HAPPY NEW YEAR!

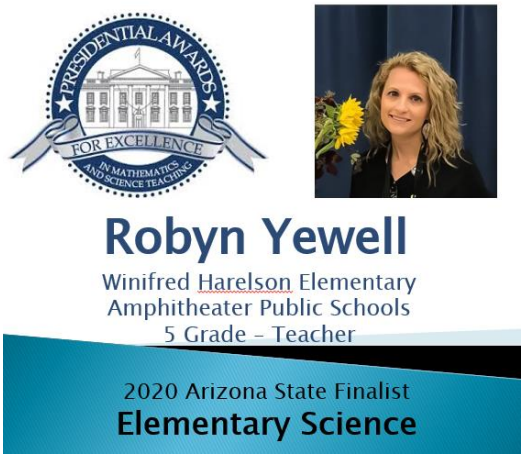
UPCOMING WEBINAR OFFERINGS

Description	Date	Time	Cost
#SciencingAndEngineering in 2021 with @TheSTEMAZingPro and @RobotGeneral5 Session 1	1/19/2021	4:00pm-5:00pm	Free
Transforming Science Learning- Engaging Students with the Science and Engineering Practices Using Digital Tools	1/21/2021	4:00pm-5:15pm	Free
Crosscutting Concepts: 1 of the 3 Dimensions of the AZ Science Standards Session 1	1/27/2021	4:30pm-5:45pm	Free
SEP Asking Questions: Students Drive Instruction with Driving Question Boards!	1/28/2021	4:00pm-5:15pm	Free
Transforming Science Learning- Engaging Students with the Science and Engineering Practices Using Digital Tools	2/9/2021	4:00pm-5:15pm	Free
Science and Engineering Practices: 1 of the 3 Dimensions of the AZ Science Standards Session 2	2/11/2021	4:00pm-5:15pm	Free
#SciencingAndEngineering in 2021 with @TheSTEMAZingPro and @RobotGeneral5 Session 2	2/16/2021	4:00pm-5:00pm	Free
A Look at Arizona's New Science Standards	2/18/2021	4:00pm-5:15pm	Free
SEP Asking Questions: Students Drive Instruction with Driving Question Boards!	2/25/2021	4:00pm-5:15pm	Free
#SciencingAndEngineering in 2021 with @TheSTEMAZingPro and @RobotGeneral5 Session 3	3/9/2021	4:00pm-5:00pm	Free
Core Ideas: 1 of the 3 Dimensions of the AZ Science Standards Session 3	3/10/2021	4:30pm-5:45pm	Free
A Look at Arizona's New Science Standards	3/18/2021	4:00pm-5:15pm	Free
Phenomena-Based Instruction	3/25/21	4:00pm-5:15pm	Free
Transforming Science Learning- Engaging Students with the Science and Engineering Practices Using Digital Tools	4/1/2021	4:00pm-5:15pm	Free
SEP Asking Questions: Students Drive Instruction with Driving Question Boards!	4/8/2021	4:00pm-5:15pm	Free
#SciencingAndEngineering in 2021 with @TheSTEMAZingPro and @RobotGeneral5 Session 4	4/13/2021	4:00pm-5:00pm	Free
Phenomena-Based Instruction	4/15/2021	4:00pm-5:15pm	Free
A Look at Arizona's New Science Standards	4/22/2021	4:00pm-5:15pm	Free

ADE is pleased to announce that we have many new 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! **Here are the new recorded webinar packages:**

- *A Look at Arizona's New Science Standards Video | PDF | Resource Page*
- *5-E Instructional Model and Science Notebooks Video | PDF | Resource Page*
- *Phenomenon-Based 3-Dimensional Instruction Video | PDF | Resource Page*
- *Science and Engineering Practices Video | PDF | Resource Page*
- *Crosscutting Concepts Video | PDF | Resource Page*
- *Constructing Explanations and Arguing from Evidence using Claims, Evidence, Reasoning (CER) Video | PDF | Resource Page*
- *Core Ideas: 1 of 3 Dimensions 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! | PDF | Resource Page*

2020 Arizona State Finalist for the Elementary Science Presidential Awards for Excellence in Mathematics & Science Teaching



Robyn Yewell is the 2020 Elementary Arizona Science finalist. She has been teaching for 9 years and is a 5th grade teacher at Winifred Harelson Elementary School in Tucson, Arizona. She earned a Bachelor's in Business Administration, two Masters Degrees in Elementary Education and Bilingual/ Multicultural Education, and is currently pursuing a Masters of Arts in Science Teaching at Northern Arizona University. Robyn was awarded the 2017 Arizona Elementary Science Teacher of Year from the Arizona Science Teachers Association (ASTA) and currently serves as treasurer for ASTA, an Ambassador for the Office of Economic Education at the University of Arizona and is actively involved in many outreach programs across Southern Arizona. Robyn enjoys spending time with her husband, two children, and dogs- in addition, she loves being outdoors.

