MINNDEPENDENT

2026 STEM Education Conference Program
Wednesday, August 12, 2026
Heritage Christian Academy, Maple Grove, MN

Welcome and Keynote: 8:30-9:15 am

How Lucky Are You? Your Attitude is the Lesson They'll Remember

PRINCESS PAULA consulting

Teaching is meaningful work, but it is not always easy. Educators do not get to choose every student, every situation, every coworker, or every surprise that walks through the classroom door. But they do get to choose the attitude they bring into the room. In this energizing keynote, Princess Paula brings the FISH! Philosophy to life with a practical and refreshing focus on one powerful mindset shift: moving from **"I have to"** to **"I get to."** Through humor, real-world examples, and the FISH! practice of **Choose Your Attitude**, educators will be reminded that their presence, perspective, and daily choices have a direct impact on their students, their teams, and the culture of their school. This keynote is designed to encourage teachers to pause, reset, and reconnect with the purpose behind their work — not by ignoring the hard parts, but by choosing how they show up in the middle of them.

With over 20 years of experience working alongside Chambers of Commerce, school districts, non-profits, networking groups, and businesses of all sizes, Princess Paula, as she is professionally and affectionately known, is a keynote speaker who knows how to light up a room and inspire action. Paula has mastered the art of networking and digital marketing, making her an indispensable ally in the digital age. Her high-energy presentations blend humor, storytelling, and sharp insights that leave audiences feeling motivated and ready to tackle their goals. Born and raised in Ontario, Canada, this Italian Canadian brings a unique blend of professional insights and personal warmth to everything she does. A proud graduate of Lakehead University with degrees in Humanities and Education, Paula has made it her mission to help people harness tools like Generative AI, master the art of networking, and most recently, share the four practices of the FISH! Philosophy with teams and organizations across the globe. When Paula's not on stage, she's probably creating the perfect charcuterie board, tackling a home renovation project, or playing piano and singing at special events. She's the proud mom of three adult kids, a fabulous daughter-in-law, and the "Mrs." to her husband's "Santa" during the holiday season. Let's not forget her two furry co-workers: rescue dogs Bentley & Cooper.

Morning Breakout Sessions

Morning Double Session: 9:30-11:50 pm (10-20 minute break at 10:30 am)	
K-5	**Beyond Behavior Management: Creating a Classroom where All Learners Thrive** **Melinda Rohland – Heritage Christian Academy** This workshop moves beyond behavior management to explore the "Human Operating System." When the brain enters survival mode, the biological “security system” overrides the ability to engage in risk-taking, critical thinking, and a growth mindset essential for academic growth. Participants in this workshop will learn child-friendly metaphors to teach students “Brain Literacy,” empowering them to navigate the Zones of Regulation by understanding the Brain Boss (Prefrontal Cortex), the Security Guard (Amygdala), and the Vagus Brake. Educators will build Sensory Reset Toolkits featuring bilateral stimulation, proprioceptive grounding, and olfactory shifts designed to "feed the brain" and foster the neuroplasticity required for grit and curiosity. The session culminates in an interactive STEM challenge where educators role-play these regulation strategies in real time, fostering the proactive consistency and best practices essential for all learners to thrive.

