



# EDUCATE TO INNOVATE

## PROGRAM OF SESSIONS

### SESSION 1 (10:40 – 11:30 A.M.)

#### **Inspecting with Maricopa County (4-6)**

**CREATE at Arizona Science Center® | Artistry Hub**

**Maricopa County | Conni Griffith, Vector Control Educational Outreach Specialist • Jenny Frank, Maricopa County Air Quality • Kristin Homuth, Maricopa County Environmental Services Storm Water**

Come join Maricopa County Air Quality, Storm Water, and Vector Control to learn about inspections, air and storm water pollution, mosquito control, and mitigation strategies used throughout Maricopa County. Empower students to make positive changes in their communities while meeting education standards. Learn how incorporating an anticipation guide can tie in reading standards to science-based lessons. Maricopa County Outreach programs have come together to present you with this new and exciting program available for classroom visits.

#### **Project Power Up! Unleash Student Innovation (3-12)**

**Arizona Science Center | Basement Classroom**

**Grand Canyon University | Cecelia Bosma, K12 Program Manager**

In this workshop, educators will explore integrating student-centered engineering design principles into their classrooms. By addressing real-world challenges, educators will learn how to inspire students to become proactive problem-solvers while emphasizing civic duty and community impact.

#### **So You Want to Garden? (PreK-12)**

**Arizona Science Center | Celebration Lab**

**Urban Farming Education | Joe Roselle, Chief Operating Officer**

Starting a garden at your school can be a huge challenge. Beyond knowing what and when to grow, you will need to identify strategies to make sure your funding and volunteers are sustainable. Learn how to create a budget, develop a pitch and how to attract volunteers.

#### **Building Strong Foundations: Exploring Soil Erosion and Stabilization Techniques**

**Teacher-Developed K-12 Lessons in Biogeotechnical Engineering (3-12)**

**CREATE at Arizona Science Center® | Classroom**

**NSF Engineering Research Center for Bio-mediated and Bio-inspired Geotechnics (CBBG) & ASU • Wilhelmina Savenye, CBBG • Jean Larson, CBBG • Joe Springer, Glendale Community College • Jasmine Coleman, Premier Learning & Maricopa Institute of Technology • Christina Tormollan, Harold W Smith School • Scott Currier, Deer Valley Unified School District • Katie Currier, PhD student**

Soil erosion poses a serious threat to our environment, leading to land degradation and the loss of valuable topsoil. This hands-on session delves into the world of soil erosion and explores practical solutions to combat this issue. 3 teachers who have participated in the NSF Engineering Research Center for Bio-mediated and Bio-inspired Geotechnics Summer Research Experience program will demonstrate and share the engineering lessons they have developed and taught with their students. Lesson Plans will be available for high school grades 9-12 and for grades 3, 4, and 5. Differentiated lessons are available for K-2. An abundance of free CBBG curriculum is available to teachers at [cbbg.engineering.asu.edu/education/curriculum](http://cbbg.engineering.asu.edu/education/curriculum).

#### **Mind Over Music with the Phoenix Symphony (K-8)**

**Arizona Science Center | Boardroom**

**The Phoenix Symphony | Musicians: Tessa Gotman Bock, Laurie Selby, Dian D'Avanzo, Karen Bea**

Mind Over Music is a collaborative teaching program that pairs Phoenix Symphony musician's and classroom teachers. Experience firsthand how musicians use their real-world expertise and music to support STEM learning in classrooms... and hear some beautiful music.

## SESSION 1 (10:40 – 11:30 A.M.)

### **AI for Educators (2-10)**

**CREATE at Arizona Science Center® | Public Hall**

**Arizona Science Center | Jazz Cano, Senior Scientist, Computer Science and Technology • Jennifer Petersen, Professional Development Facilitator**

AI seems to be everywhere nowadays. As educators, we are tasked with understanding, leveraging, and even possibly teaching this new and dynamic tool. Understanding AI fundamentals can help educators be more prepared for proper integration of technology, better leverage student learning, and take back our time as educators. Together, dive into popular AI tools, identify AI basics, and identify how we can use it to educate students while growing as educators.

### **Dramatic Science: Playful Learning in the Classroom (PreK-1)**

**CREATE at Arizona Science Center® | Zones**

**Arizona Science Center | Noortje Nelissen, Professional Development Facilitator**

Discover imaginative dramatic play activities that inspire kids to see themselves in exciting STEM careers. Learn hands-on strategies to make STEM fun and engaging for young learners!