STEMAZing at MEAD!

STEM Teachers please join our colleagues from the STEMAZing Project from the Pima County Superintendents Office for the Mathematics Educator Appreciation Day on January 23, 2021. MEAD is now FREE for all Arizona teachers!

STEMAZing #MicDrop Math Sessions

(MEAD is now FREE for all Arizona teachers!)

STEMAZing Session - Option 1

Binary Numbers - Patterns, Prediction, and #MicDropMath for ALL Ages

STEMAZing Session Option 2

Turn Students into Human Computers Using Squares Cut From Cereal Boxes!

220 other sessions to choose from and an incredible keynote speaker!

Register for MEAD here.

STEM Virtual Unconference

Making STEM Accessible!

Jan. 30th from 8am – 12:30pm

An unconference is a participant-driven meeting by teachers for teachers. There will be a panel of Keynote speakers and then participants will generate session topics. This event is sponsored by the STEM Arizona Education Collaborative, in conjunction with AATM, ASTA, & AZTEA. $15 per person. Register here.

What is sensemaking?

Sensemaking is actively trying to figure out how the world works (science) or how to design solutions to problems (engineering). Students ***do*** science and engineering through the science and engineering practices. Engaging in these practices necessitates students be part of a learning community to be able to share ideas, evaluate competing ideas, give and receive critique, and reach consensus.

Whether this community of learners is made up of classmates or family members, students and adults build and refine science and engineering knowledge together. Each weekday, NSTA will share a sensemaking task, called a “Daily Do,” that teachers and families can use to engage their students in authentic, relevant science learning. Click here to search for sensemaking tasks called NSTA Daily Dos.

Nominate a Colleague for Presidential Awards for Excellence in Mathematics and Science Teaching

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 7-12 opened in the Fall. 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.

SRP Learning Grant

The Salt River Project (SRP) Learning Grant application process opened on Oct. 1, 2020. Teachers in K-12 can apply for up to $5000 in funding from SRP. The process closes on February 28, 2021, 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.

Easy $600 STEM-CAN Grants

Guidelines are as follows:

Funding southern Arizona conventional (not charter) public school teachers' and principals' proposed STEM projects:

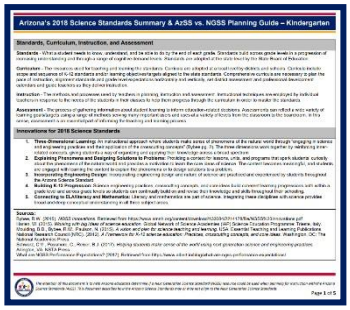
1. One project per teacher applicant per funding year (August 15 to March 15)
2. Teacher proposed projects funded at $100 to $600.
3. Principal proposed projects funded at $3,000 to $5,000.

Apply soon! Easiest application ever. Click Here to Apply

NEWLY UPDATED ADE Science Resource Page

Our team has been hard at work revamping our website to make it easier to find 3-Dimensional resources to support the robust implementation of the AZ Science Standards. These changes include live webinars, On-Demand/Recorded webinars- which are now included in our new user-friendly Science Standards page and the Science and STEM Resource Page.