One-Hour Breakout Sessions: 9:30-10:30 am	
K-12	**Meet Your New Thought Partner: A Hands-On Introduction to Google Gemini Gems** **Vic Dreier – SciMathMN** What if you had a thought partner that knew your curriculum, understood your teaching style, and was always ready to collaborate? In this hands-on session, educators will learn how to use Google Gemini to create a custom “Gem” — a personalized AI instructional assistant built entirely around you and your work. Whether you're looking for help drafting assessments aligned to standards, brainstorming STEM-integrated projects, generating parent communication, or simply thinking through a complex instructional challenge, your custom Gem becomes an extension of your professional expertise. You’ll also get a first look at ambitious updates to the Minnesota STEM Teacher Center that will leverage AI to better support teachers. During the session, you’ll build your own custom Gem, ready to use in your practice immediately. ***Please bring a laptop.**
K-12	**“Learning Through Baseball” at Target Field With Science, Math, Sustainability and More** **Dale Wolpers – Minnesota Twins Learning Through Baseball with STEM** Baseball has been described as a window on American life and as such can serve as an engaging platform for education. The Minnesota Twins have developed a “Learning Through Baseball” program that is available to students at all levels. In this seminar, participants will see how all areas of learning are taught through the sport of baseball. Experiences are taught through classes like “Science of Baseball, Math of Baseball, Team Behind the Team, Heroes of Baseball, Women in Baseball, Language of Baseball, Environment and Sustainability, “ and more. “Learning Through Baseball” connects students to real-life skills that are used in sports.
3-5	**Harvest Hauler: STEM, Food, and the Future of Learning** **Patrick Dugan – SmartLab** This session explores how the SmartLab learning ecosystem brings curriculum to life through Harvest Hauler, a project where students design and program autonomous food trucks to address food insecurity. By integrating robotics, agriculture, and engineering, learners tackle authentic community challenges while developing problem-solving, collaboration, and systems thinking skills. Attendees will experience how interdisciplinary projects foster student agency and inclusion while aligning with academic standards and career-connected learning. Participants will leave with strategies for implementing real-world STEAM experiences that support engagement and scalable innovation in their schools.
3-8	**The STEM Connection: Bridging Disciplines Through Design Challenges** **Kelsey Irizarry & Debbie Monson – University of St. Thomas** Transform your classroom into a STEM playground! In this hands-on session, K-8 educators will discover how to seamlessly weave science, technology, engineering, and mathematics into existing curriculum. Through an engaging design challenge, you'll experience firsthand how a single activity can spark connections across multiple disciplines. Leave with practical strategies, ready-to-use lesson frameworks, and the confidence to turn everyday classroom materials into powerful STEM learning experiences. Whether you teach reading, math,

	science, social studies, or even art, you'll discover how STEM integration enhances—rather than competes with—your current teaching goals.
6-12	**Solar Exploration: What Factors Affect How Much Electricity You Get From a Solar Panel?** **Anna Gomberg – We Care Solar - Education** Curious about how solar energy works and how to bring renewable energy concepts to life for your students? Join this hands-on session to identify and test the specific variables that impact solar electricity output using mini solar panels and motors. Participants will learn how to use digital multimeters to take precise quantitative readings, review the foundational physics concepts of current and voltage, and consider the broader benefits, challenges, and real-world applications for solar energy. Educators will leave with practical, interactive methods to engage middle and high schoolers in the science, data collection, and real-world implications of clean electricity.
6-12	**Case Closed: Using Wildlife Forensics to Teach Global Conservation** **Trinity Leiser & Chris Ness – Minnesota Zoo** Wildlife trafficking is a daunting topic, but it's also a powerful entry point for teaching biodiversity, ethics, and wildlife forensic science. In this hands-on, interactive session, we'll explore how to navigate difficult conservation conversations with middle and high schoolers. Participants will explore a diverse range of biofacts and trafficked items while trying out activities from the Zoo's Vanishing Animals class, practicing the skills of a wildlife crime detective to distinguish real ivory from fakes. We will conclude with actionable ways students can advocate for wildlife and learn more about what the Zoo is doing to help combat this global conservation issue. Come ready to touch, investigate, and bring back a new perspective on wildlife protection to your classroom.