### **Music Lab Introduction (2-6)**

**Arizona Science Center | Body Depot**

**Code.org | Linda Angeloff, Facilitator**

Have you tried the new Music Lab in Code.org? In this session we will learn the basics and then create our own music. We will share our projects with the class.

## SESSION 2 (11:40 – 12:30 P.M.)

### **Don't Tell Them the Answers! (K-8)**

**Arizona Science Center | Body Depot**

**Cartwright School District | Dierdre Shetler, STEM Content Specialist**

Engineering is built into the science standards, but too often, we only let kids do half of the project, by telling them the problem and constraints. Come see how to help kids work through design challenges from the very first step (because that's how the real world works)!

### **Supporting Gifted Learners with STEM (K-6)**

**CREATE at Arizona Science Center® | Public Hall**

**Arizona Association for Gifted and Talented, Board of Directors | Kari Sjursen, Gifted and Advanced Programming Specialist, Marana Unified School District**

Gifted learners often come with an insatiable curiosity. "Why?" and "How?" are just two questions you may hear echoed throughout the day. For these students, inquiry-based STEM activities that reframe traditional learning tasks into moments of exploration and discovery can encourage critical thinking, creative problem-solving, and facilitate the application of knowledge to real-world situations. Session attendees will leave with ideas on how to empower all students to collaborate, use their imaginations, and engage with STEM in meaningful ways that will leave them excited for more!

### **Igniting Resilience: Overcoming Stress and Burnout to Thrive as a Teacher (PreK-12)**

**Arizona Science Center | Boardroom**

**The Thrive Designer | Alison Smith, Resilience Coach**

Over half, approximately 56%, of educators frequently experience burnout, stress and compassion fatigue. But managing the emotional and mental load of teaching requires much more than self-care. It requires us to cultivate deep resilience and internal 'sturdiness.' Join Alison Smith, Resilience Coach and former educator, to explore practical strategies for overcoming burnout and building resilience so you can thrive as a teacher!

## SESSION 2 (11:40 – 12:30 P.M.)

### **Wildfires: Their Natural History and impact on Wildlife (4-12)**

**CREATE at Arizona Science Center® | Classroom**

**Arizona Game and Fish Department | Eric Proctor, Wildlife Education Coordinator**

It seems that every summer we hear about historic wildfires. In this hands-on session, we will take a look at some of these wildfires, how they are created and being managed, as well as their impact on wildlife species. Participants will leave with access to lots of free digital resources.

### **Visible Thinking: Systems and Patterns in Art (3-8)**

**Arizona Science Center | Celebration Lab**

**Phoenix Art Museum | Jessica Jacobson, Interim Director of Education and Engagement**

Art can be used as a teaching tool for students to connect with core subjects such as math. Inspired by conceptual and contemporary artist Charles Gaines, join Phoenix Art Museum as we connect STEAM concepts of math and geometry to conceptual art practices and conversations on demystifying systems of representation. Educators will explore how artist Charles Gaines uses patterns, grid, and systems to convey ideas around representation and create new work. Educators will then have an opportunity to create their own landscape using patterns, grids, and a numbering system.

### **Reimagining the Field Trip Experience with VR (5-12)**

**Arizona Science Center | Basement Classroom**

**Act One | Beth Maloney, Executive Director**

Act One's groundbreaking Virtual Reality field trip program, Arts Immersion™, served over 18,000 students from Title I schools since its inception in 2021. The mission of the VR field trip program is to close the arts equity gap in Arizona's Title I schools by overcoming economic, geographic, and logistical barriers to provide inspiring, engaging, and educational VR experiences that cultivate knowledge and appreciation of the arts and inspire creativity.

### **Effective Discourse for Inclusive Science Classrooms (3-12)**

**CREATE at Arizona Science Center® | Zones**

**Arizona Science Teachers Association | Rebecca Garelli, Professional Learning Specialist**

This experience is designed to help teachers deepen their understanding of effective and practical strategies to facilitate academic discourse. Participants will engage in a variety of instructional strategies to ensure that all students have access to scientific discourse and opportunities to collaborate with peers. We will be discussing the shift away from traditional talk patterns-like I-R-E (Initiate, Response, Evaluation) and towards Productive Talk using the Talk Science Primer and how to use the 9 Productive Talk Moves.