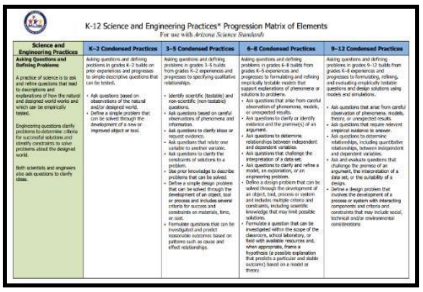
NEW Complete Set K-12 Summaries that Compare the AzSS to NGSS


Arizona's 2018 Science Standards Summary & AzSS vs. NGSS Planning Guide – Kindergarten

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

3 Vertical Progression Documents – One for each of the 3 Dimensions!


K-12 Science and Engineering Practices* Progression Matrix of Elements

Did you know? ADE's science standards website has three documents that can help educators plan for 3-dimensional science instruction. The first document is the ***Vertical Alignment Progression of Knowing Science*** that describes how the standards spiral from Kindergarten through Twelfth Grade. The second document is called the ***K-12 Crosscutting Concepts Progression Matrix of Elements*** that describes specific targets for each grade band in relation to each of the seven crosscutting concepts. The third document is the ***K-12 Science and Engineering Practices Progression Matrix of Elements*** that includes descriptors of what students should be able to do in regards to the Science and Engineering Practices in each grade band.

Assessment Update

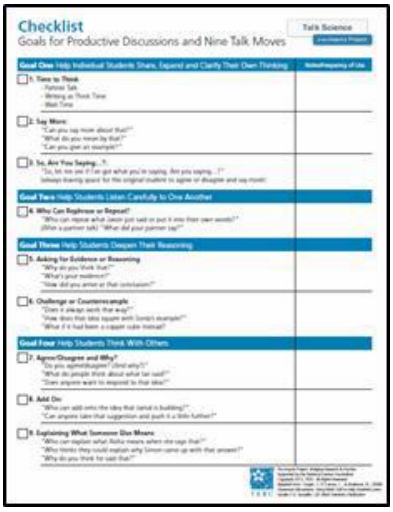
AIMS Science: "The Arizona State Board of Education took advantage of a waiver from the U.S. Department of Education to eliminate the testing of AIMS Science in the 2020-2021 school year. AIMS Science was scheduled to be administered in 4th, 8th and 10th grade for the final time before being replaced by AzSCI. Simultaneously, AzSCI was scheduled to be census field tested in 5th, 8th and 11th grade. With the action

taken by the Board, schools can now focus on the new assessment, AzSCI, which is aligned to the new standards. AIMS Science is now retired." Arizona State Board of Education virtual met 8-12-20. Highlights of the State Board Meeting

- The Arizona Department of Education Assessment team has an AzSCI Resource Suite that highlights resources, including test blueprints, sample tests, and item specification documents.

- The Arizona Department of Education Assessment section is hosting Friday Focus: Spotlight on the State of Assessments 2020-2021 Webinar series(*see flier*). On Friday, October 30, 2020, 1:00pm – 2:00pm, the focus was on ***AzSCI: Test Administration, Instruction, and Next Steps.*** This session highlighted the AzSCI suite of resources, including test blueprints, sample tests, and item specification documents. All webinars and PowerPoints are available on Friday Focus Webinars on the Assessment webpage.

Productive Science Talk & Student Discourse in Science


Checklist
Goals for Productive Discussions and Nine Talk Moves

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.

LOCAL PARTNERS

ASTA Science Talks

Arizona Science Teachers Association Science Talks. ASTA's Science Talks for the Academic Year occur the 4th Monday of each month from 4PM-5PM (excluding December). Join the Arizona Science Teachers association for an opportunity to engage in a generative conversation about successes, challenges, and

resources. The importance of Science as a human endeavor is clear and staying connected during these difficult times is crucial. Engage with PreK-12 science teachers from around Arizona. We have new topics every month. Click the Registration Link to the Right of the date. Here is a list of events for science talks: https://azsta.org/events/science-talks/

NEW 3-Dimensional Middle School Science Units Developed by Arizona Educators!!!

Arizona Science Teachers Associations' (ASTA) ***A Deeper Dive: Constructing 3-dimensional Units*** was a partnership with Arizona Department of Education (ADE) and BSCS Science Learning (BSCS) financially supported by APS Foundation.

The Five Tools is a set of tools and processes to support educators to translate science concepts, practices and performance expectations into multiple instructional sequences that form an Arizona Science Standards (AzSS) unit, create an in-depth plan for one instructional sequence and assessment task, and provide an in-depth professional learning experience focused on the 3-dimensions. Click here to find all the Middle School science units that were developed!

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:**

https://stemazing.org/arizona-science-standards-aligned-resources/

You can also follow the STEMAZing project on social media & sign up for the newsletter:
Facebook:https://www.facebook.com/TheSTEMAZingPro /
Twitter:https://twitter.com/TheSTEMAZingPro

Sign up for The STEMAZing Newsletter!