Session 2: 10:50-11:50 am	
K-12	**Talk Nerdy to Me: Generative AI 101 for Beginners** **Paula Skoviera – Princess Paula Consulting** Generative AI is showing up everywhere: in classrooms, lesson planning, student work, emails, search tools, workplace expectations, and daily life. But for many educators, the big question is still: *What exactly is it, how does it work, and what am I supposed to do with it?* In this approachable and practical introductory session, Princess Paula breaks down Generative AI in plain English. Educators will learn what Generative AI is, how tools like ChatGPT, Claude, Gemini, and Copilot work, what common AI terms actually mean, and how this technology is already impacting teaching, learning, communication, and student readiness. This session is designed for educators who are curious, cautious, overwhelmed, or brand new to AI. Attendees will leave with a stronger understanding of what AI is and what it can do well — and where human judgment still matters, practical ideas for using it responsibly and effectively in their professional lives, and increased confidence to start using AI tools with curiosity, caution, and common sense. Already familiar with AI? Consider *Talk Nerdy to Me: Generative AI 2.0 for Educators* in Session 2.*Please bring a laptop.
K-12	**Get Wild in Your Classroom: Using Free Livestreams to Make Connections in Science, Math, and ELA** **Tricia Mayhew – Heritage Christian Academy** This session transforms global zoo and aquarium livestreams into "digital field sites" for authentic scientific research across K-12 classrooms. Participants will learn to design age-appropriate ethograms to standardize observations and distinguish between specific animal behaviors. Educators will master techniques for collecting simultaneous quantitative data, such as event frequencies, and qualitative data, such as environmental context. We will demonstrate how to scaffold these observations into evidence-based narrative summaries to grow students' scientific writing skills. Attendees will leave with a complete toolkit of editable templates and a directory of reliable feeds to implement immediate, no-cost FUN inquiry in their classrooms.

3-5	**Plug Into Creativity: Cross-Curricular STEM Learning with Makey Makey** **Eileen Moening – Carondelet Catholic School** Bring hands-on exploration and innovation to your 3rd–5th grade classroom with Makey Makey! In this interactive session, participants will engage in simple yet powerful projects that connect coding, engineering, and creativity across multiple subjects. Learn how students can design interactive state posters that display digital images through conductive circuits, compose original rhythms using Makey Makey drums and music apps, and engineer their own coded games. Attendees will leave with adaptable, classroom-ready ideas that spark curiosity and promote critical thinking. No coding experience needed—just a willingness to play, tinker, and invent! *Please bring a laptop or tablet.
3-12	**Using PBS Media for Interdisciplinary Learning** **Katie Hessen – Twin Cities PBS** Explore how high-quality, research-based media from PBS platforms like TPT Learn and PBS LearningMedia can enhance STEM learning through an interdisciplinary approach. Participants will learn to engage students in solving real-world problems by applying concepts from science, technology, engineering, math, social studies, and the arts. They will explore classroom-ready tools and best practices for using media to foster creativity, collaboration, innovation, deeper understanding, and active engagement. Attendees will leave with effective methods and access to thousands of free, standards-aligned PBS resources that support cross-disciplinary STEM instruction.
6-12	**Amp Up Impact: Aquaculture & Great Lakes Education Resources** **Julianne Grenn & Heidi Ferris – University of Minnesota Sea Grant Program** Heidi Ferris and Julia Grenn, extension educators with the University of Minnesota Sea Grant, will share ways to amp up your impact by using interdisciplinary connections to water science, aquaculture, and the Great Lakes. Network with other educators and learn more about the Minnesota Sea Grant (MNSG) Educator Resources Program, which includes an educator mini-grant program, educator professional development opportunities, lessons, kits, and much more! Explore a variety of MNSG materials: hands-on and online resources, 2026 Aquaponic Teacher Workshop, 2027 Aquaculture Challenge, and MNSG Watershed Game. Resources are free or available for check-out from MNSG and the Center for Great Lakes Literacy. This session is funded through the Center for Great Lakes Literacy and Minnesota Sea Grant.
9-12	**STEMifying Minnesota FFA: Connecting Industry with Education** **Natasha Mortenson & Mary Hoffmann – Minnesota FFA Association** This interactive workshop explores how Minnesota FFA is transforming STEM learning through immersive, hands-on agricultural experiences. Participants will examine how key statewide initiatives—including the Technology Empowered Careers Conference, AgriTech Field Days, Welding Invitationals, and the Drone Pack Grant Program—intentionally integrate science, technology, engineering, and mathematics into agricultural education. Grounded in real-world applications, these programs engage students in emerging technologies such as precision agriculture, drone operation, advanced manufacturing, and engineering design. Attendees will gain insight into how these experiences not only build technical competencies but also foster problem-solving, systems thinking, and workforce readiness aligned with Agriculture, Food, and Natural Resources pathways and future STEM careers.

