consider C.S. implementation within the

K-12 system. As such, resources and guidance are outlined in the sections below that address the needs of the following stakeholders: school/LEA leadership, counselors, and educators. An additional section includes considerations when adopting C.S. curricula and tools. In addition, to provide guidance regarding the new options for the Arizona Computer Science endorsement, the link to a one-page document that clearly outlines the requirements for ***PreK-8 CS Endorsement*** and ***6-12 CS Endorsement*** for Arizona educators can be found [here](#).

Computer Science Webinars and Resources from Gilbert Public Schools

If you are looking for a way to integrate the Computer Science Standards into your classroom, here are some helpful resources! Shawn Abele, an educator from Gilbert Public Schools, has been providing webinars for the agency focused on Computer Science integration. The [Computer Science Video Series](#) is found on the [Computer Science Standards Page](#).

She has also created these resources on the **Practical Application of the Newly Adopted Computer Science Standards** for [Kindergarten](#) | [1st Grade](#) | [2nd Grade](#) | [3rd Grade](#) | [4th Grade](#) | [5th Grade](#).

Computer Science Teacher's Association | Arizona



The [Computer Science Teachers Association of Arizona \(CSTA-AZ\)](#) is excited to announce a menu of Virtual Professional Development experiences. Many of these sessions are *free* or have scholarships & funding available, such as through the [Arizona Department of Education CSPD Fund](#). All courses apply towards the new Arizona Computer Science Teaching Endorsements for [K-8](#) and [6-12](#).

[cs education week 2021](#)

Make CS Ed Week Extra Special



Computer Science Education Week is right around the corner so we've pulled together some fun ideas to consider as you begin planning. Spark discussions with our Computer Science Discovery Library [collection](#), share this [mixtape](#) with your

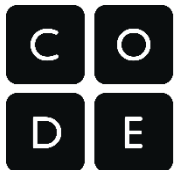
students to get them inspired by Microsoft and Flipgrid developers, and find [free resources](#) for Hour of Code this CS Ed Week.



Tynker, the world's largest integrated curriculum for K-12 coding, has been [partnering with NASA](#) for the past three years. This year, for Hour of Code, we are launching [new coding activities](#) we've been developing in collaboration with NASA. These are all freely available for teachers everywhere. In addition, we also have a series of [live coding events](#) planned where teachers and students can hear from NASA experts on a variety of topics. These activities and events are available for all grade bands, from Kindergarten to High School.



Applications for TechGirls are now OPEN! TechGirls is an international summer exchange program designed to empower and inspire young girls from around the globe and the United States to pursue careers in STEM. Applicants must be U.S. citizens between the ages of 15 to 17 at the start of the program with at least one year left of high school in fall 2022. Applicants must also show sincere interest in technology and making friends from around the world. The scholarship is fully inclusive of all costs including travel, courses, programming, housing and meals, staff supervision and ground transport for sightseeing. The application deadline is January 15, 2022. Please see our website for more details: techgirlsglobal.org



The [2021 State of Computer Science Education report](#) is brought to you by Code.org, the Computer Science Teachers Association, and the Expanding Computing Education Pathways (ECEP) Alliance. The report includes descriptions of policy trends, an in-depth view of each state's policy and implementation, and data on disparities in access to and participation in computer science. This report was launched on Wednesday, November 3, 2021.



As a computer science teacher, you are often the only one in your building, or maybe even in your district. There is a whole community of computer science educators just like you out there. Connect with them at the **CSTA 2022 Annual Conference** set for July 14-17, 2022, in Chicago! [Click here](#) to learn more and register. [Click here](#) to learn about other computer science opportunities and events through CSTA.