### **There's Copper in That There Rock! (6-12)**

**CREATE at Arizona Science Center® | Artistry Hub**

**University of Arizona School of Mining and Mineral Resources | Chris Earnest, Education Outreach Coordinator**

**Dan Moreno, PhD Candidate, College of Education, Graduate Research Associate**

Here in the copper state there are many places where rocks contain lots of copper compared to normal rock. But what, exactly, does it mean for a rock to have lots of copper, and how does this "ore" form? Math and geology collide in this activity that will have your students exploring possibilities for how copper ore forms and building mathematical models of just exactly what "lots" of copper means.

## SESSION 3 (1:40 – 2:30 P.M.)

### **Igniting Innovation: Integrating Robotics into the K-12 STEM Curriculum (PreK-12)**

**Arizona Science Center | Celebration Lab**

**Balsz School District | Rae Mask, EdTech Mentor**

In this session, educators will explore the transformative potential of robotics in the K-12 STEM curriculum. This interactive workshop will showcase hands-on activities and provide resources for integrating robotics into classroom instruction. Participants will engage with current best practices and learn how robotics can enhance student engagement, critical thinking, and problem-solving skills.

### **Inclusive Practices (PreK-12)**

**CREATE at Arizona Science Center® | Zones**

**Southwest Autism Research and Resource Center (SARRC) | Megan Mann, Senior Clinical Consultant**

The Americans with Disabilities Act (ADA) identifies the need for accommodations for individuals with disabilities to ensure access to programming and educational settings. This didactic training will cover how to create an environment for all individuals. In addition, we will share behavioral principles used to increase the likelihood of success for all.

### **Mindfulness Unveiled: Explore the Brain-Body Connection for a Happier, Healthier You (PreK-12)**

**Arizona Science Center | Boardroom**

**Mindfulness First | Madicyn Quiroz, Instructor, Programming and Development Manager**

Join us for an enlightening and transformative workshop that introduces the fascinating connection between our brains and bodies. Discover the true meaning, and immense benefits, while dispelling common misconceptions surrounding mindfulness. You'll also explore practical tools and techniques to cultivate your mindfulness practice, helping you lead a more balanced, joyful, and mindful life.

This workshop is for everyone: mindfulness beginners, and those looking to deepen their practice. If you're someone interested in enhancing their well-being and leading a more fulfilling life, seeking stress reduction and increased resilience, or a professional looking to improve focus, decision-making, and emotional intelligence.

### **What's That Data? (3-10)**

**CREATE at Arizona Science Center® | Classroom**

**Arizona Department of Education | Marisa Tualla, K12 Math Specialist**

How can we engage students in analyzing and making sense of data? In this session we will explore "Slow Reveal Graphs" which is an instructional routine that promotes sensemaking about data. This highly engaging routine uses scaffolded visuals and discourse to help students (in K-12 and beyond) make sense of data.

### **Intro to Edison Robots (K-8)**

**CREATE at Arizona Science Center® | Public Hall**

**Arizona Science Center | Maree Toscano, Professional Development Facilitator**

The Edison Robot Professional Development workshop provides educators with a hands-on introduction to integrating Edison robots into their classroom activities. Participants will learn how to use these versatile robots to teach STEM concepts, coding, and problem-solving skills in a fun and engaging way.

### **No Money-No Problem: A Quick and Dirty Intro to Grant-Writing for Classroom Tools (PreK-12)**

**Arizona Science Center | Basement Classroom**

**Arizona Science Center | Kal Mannis, Senior Director for Rural Engagement**

Do you need equipment for an activity project or unit and it falls outside your school's budget? There are numerous organizations that fund classroom STEM projects with mini-grants of \$250-\$5,000. This breakout will help you understand the logistics of applying and managing these grants.

## SESSION 3 (1:40 – 2:30 P.M.)

### **AzSEF 2025: Information and Updates (5-12)**

**CREATE at Arizona Science Center® | Artistry Hub**

**Arizona Science Center | Rachna Nath, Manager, STEM Competitions and Outreach**

This session will talk about AzSEF and how teachers can use our mentor and Alumni network to support students doing authentic research.

### **Colorful Chemistry (PreK-1)**

**Arizona Science Center | Body Depot**

**Arizona Science Center | Vanessa Ramirez Gutierrez, Science on Wheels Manager**

Join our journey of rainbow science as we mix up colorful art, and color-changing chemistry experiments and make a lava lamp to take home. Learn more about Arizona Science Center's outreach department the Science on Wheels team and experience one of our workshops that can come to you!