Afternoon Breakout Sessions

Afternoon Double Session: 12:50-3:15 pm (break from 1:50-2:10 pm, last 5 minutes for survey)	
3-12	**Task-Tool-Talk: A Framework for Rigorous STEM Education** **Audrey Moorhouse & Natalie Hartung – Community of Saints Regional Catholic School** In this session, attendees will learn the "Task-Tool-Talk" model of STEM education and leave with practical tips for structuring meaningful, engaging, rigorous, and accessible STEM experiences in their classrooms. This model supports sensemaking by engaging students in complex, real-world tasks using tools to amplify thinking, while fostering productive discourse to build understanding. All young people, especially those from underserved communities, deserve access to high-quality STEM Education. The "Task-Tool-Talk" approach helps make rigorous STEM education more accessible through small adjustments to our science teaching practices. ***Please bring a laptop and lesson/topic to workshop.**

Session 3: 12:50 - 1:50 pm	
K-8	**Integrating Computer Science to Support K-8 STEM Education** **Tom Cozzolino – Northern Lights Collaborative for Computing Education** In this session, we will introduce what computer science is and how CS integration can enhance STEM experiences for students. We will explore CS tools such as Scratch, micro:bits, and robotics to provide different options for teachers. Using standards from CSTA as well as the MDE CS-integrated science standards as guides, this session will help participants see CS as a way to enhance what is already being taught, as opposed to a separate subject area. *Please bring a laptop.
K-12	**Talk Nerdy to Me: Generative AI 2.0 for Educators** **Paula Skoviera – Princess Paula Consulting** Already understand the basics of Generative AI? Then this session is for you. Join Paula to explore: *How do I use this well — and how do I make it actually useful for my work?* This hands-on, next-level session is designed for educators who have already experimented with AI and are ready to move beyond basic prompts. Princess Paula will guide attendees through more practical and strategic uses of Generative AI, including how to create reusable tools, organize work inside platforms, build stronger prompts, customize AI for recurring tasks, and apply AI to real classroom and school-based needs. Attendees will explore tools and features such as custom GPTs, Claude Projects, Gemini Gems, and structured prompt frameworks, with time built in to workshop ideas that fit their own roles. Whether they are designing lessons, creating differentiated materials, drafting parent communication, building rubrics, planning activities, or saving time on repetitive tasks, educators will leave with concrete ways to make AI a more useful professional partner. **New to AI? You may want to consider *Talk Nerdy to Me: Generative AI 101 for Beginners* in Session 2 instead of or prior to this session.** *Please bring a laptop.
K-12	**Beyond "Distracted": Recognizing ADHD and Supporting Neurodivergent Learners in STEM Classrooms** **Lindsay Johnson – CARE Counseling of Minnesota** Students with ADHD—particularly those with inattentive presentation—are frequently overlooked in STEM classrooms, where challenges may be mistaken for lack of motivation, anxiety, or behavioral concerns. This interactive session provides educators and school leaders with a clear, practical overview of ADHD, common co-occurring diagnoses, and how these profiles can impact problem-solving, organization, and persistence in STEM learning. Participants will explore how ADHD often presents differently in girls and other under-identified students, using real-world classroom examples and case scenarios. The session will highlight concrete strategies, tools, and accommodations drawn from IEPs and 504 plans that can be immediately integrated into STEM instruction to support executive functioning and engagement. Attendees will also gain guidance on when and how to discuss concerns with families, including the value of psychological testing as a collaborative pathway to student success.

3-5	**Explore the Great Microgreen Caper** **Brian McNeill – University of Minnesota/MN 4H Youth Development** The Great Microgreen Caper is a hands-on, inquiry-based activity where students take on the role of investigators to identify seeds and track microgreens as they grow. Through observation, data collection, and critical thinking, youth explore plant science concepts such as seed structure, growth patterns, and environmental factors that influence development. Teachers can use this engaging scenario to integrate STEM learning by having students design experiments, compare plant traits, and draw evidence-based conclusions. It works well as a cross-curricular lesson, incorporating science, problem-solving, and writing as students document their findings and present their results.
6-12	**Probability, Polling, and Political Science: How to Teach Statistics, Encourage Quantitative Analysis, and Promote Investigative Questioning Through Election Polling** **Morgan Matson – Heritage Christian Academy** Public opinion polling offers a powerful, real-world context for teaching probability, data analysis, and critical evaluation of evidence — skills central to STEM instruction across middle and high school classrooms. In this session, participants will explore how polling data can be used to help students interpret graphs and distributions, evaluate sampling methods and bias, question data validity, and explain why different conclusions can be drawn from the same data set. Rather than focusing on political content, this session emphasizes transferable instructional strategies for building quantitative reasoning and investigative thinking. Teachers will see how to scaffold student understanding from middle school foundations (basic probability, data representation, and questioning sources) to high school applications (margin of error, sampling techniques, correlation vs. causation, and methodological critique). The session also addresses how to design lessons and assessments that move beyond procedural math to require students to analyze, justify, and communicate conclusions using authentic datasets. Examples and activities are adaptable across science, STEM, math-adjacent, and humanities classrooms and are designed for teachers who want to strengthen students' data literacy without requiring an advanced statistical or political science background.

