Grade Level: General Science All Grades
Presenter(s): Vera Cubero, NC DPI
Deep Dive- NC AI Guidelines *Take a deep dive into North Carolina's Generative AI Guidelines for Pk-13 Public Schools. Explore the guidelines, discuss, and ask questions.*

Location: 102

Grade Level: Pre-K-5
Presenter(s): Jennifer Engel, Catawba Springs Elementary
STEM Clubs K-5 *Effective ways to involve k-5 students in STEM Clubs or special area classes. How to cover Science core standards across grade levels with hands-on STEM experiments and resources.*

Location: 103

Grade Level: Grades 3-5
Presenter(s): Peter Panico, Steele Creek Elementary
Investigations not Experiments *With the integration of NGSS we have a different approach to teaching and learning, so we need to change the lessons for students to learn science. In this session, participants will be presented with characteristics of NGSS based learning. We will review some isolated hands-on activities and demonstrations and change them to the three-dimensional approach to instruction and connect them to a larger narrative.*

Location: 165

Grade Level: Grades K-8
Presenter(s): Sarah Rogers, Iredell Statesville Schools Prime Time for Kids
Do Anything with Nothing - Incorporating STEAM Education on A Budget *"We have done so much with so little for so long we are now qualified to do anything with nothing." I don't know about you, but this is true for all classrooms I've ever been in. We will be exploring ways to incorporate meaningful STEAM activities into your classroom with the tiniest of budgets.*

Location: 166

Grade Level: Grades 6-8
Presenter(s): Heather Cardenas & Leslie Smith, Lincoln Charter
LEGO Spike *The LEGO Education SPIKE Prime Set is the go-to STEAM learning tool for grade 6-8 students. Combining colorful LEGO building elements, easy-to-use hardware, and an intuitive drag-and-drop coding language based on Scratch, SPIKE Prime continuously engages students through playful learning activities to think critically and solve complex problems, regardless of their learning level.*

Location: 032

Grade Level: General Science All Grades
Presenter(s): Syeda Fatema Mazumder, Johnson C. Smith University
Physical Interactive Models of STEM Concepts *In this presentation, I will demonstrate how you use Makey Makey and Scratch to create a STEM concept alive by making it interactive. It will inspire how to blend Arts into STEM so that we make the transition of STEM to STEAM.*

Location: 007

Grade Level: Grades 9-12
Presenter(s): Tim Guilfoyle, HHMI BioInteractive
"Figure-ing" It Out with BioInteractive Data Points and Phenomenal Images *Interpreting authentic data can be challenging for students. Using BioInteractive's Data Point activities, we'll explore how to help students build skills to make sense of figures. We will explore instructional strategies for interpreting graphs and figures to address science practices. We will share ideas about how to integrate the activities and free resources into their classroom to engage students in the science practices.*

Location: 036

Grade Level: Grades 9-12
Presenter(s): Dr. Kamela Goodwyn, The GoodClay Group
What's the Business with STEM? The Future Impact of STEM Entrepreneurship on Underrepresented Communities *The integration of STEM and entrepreneurship curriculum taught in K-12 will secure the U.S. position in innovation, science research and remediate wealth and equity gaps in underrepresented communities. STEM educators have an opportunity to pioneer innovative curriculum, maximizing exposure to STEM, improving STEM graduation rates and diversifying the STEM pipeline. This session will guide educators to build STEM curriculum integrating and applying entrepreneurship.*

Location: 038

9:20 -9:45 am   Exhibitor Session

Concurrent Sessions   9:50 – 10:50 am

Grade Level: General Science All Grades
Presenter(s): Lindsey Sipe, NC DPI
Reaching Every Reader: Utilizing AI to Level Up Your Classroom Resources *Boost your instruction with AI! Discover hands-on ways to connect with every student and make learning an adventure. From crafting personalized stories to turning lessons into songs, this session offers practical strategies to engage all learners. Leave with time-saving tools and ideas to transform your teaching and make every lesson exciting, accessible, and impactful.*

Location: 102

Grade Level: PreK-5
Presenter(s): Brad Rhew, Guilford County Schools
Hands-On Activities to Incorporate the SEPs into the Classroom *This presentation will provide participants with hands-on activities to help with teaching and implementing the science and engineering practices in their classrooms. Tools and materials shared can be applied to various grade levels to engage all learners in science instruction.*

Location: 103

Grade Level: Grades K-8
Presenter(s): Justin Owens, Hanford Dole Elementary
Brick by Brick: Teaching with LEGOs *In this session, participants would get hands on experience and access to free digital resources that illustrate how they can utilize everyday LEGO sets to teach any of the four major content areas: Math, Science, Social Studies, or ELA. Increase meaningful and purposeful engagement into any content area through LEGOs!*

