Session 1 9:40 AM – 10:30 AM

Beyond the Book: Integrating STEM Through Interactive Read-Alouds Room 246

K-5 | Bryan Luzon (Hoke County Schools) & Apple Gayya (Cumberland County Schools)

Transform read-alouds into high-impact STEM experiences! This interactive session models inquiry-based, student-centered strategies using familiar texts (e.g., The Three Billy Goats Gruff) to integrate engineering, science, and literacy. Participants will engage in hands-on design, investigation, and modeling aligned to standards and the engineering design process, while leveraging technology (Novel Effect). Walk away with rigorous, ready-to-implement, cross-curricular practices.

From Dirt to Discovery: Using Inquiry and Real Scientific Practices to Tackle the Earth and Human Activity Science Standards Room 223

6-8 | Chiara Klein (Duke University), Rachel Polmanteer (CIBL) & Megan Hoert-Hughes (Duke University)

This session will equip educators with the knowledge and practical tools needed to teach the key concepts of the Earth and Human Activity Science Standards. Through hands-on, inquiry-based discussions and activities, educators will examine the reciprocal relationship between the lithosphere and humans, using real-world evidence to explain why healthy soils are essential for both environmental and human well-being. Educators will leave with classroom-ready strategies, resources, and activities.

Future-Proofing the Classroom: AI, Sustainability, and the Elementary Learner Room 335

K-12 | Caroline Brickhouse (Durham Public Schools)

In an era defined by rapid technological shifts and climate urgency, the role of the educator is to translate global problems into actionable classroom lessons. This PD session explores a specialized adaptation of The Economist's "Topic Talk" series, specifically focusing on AI and Sustainability. While originally designed for older audiences, this session demonstrates how to distill these high-level concepts into a suitable lesson for upper elementary. This session is open to middle and high.

How Do You Know They Really Got It? Room 387

K-8 | Manley Midgett (NCSTA)

Have you ever taught something, tested your students and then found out they really did not understand what you had taught? We often ask students to tell us information that we have given them, but less often to we ask the right questions or ask them to show us what they learned. We sometimes think they understand when they really don't.
Try the example activities you will be given to let you know if your 3rd-8th grade students really understand the science you teach.

Supporting Student Flourishing in Mathematics Room 226

6-8 | Shelby Morge (UNCW Watson College of Education)

In this interactive session, participants will explore tools that aid in implementing the NC Mathematics Standards through High-Quality Equitable Mathematics Instruction (HQEMI). You'll gain insights into using empathy-focused practices, fostering mathematical mindsets, and enacting HQEMI approaches. Together, we will navigate an online hub of materials and learn practical methods for integrating them to support student flourishing. Bring a laptop for this hands-on experience.

The Survival Guide for Lifelong Learners: Educator Edition Room 235

PK-12, Inf. Ed. | Avianne Harris (UNCW Watson College of Education)

Education is constantly changing, and trying to keep up can feel overwhelming. This interactive session invites educators to pause, reflect, and rethink how they approach new technology. Through guided reflection and conversation, participants will identify a personal barrier and leave with one small, practical step they can try right away.

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Session 2 10:40 AM – 11:30 AM

Charting New Paths in STEAM: Leading PK-12 Classrooms with Block Coding and Hands-On Technology — Room 335

PK-12, Inf. Ed. | Johnathan Blue & Mark Light (NC A&T State University - NC Cooperative Extension - 4-H)

Chart new paths in STEAM learning as you explore how block-based coding can transform learning across PK-12 classrooms. This interactive session empowers educators to use Blockly-powered tools like Scratch Jr, Scratch, Makey Makey, Sphero, LEGO SPIKE Prime, Dash & Dot, and DJI Tello Edu to design hands-on STEAM experiences. Participants will gain practical strategies to engage students through coding, collaboration, and creative problem solving across all disciplines.