Session 4: 2:10-3:15 pm (last 5 minutes for attendee survey)	
K-8	**3M Visiting Wizards: (almost) Magical Hands-on Classroom Activities from 3M Scientists and Engineers** **Tom Wallisch – 3M** Join a 3M engineer to learn about Visiting Wizards, a 40-year program that brings 3M scientists and engineers into K-8 classrooms to engage students in STEM demonstrations and hands-on activities. The program offers nearly 20 lesson topics, including Air and Vacuum, Color and Light, Magnetism, Papermaking, and Cryogenics. Developed by 3M employees and recently updated by STEM education experts at The Bakken Museum, this program is available free to K-8 classrooms within about 25 miles of 3M's Maplewood headquarters. In this session, Tom will engage attendees in one of the hands-on activity kits (a different one than last year!) and share the thinking behind its development. He'll reflect on more than 25 years as a STEM classroom volunteer as well as highlight additional 3M STEM in-person and online resources.
K-12	**Start Where You Are: Easy Ways to Incorporate Place-Based Science Education** **Amy Szczepanski & Marcee Harris – Teaching Channel** Imagine students testing water quality in a local stream to learn about ecosystems, investigating invasive species on the school's front lawn, or interviewing community elders to explore local history – place-based education (PBE) connects learning to the real world just outside your classroom door. This session will walk you through the essentials needed to integrate PBE into your existing curriculum. You'll explore practical strategies, consider benefits and challenges, and learn tips for sustaining a program with administrative support. Leave ready to turn your schoolyard, neighborhood, and community into a living lab for science learning**!**
3-8	**Data Visualization and Analysis with the micro:bit** **Tom Cozzolino – Northern Lights Collaborative for Computing Education** The micro:bit is a low-cost ($20) device that can be a powerful tool to integrate computer science education in order to enhance STEM experiences for students. In this session, we will focus on the data collection, visualization, and analysis features of the micro:bit but will also introduce and discuss other features and uses for the device as well. No previous experience with the micro:bit or coding required. *Please bring a laptop.
3-12	**Bringing STEM to Life: Engaging Students Through Robotics Programs** **Vicki Coaty, Sarah Steffen, Paula Beckel & Kris Simonson – High Tech Kids** In this session, participants will explore how hands-on robotics programs such as FIRST LEGO League and FIRST Tech Challenge engage students in coding, engineering, teamwork, and real-world problem solving. High Tech Kids will demonstrate how these programs bring STEM learning to life by fostering creativity, building technical and collaborative skills, and providing meaningful opportunities for students to apply their knowledge in authentic contexts. Attendees will leave with a clear understanding of program structure, impact, and practical strategies for implementing these programs in their schools or communities.
6-12	**Reading Is a STEM Skill: Practical Literacy Strategies for Content-Area Classrooms** **Ellen Paxton – Professional Learning Board** Every teacher is a reading teacher -- but most were never trained as one. In this workshop, presenter Ellen Paxton, NBCT, draws on 30+ years of experience in Career and Technical Education and content-area literacy to give educators practical, research-based tools they can use in their middle- or high-school classroom on Monday morning. Participants will explore why STEM texts present unique reading challenges, identify the barriers their own students face, and leave with a ready-to-use implementation framework, a personal action plan, and complimentary online course access for every teacher in their school.