Location: 165

Grade Level: Grades 6-12
Presenter(s): Luke St. Amand, Lectec
Build - Learn – Ride *Build an electric skateboard and take it for a spin while you discover how to use this instructional aid to transform complex engineering and physics concepts into an unforgettable, hands-on experience to inspire future engineers.*

Location: 166

Grade Level: Grades K-8
Presenter(s): Eliza Russell & Jason Beideck, NASCAR Hall of Fame
NASCAR and Racing - New Ways to Engage using Data and Modeling *The NASCAR provides you with an array of opportunities to engage your students to explore data and engineering. The session will feature small working session with data sets and resources to support NC Science standard and to assess learning objectives and knowledge.*

Location: 032

Grade Level: General Science All Grades
Presenter(s): Judy Day NC Science & Engineering Fair
Learn how your students can use Vernier sensors to solve science questions in the classroom. Basic introduction to the sensors and software will lead you into hands-on activities that can be transferred to your teaching and make every lesson exciting, accessible, and impactful.

Location: 007

Grade Level: Grades 9-12
Presenter(s): Jackie Smith, William A. Hough High School
The Intersection of Math and Science: Forensic Science *I will present an overview of two ways math is used in forensic science - to analyze blood spatter patterns and to calculate bullet trajectories. I will use trigonometry along with forensic data to show how you can determine where a victim and their attacker were positioned at the time of the assault which can have important legal implications and how you can calculate the position of a shooter using trigonometry.*

Location: 036

Grade Level: General Science All Grades
Presenter(s): Kalo Haslem, Dunn Middle School
Scaffold Learning Experiences to Maximize Learning *This session will explore how scaffolding Canva use can enhance student learning and improve the quality of their work. Canva offers a user-friendly platform for creating a variety of materials, but it must be used thoughtfully. We'll share strategies to scaffold Canva into teaching, fostering creativity and focusing on learning rather than the challenge of mastering new tools.*

Location: 038

10:55 -11:20 am EXHIBITOR SESSION
11:30 Lucas Room, Cone University Center (Link Bldg. # 5)

Carolinas STEM Teaching & Learning Conference
Mebane Hall, Cato College of Education, UNC Charlotte, January 3, 2025

Concurrent Sessions   1:00 – 2:00 pm

Grade Level: General Science All Grades
Presenter(s): Chris Gordon, Lenoir Rhyne University
BBC micro:bit Afternoon Workshop 2 sessions *Are you ready to integrate the T in STEM into your other subject areas? Come to this session and learn about the Computer Science (CS) Standards and have fun using the micro:bits. The low-cost BBC micro:bit is easy to use and fun for students to learn many CS Standards and topics.* **Bring your computer (if you have an Apple device bring your USB adaptor)** *and be ready to have fun learning to program (no programming experience necessary) in this fast-paced session.*

Location: 102

Grade Level: 6-12
Presenter(s): Michelle Stephen, & Premkamur Pugalenthi UNC Charlotte
Evidence-Based Tools for Mathematics Instructional Leaders to Empower Teachers in HQEMI *This interactive session invites mathematics instructional leaders including school- and district-based coaches and administrators responsible for mathematics instruction to explore resources designed to support each and every teacher in implementing the NC Mathematics Standards through High-Quality Equitable Mathematics Instruction (HQEMI).*

Location: 103

Grade Level: Grades K-5
Presenter(s): Lara Cabaniss, Cabarrus County Schools
Using AI to Transform your Elementary Classroom *Participants will learn how to use AI to transform their classrooms into places of inquiry, engagement, and 21st century learning. Come and explore resources that foster responsible AI use for elementary students.*

Location: 165

Grade Level: Grades K-8
Presenter(s): Sunee & Malee Stevens, Dorothy J. Vaughn Academy of Technology
Creative Learning in Action: Engaging Students with Wick Editor *Integrating technology tools into the classroom creates dynamic opportunities for student engagement. Participants will explore how to use Wick Editor, a free and versatile animation tool, to enhance student learning through creative and interactive projects.* *Please bring a computer to fully participate in the hands-on activities.*

Location: 166

Grade Level: Grades 6-12
Presenter(s): Regina Smith, Kearns Academy of Computer and Information Sciences
Educating the Heart & Mind: Building Relationship in the Classroom to Increase Student Outcomes *In this interactive presentation, we explore the vital role strong student-teacher relationships play in enhancing student success, particularly for underrepresented groups. We'll reflect on impactful educators and their influence, emphasizing the relational bonds they built. Evidence shows that meaningful relationships significantly improve outcomes for marginalized students and increase their participation in challenging fields like computer science, where representation is crucial.*

Location: 032

Grade Level: Grades K-8
Presenter(s): Katie Mawhinney, Appalachian State University
Putting the Mathematical Where Our Mindsets Are *We talk a lot about developing a positive mathematical mindset within our students, but how often do we reflect upon our own mindset regarding mathematics and ourselves as mathematical learners? This session engages participants in tasks that allow us to explore as learners and reflect upon our own mindsets. We will also investigate the materials freely available through NC2ML that focus on teachers' growth mindsets.*