National PARTNERS

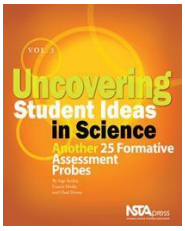
NSTA Distance Learning Technology Resources

The National Science Teaching Association (NSTA) has created this living document of digital tools that can be used to help integrate the 3-dimensions of science teaching and learning. Dive into this helpful resource to see which digital tools are recommended for engaging students with phenomena, asking questions, student discourse and more!

Next GenScience with WestEd

This is a great, timely new resource, from WestEd. Keep Teaching Science! highlights effective ways to adapt science materials while maintaining or enhancing NGSS features. This is the result of a team of over twenty partners that included classroom educators, state education leaders, curriculum developers and professional

Page Keeley- Digital Versions of Formative Assessment Probes!



Page Keeley, author of the *Uncovering Student Ideas in Science Formative Assessment Probes in Science* series, has recently released some of these amazing probes and openly published them via her Twitter account (@CTSKeeley). Click this link to see the formative assessment probes released as Google Slides.

Staying Grounded when Teaching Remote from OpenSciEd

Staying Grounded when Teaching Remote is a webinar series to support educators to stay grounded in the best practices of science teaching and learning while they shift to remote learning during school closures in response to the Covid-19 pandemic. This series focuses on routines and elements of storyline instructional models that are central to OpenSciEd, inquiry Hub Biology, and NextGen Storylines materials. These webinars are a collaborative effort of the University of Colorado, The Charles A. Dana Center at the University of Texas, and OpenSciEd. OpenSciEd also developed a Remote Learning Online Tool Organizer, is a list of online tools generated by teachers using OpenSciEd and inquiry Hub materials in their classrooms. This tool ties the tools to their use within the storyline instructional model.

OpenSciEd- 3 Discussion Types & Open Source Middle School Units

OpenSciEd units use specific types of discussions to help draw out student ideas, support students in communicating with one another in scientific ways, and support student sensemaking.

These different types of discussion serve different purposes, are useful in different phases of a lesson or unit, and have different characteristics depending on their purpose. If you are interested in additional resources that correlate to these three discussion types, check out the OpenSciEd Teacher Handbook.

How I'm Teaching Remotely from Paul Anderson

Paul Andersen describes how he is teaching remotely in both conferences and classrooms. He tries to focus on good pedagogy rather than technology. The main topics include Whole Class Instruction, Science Investigations, Student Feedback and Small Group Work. Click this link to watch this video!

3-D Assessment Design with Paul Anderson, The Wonder of Science & STEM Teaching Tools

If you are interested in learning more about how to design 3-dimensional assessments, here are a few great resources to get you started. STEM Teaching Tool #29 describes the steps for designing a three dimensional assessment and STEM Teaching Tool #34 focuses on designing an assessment system that measures three-dimensional science learning. Paul Anderson's site, The Wonder of Science, also has a few tools to help educators new to 3-dimensional assessment design. The first resource helps educators understand a simple 3-step process for designing assessment and another great resource describes how to use an assessment screening tool to review possible assessments for use.

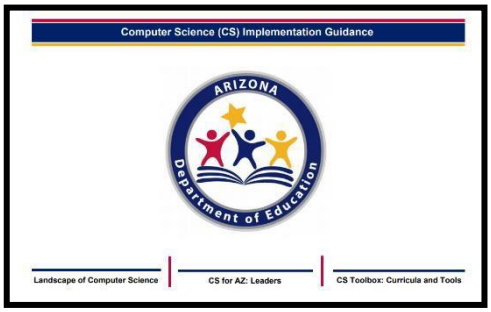
Computer Science

Computer Science Professional Development Fund

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.***

Virtual Computer Science Summer Professional Development Change

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***.

Computer Science Education From Code.org

Don't forget to visit www.advocacy.code.org/stateofcs to download your copy of the 2020 State of Computer Science Education: Illuminating Disparities or the 4-page state-specific handouts. The State of CS repost was just released from Code.org and CSTA, and it includes a breakdown of access and participation information for all 50 states, including AZ! This report is a comprehensive snapshot of the state of CS in education. It includes information from 100% of U.S public high schools.

2020 State of Computer Science Education

Join the Movement!

Click here to join the 90-plus organizations in the Code.org Advocacy Coalition or sign up here to receive Code.org newsletters