Designing Solutions: Engineering for Native NC Wildlife Rehabilitation — Room 306

K-8 | Amy Isvik & Leah Bug (The Engineering Place at NC State University)

Engage students in real-world problem solving by integrating NC science standards with engineering practices. In this hands-on session, participants will research an animal and design a prototype device and habitat to support its rehabilitation. The activity blends life science content with the engineering design process, promoting creativity, critical thinking, and collaboration. Educators will reflect on the science and engineering practices used and explore adaptations across grade levels.

Graphing Motion Meets Storytelling — Room 226

K-12 | Michelle Hafey (UNCW Center for Education in STEM)

Experience the joy of learning how to read a distance/time graph with the Vernier motion sensor. Consider using a distance/time graph as a storytelling tool. This hands-on session will focus on ways to integrate STEM with Literacy and offer information about CESTEM's "Free" Technology Loan Program.

Level Up Learning: Gamification and AI Tools for Smarter Classrooms — Room 235

K-12 | Amber Colon (UNCW Watson College of Education)

In this session, K-12 teachers will explore how to gamify their classrooms using AI-driven tools. We will cover core principles of gamification and how AI tools can be used to leverage gamification in the classroom to support engaging teaching and learning. This session will provide educators with an understanding of gamification, suggestions of game elements to be incorporated in their teaching, AI tools that support gamified learning, and ready-to-use gamification resources. Let's level up you

Using Inquiry to Create the Next Generation of Critical Thinkers — Room 223

K-8 | Rachael Polmanteer (The Center for Inquiry-Based Learning)

Interested in using inquiry as a pedagogy in your classroom? Join our session to experience inquiry through our hands-on activities, and then we will unpack them to discover ways they apply to your setting. You will learn to use inquiry to build engagement, conceptual understanding, and critical thinking skills in your students. Plus, you'll have a great time flexing your own brain power!

Zap! Squish! Light It Up! Play-Doh Circuits for Grades 4–12 — Room 232

K-12 | Ben Schosek (New Hanover County Schools)

Get ready for a session that's bright, squishy, and full of "aha!" moments! Using colorful Play-Doh, LEDs, and batteries, participants will explore Switch Classroom's Intro to Electricity lesson and bring foundational circuit concepts to life. You'll investigate conductivity, resistance, open and closed circuits, and series versus parallel designs through playful, hands-on exploration. Designed for elementary through high school classrooms, this adaptable lab makes abstract electrical concepts t

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Session 2 10:40 AM – 11:30 AM

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Session 3 1:40 PM – 2:30 PM

Catch the Vibe: No-Code Design Flow for Every Classroom Room 306

PK-12 | Jerri Sydes (Onslow County Schools)

What if you could describe your vision and watch it come to life — no design degree, no coding experience required? In this hands-on session, educators will use Canva's AI tools to create stunning, classroom-ready materials through vibe coding. No experience needed. Just bring your vibe.

Cell Life Simulation: Engage, Act, Learn—An Action-Based Approach Room 226

6-12, Inf. Ed. | David Johnson (The Roger Bacon Academy)

Jump inside the cell and experience science in action! In this interactive training, educators take on organelle roles and model key processes through movement and collaboration. Participants will engage in a fun, dynamic simulation and walk away with a practical, ready-to-use activity that boosts engagement and helps students understand how cells function as interconnected systems.

Exploring Coastal Wetland, Amphibians, & Water Quality with Middle Schoolers Room 223

6-8 | Christine Li & Summer Spencer (UNCW College of Science and Engineering)

This session will feature hands-on STEM activities for coastal wetland and highlight an opportunity to engage 10-year-old for a citizen science program, FrogWatch USA. Coastal wetlands are vital ecosystems located in coastal watersheds, providing essential services such as flood protection, water filtration, and habitat for diverse wildlife. Coastal wetlands are areas where water covers the soil or is present near the surface for part of the year, located in coastal watersheds.