Location: 007

Grade Level: Grades 9-12
Presenter(s): Ingrid Humphrey, Charlotte Mecklenburg Schools
"Out with the old, in with the New" *Participants will internalize shifts in science teaching to plan and facilitate student experiences in their classroom.*

Location: 036

Grade Level: General Science All Grades
Presenter(s): Bonnie Robinson, Royal Oaks School of the Arts
Science Meets Art: Transforming Instruction Through Arts Integration *Discover innovative strategies to enhance science instruction by integrating the arts! This interactive workshop for grades 3-12 educators features inspiring examples of student projects that blend life, physical, and earth sciences with creative arts. Participants will engage with multimedia examples, explore AI-driven resources, and collaborate to develop arts-integrated lessons tailored to science standards. Enrich your classroom and captivate students by merging creativity with scientific inquiry!*

Location: 038

Concurrent Sessions 2:05 – 3:05 pm

Grade Level: General Science All Grades
Presenter(s): Chris Gordon, Lenoir Rhyne University
BBC micro:bit Afternoon Workshop 2 sessions *Are you ready to integrate the T in STEM into your other subject areas? Come to this session and learn about the Computer Science (CS) Standards and have fun using the micro:bits. The low-cost BBC micro:bit is easy to use and fun for students to learn many CS Standards and topics.* ***Bring your computer (if you have an Apple device bring your USB adaptor)*** *and be ready to have fun learning to program (no programming experience necessary) in this fast-paced session.*

Location: 102

Grade Level: General Science All Grades
Presenter(s): Alyson VanAlphen, Weddington Middle School
Using Data in Your Classroom *Teaching students how to analyze and interpret data can be challenging. In this session, we will use My NASA Data and other data sources to explore this Science and Engineering Practice (SEP).*

Location: 103

Grade Level: Grades 3-5
Presenter(s): Chrissy Williams, Rocky River Elementary
Using SEPs & CS in 5th grade Force and Motion *With the changes to the 5th grade science standard course of study which now includes Science and Engineering Practices (SEPs), teachers will walk away with ideas for integrating Computer Science (CS) into their Forces and Motion unit. (PS.5.2.1 & PS.5.2.2). Examples of lessons to be shared include roller coaster design and using Spheros to investigate the effects of friction on speed.*

Location: 165

Grade Level: Grades K-8
Presenter(s): Michelle Pierce, Mallard Creek STEM Academy
ComputeHer Science: Amplifying the Female Voice in Computer Science *The purpose of this presentation is to promote, and support increased female representation in Computer Science by identifying barriers, discussing successful initiatives, and highlighting the importance of diverse perspectives in tech. We will explore ways we can encourage young women to pursue computer science.*

Location: 166

Grade Level: PreK-2
Presenter(s): Kerrie Lalli, Sedgefield Montessori & Eric Hamilton, Lincoln Heights Montessori
Building Capacity in SEPs in the Primary Grades *In this session, we will explore the importance of introducing the Science and Engineering Practices to students starting in the primary grades. Focusing on the Earth and Space Science strand, we will demonstrate practical strategies for incorporating SEPs into early elementary lessons, ensuring that young learners build foundational skills in scientific inquiry and problem-solving. Teachers will learn how to engage students in hands-on, inquiry-based activities that foster critical thinking and creativity, while aligning with the standards.*

Location: 032

Grade Level: Grades 3-12
Presenter(s): Emilee Batchelor & Livie Apple, UNC Charlotte Noyce Scholars
Unpacking Data: Empowering Educators through Data Analytics and Big Machine Learning in Ethical Ways *A brief presentation will introduce attendees to computational thinking and ethical reasoning in realms such as Data Analytics and Big Machine Learning. Participants will then engage in a hands-on scenario and discussions on data's social and ethical dimensions while discovering actionable strategies to integrate data-driven insights into their teaching practices.* ***Please bring a computer.***

Location: 007

Grade Level: General Science All Grades
Presenter(s): Sharon Okoye, Albemarle Road Middle School
Bridging STEM career gap through Partnerships Between K-12, Higher Education, and Workforce *"It's time we bridge the divide between our K-12 systems and our college, career, and industry preparation programs, which leave too many students behind and perpetuate inequities in our most diverse, underserved, and rural communities," said U.S. Secretary of Education Miguel Cardona. This session delves into solution-driven ways partnerships between k12, workforce and higher education can bridge critical gaps in STEM.*

Location: 036

Grade Level: General Science All Grades
Presenter(s): Amethyst Klein, Joseph W. Grier Academy
Making Sense with Protocols *Making sense of our world comes from thinking like scientists. However, "teaching" sense making can be a challenge; come practice protocols with a storyline unit based on weather. Participants will engage with Earth Science NC Standards while practicing with*

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phenomena, class consensus model, a driving question board, science circle, and more.

Location: 038