



## HAPPY February!

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

[REGISTRATION OPENS HERE](#)

## 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 11<sup>th</sup> & 12<sup>th</sup> | K-5 Educators March 25<sup>th</sup> & 26<sup>th</sup>**

## \*NEW\* Online Self-Paced Courses Available for PD Credit!

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

### Recorded Webinars & Online Courses

#### 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
- [Crosscutting Concepts: 1 of the 3 Dimensions of the AZ Science Standards Video](#) | [PDF](#) | [Resource Page](#) | **\*NEW\*** Online Course for PD Credit
- [Science and Engineering Practices: 1 of the 3 Dimensions of the AZ Science Standards Video](#) | [PDF](#) | [Resource Page](#)
- [Core Ideas: 1 of the 3 Dimensions of the AZ Science Standards Video](#) | [PDF](#) | [Resource Page](#)
- [Phenomenon-Based 3-Dimensional Instruction Video](#) | [PDF](#) | [Resource Page](#)
- [SEPs, CCCs, and Core Ideas: Putting the 3-Dimensions Together Video](#) | [PDF](#) | [Resource Page](#)
- **\*NEW\*** [Guidance for Administrators- What to Look For in a 3-Dimensional Science Classroom PD Video](#) | [PDF](#) | [Resource Page](#)

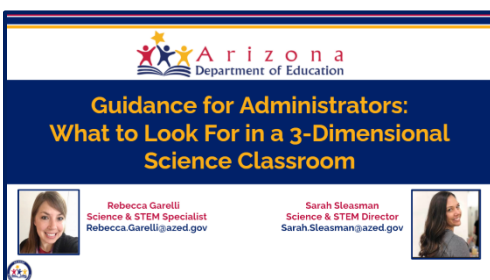
## K-5 Educators- Deeper Dive for K-5 - Apply to be a part of a collaborative team to construct a science unit for AZ Science Standards



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](mailto:deeper_dive@azsta.org) for assistance if needed.** [Click here to find all the Middle School science units that were developed in the 6-8<sup>th</sup> grade Deeper Dive!](#)

## Administrators Webinar & Toolkit



**\*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.”

# 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](http://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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## 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](#).

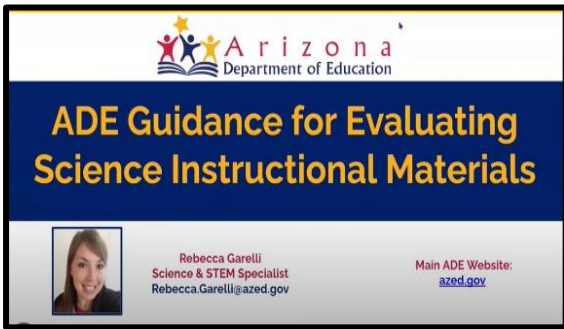
## Discourse in Science

Checklist	Talk Science
<p><b>Goal One</b> Help Individual Students Share, Expand and Clarify Their Own Thinking</p> <p><input type="checkbox"/> <b>Share to Think</b></p> <p><input type="checkbox"/> <b>Say More</b></p> <p><input type="checkbox"/> <b>Ask for Evidence or Reasoning</b></p> <p><input type="checkbox"/> <b>Challenge or Counterexamples</b></p> <p><input type="checkbox"/> <b>Agree/Disagree and Why?</b></p> <p><input type="checkbox"/> <b>Ask One</b></p>	
<p><b>Goal Two</b> Help Students Listen Carefully to One Another</p> <p><input type="checkbox"/> <b>Why Can Rephrase or Repeat?</b></p> <p><input type="checkbox"/> <b>Ask One</b></p>	
<p><b>Goal Three</b> Help Students Develop Their Reasoning</p> <p><input type="checkbox"/> <b>Ask for Evidence or Reasoning</b></p> <p><input type="checkbox"/> <b>Challenge or Counterexamples</b></p> <p><input type="checkbox"/> <b>Agree/Disagree and Why?</b></p> <p><input type="checkbox"/> <b>Ask One</b></p>	
<p><b>Goal Four</b> Help Students Think With Others</p> <p><input type="checkbox"/> <b>Agree/Disagree and Why?</b></p> <p><input type="checkbox"/> <b>Ask One</b></p>	

Productive Science Talk & Student **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](#).

## ADE Guidance for Evaluating Science Instructional Materials



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 Achievement Assessment team is seeking diverse pool of educators to serve as members of the AASA and AzSCI Assessment Committees in the following content areas— English Language Arts (ELA), Mathematics, and Science. This is a rewarding opportunity for educators who are interested in learning about large-scale, standards-based assessment. Committee members are directly involved in assisting the Department with the process of developing AASA and AzSCI test items. Members receive an honorarium as well as understand the item development process.

Please see complete application to be selected as a committee member!

<https://www.azed.gov/assessment/assessment-section-committee-application>

The Arizona Department of Education Assessment team has an [AzSCI Resource Suite](#) that highlights resources, including test blueprints, sample tests, and item specification documents. Please reach out to [AzSCI@azed.gov](mailto:AzSCI@azed.gov) with any questions.

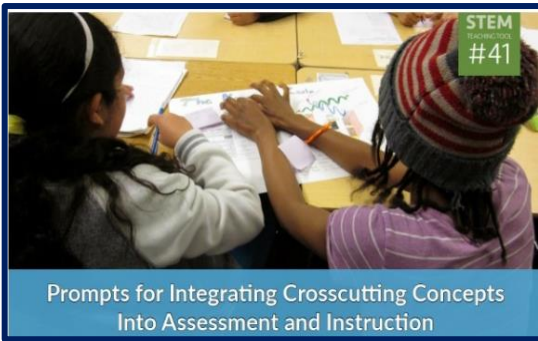
## Get SET for STEM Scholarship



- 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.

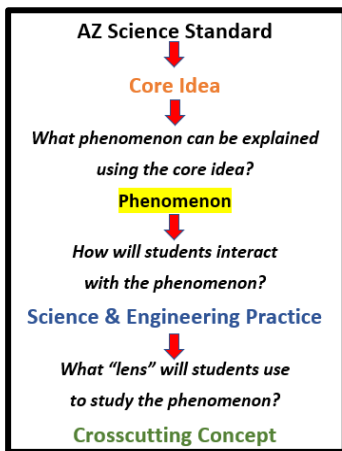
# STEM Teaching Tool #41



[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.

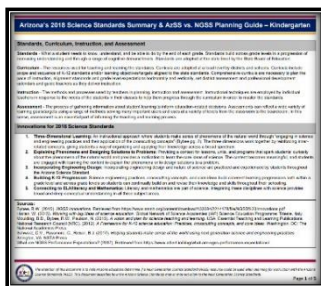
## Phenomena-Based 3-Dimensional Instruction Resources



**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.)

## \*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) Houston 22 National Conference Mar. 31 - Apr. 3 Registration Now Open!



We are back, and can't wait to welcome you to [Houston for NSTA's first national conference of 2022](#), March 31 to April 3. Check out the strands for Houston, housing and travel information, and register today. Enjoy earlybird savings if you register by February 18, 2022!

### 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](#).