Scientist Maker: Building Critical Thinkers Through the Scientific Method Room 246

K-5 | Rachael Polmanteer (The Center for Inquiry-Based Learning)

In this interactive session, participants will explore the award-winning program Scientist Maker, a dynamic 5-part, inquiry-based STEM program designed for the elementary classroom. This program integrates storytelling, hands-on engineering challenges, and real-world citizen science to bring the scientific method to life. Attendees will leave with practical strategies, implementation tools, and ready-to-use ideas to immediately strengthen science instruction in their own classrooms.

Soaring into Engagement and Learner Advocacy for the 99%! Room 232

6-12 | LaTerri Underwood (Duplin County Schools)

This session explores how educators can move beyond mere participation and use tools and strategies to create classrooms where students feel seen, heard, and empowered. With a science classroom lens, the session will focus on the power of engaging hooks and how using AI can support science learning. Participants will explore practical tools and strategies they can implement immediately to spark curiosity, strengthen student voice, and advocate for every learner's success.

Using PHET Make a Ten Number Simulator to Enhance K-2 Student's Numeracy Room 214

K-5 | Britany Hutchison (Onslow County Schools)

This interactive K–2 educator session uses the PHET Make a Ten simulator to build understanding of the base-ten system and place value. Participants begin with a diagnostic task that reveals how students may name place-value positions correctly without understanding numbers as composed units. They will explore how common assessments and algorithms can hide gaps in reasoning about grouping and regrouping. Attendees then engage in two instructional routines that support whole-group or small-group.

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Session 4 2:40 PM – 3:30 PM

Adventuring into AI: Empowering Students & Educators with the Google x 4-H AI Curriculum Room 335

6-12, Inf. Ed. | Johnathan Blue & Mark Light (NC A&T State University - NC Cooperative Extension - 4-H)

Step into the adventure of artificial intelligence by exploring how AI is transforming the world through the Google x 4-H AI Curriculum. In this interactive session, educators will experience hands-on activities that explore how AI recognizes patterns, makes decisions, and solves real-world challenges. Participants will leave with classroom-ready strategies to engage grades 5–12 in AI, STEM, and problem solving.

Coding Beyond Scratch Room 232

K-5 | Kellie Harris & Lisa Crede (Winston-Salem/Forsyth County Schools)

At Moore Magnet Elementary School the SLMC and STEAM magnet coordinator collaborate to provide comprehensive computer science instruction integrated with common core standards. Participants will interact with non-tech coding activities, Matatalab, RoboWunderkind, and Lego Essential kits to follow our vertical progression of instruction. They will also be provided with integrated activities that can be modified to use at their school as well as collaboration and planning time.

Making Science Education Accessible with Foldscopes Room 223

PK-12, Inf. Ed. | Rylee McKenrick (Foldscope Instruments, Inc.)

This session will introduce attendees to the Foldscope microscope - an affordable, high quality microscope that every student can use inside or outdoors. Science education should not be limited only to schools with the financial means to purchase expensive equipment, it is for everyone! At Foldscope Instruments our mission is to make science accessible and equitable for everyone. Join us in this workshop to learn how this tool can positively impact your classroom!

Resilience: An Ecotoxicology Board Game Room 246

6-8 | Chiara Klein (Duke University), Rachel Polmanteer (CIBL) & Megan Hoert-Hughes (Duke University)

Resilience the board game is a cooperative, table-top board game based on building and 'saving' different ecosystems from environmental threats such as climate change and other manmade disasters. Designed for players 10 years and older and aligned with 6-8th grade North Carolina STEM standards, the game is collaborative and interdisciplinary. Join us to play through several rounds of the game, ask questions of our Duke Superfund team, and learn more about how you can access the game.

Your New Teaching Assistant: Using AI to Save Time and Amplify Creativity Room 226

PK-12, Inf. Ed. | Sarah Gardinor, The Center of Applied Sciences and Technology

Discover how AI can reduce teacher workload and boost creativity. This session highlights practical tools like Notebook LM, Gamma AI, and Napkin before focusing on how educators can create custom AI assistants to generate lessons, projects, rubrics, and activities. Participants will learn how to design AI tools that support planning, streamline tasks, and enhance classroom innovation while keeping teachers firmly in control of the learning process.

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