## SESSION 4 (2:40 - 3:30 P.M.)

### **Ecology Through STEM (6-8)**

**CREATE at Arizona Science Center® | Zones**

**Prescott Unified School District | Samuel Kissinger, Special Education Teacher**

To give educators tools to teach local ecology and ways to do small things to support at-risk species, I will be using a unit I created during my first year as an ASAP fellow. This unit combines all areas of STEM, with a focus on math, and seamlessly integrates ELA. This session will help teachers give students a deeper understanding of the food chain, population decline, and ways to help local species by looking at the American Kestrel, and its place in Arizona's many ecosystems. Attendees will walk away with turn-key resources including two different graphic organizers, a great math game for middle school students, and two fully-planned, easy to implement hands-on projects.

### **Science and the Science of Reading in the K-5 Classroom (K-5)**

**Arizona Science Center | Celebration Lab**

**Savvas Learning | Andrea Baker, Curriculum Specialist Supervisor • Susan Archibald, Field Specialist**

Calling all elementary school teachers! Join us for an engaging and enlightening workshop that explores the powerful intersection of science education and the Science of Reading initiatives. Discover how teaching science can support and enhance students' reading and writing abilities, creating a comprehensive approach that fosters academic achievement across disciplines.

### **Ending the Silence Presentation (7-12)**

**Arizona Science Center | Boardroom**

**NAMI Valley of the Sun | Angela Cross, Ending the Silence Program Specialist • Birdie Thorn, NAMI Speaker & Author**

Ending the Silence is a 50 minute presentation that focuses on mental health. We talk about ending the stigma on mental health, positive coping strategies, and what mental health hope and recovery looks like. We also discuss signs of suicide and ways to help a friend who might not know what to do. The presentation is geared towards middle and high school age youth.

### **Making Small Adjustments for Big Outcomes, Combining Computer Science and Math! (K-5)**

**CREATE at Arizona Science Center® | Classroom**

**Arizona Department of Education | Alecia Henderson, Computer Science and Educational Technology Specialist**

**Marisa Tualla, Math Specialist**

Are you a K-5 teacher interested in learning more about how you can make small adjustments to effectively implement Arizona's Computer Science Standards into your math classroom? Join us for an interactive, hands-on session where we will explore examples of how to integrate and connect computer science into the mathematics classroom.

## SESSION 4 (2:40 – 3:30 P.M.)

### **Edison Robots in Action (3-12)**

**CREATE at Arizona Science Center® | Public Hall**

**Arizona Science Center | Jennifer Petersen, Professional Development Facilitator**

This workshop is for educators who have experience with Edison robots in their classroom and are ready to kick it up a notch! Participants will dive into hands-on activities using EdCreate kits to demonstrate how these robots can be used to address real-world challenges and enhance critical thinking skills.

### **Animal Art (K-12)**

**Arizona Science Center | Basement Classroom**

**Phoenix Zoo | Leslie Bell, Formal Learning & Engagement Manager**

Connect and appreciate nature through observation and art! Join us as we combine the creative freedom of artists with the inspiration of our animals. We'll discuss how to incorporate STEAM concepts in the classroom regardless of what age or topic you teach. Any artistic skill level is welcome!

### **Authentic Research and Innovation Pathways (4-12)**

**CREATE at Arizona Science Center® | Artistry Hub**

**Arizona Science Center | Rachna Nath, Manager, STEM Competitions and Outreach**

This session will give teachers some direction on authentic ways to find problems and come up with innovative solutions to make students critically analyze issues and come up with real world problem solutions.

### **Unlock the Vertical in Your STEM Courses (9-12)**

**Arizona Science Center | Body Depot**

**SkipCourse LLC | Karl Ernsberger, Teacher, SkipCourse Founder • Aniah Sanders, Curriculum Director**

Good STEM, like Research Experience for Teachers (RET's) or CURE (Course-based Undergraduate Research Experience) courses depend on initiative, collaboration, and support. Building all three into your High School class, while differentiating for diverse learners is tough for one teacher. I'd love to hear from you what you've done to overcome these challenges, and share a potential solution I've been working on. SkipCourse is an app in development to reward advanced students who take the initiative to extend and enrich class projects, by providing feedback on their work and matching it to concurrent credit opportunities. We'll close by comparing and providing feedback for resources and methods used in each of our classes, and brainstorming overlaps and synergies between approaches.