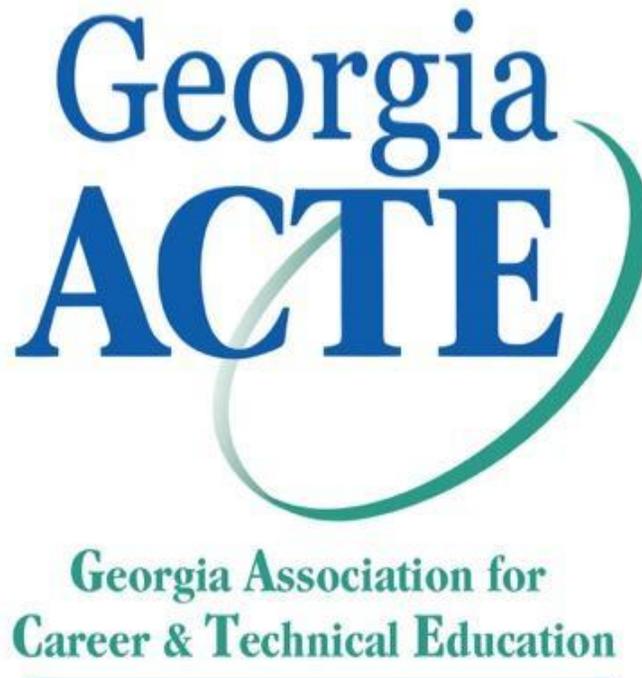


Building, Empowering, Inspiring Georgia's Future

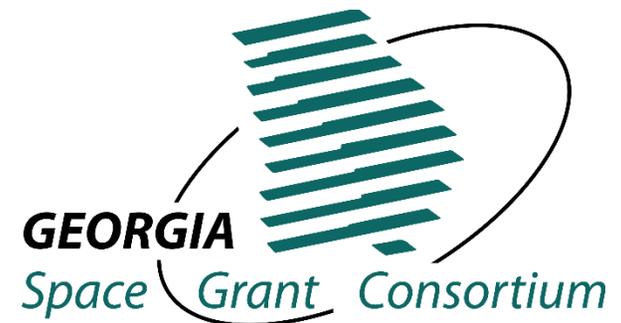
2018 Georgia STEM/ STEAM Forum Agenda

The Classic Center - Athens, GA



**Georgia
Science
Teachers
Association**





Monday 7:30-9:00 AM	Registration				
Monday 9:00-10:00 AM	Opening Session	DJ Cavem- Hip-Hop OG (Original Gardener)			Classic Center Theatre
Monday 10:20- 11:10 AM	Teaching Others, Growing Interest: Platform for Advancing STEM Opportunities Laura Williford Jennifer Carroll	The goals of the platform are to integrate STEM constructs through providing engaging hands-on experiences developed and taught by advanced students to early learners. Offer students who are nearing completion of CTAE curriculum in agriculture the opportunity to impart knowledge and skills to elementary school classrooms.	<i>Interdisciplinary Math and Science, CTAE Integration</i>	K-12 Educators, Administrators	Athena A
Monday 10:20- 11:10 AM	Tiny Houses Marsha Smith Adrienne Keeling Amy Davis	Hands on STEM activity building tiny house models in relation to the aftermath of the earthquakes in Latin America.	<i>Interdisciplinary Math and Science</i>	3-5 teachers, 6-8 teachers	Athena B
Monday 10:20- 11:10 AM	Technology Used to Make STEM Lessons More Innovative and Engaging Jenna Rhodes Heidi Goodin	Participants will learn how to incorporate technology into STEM/STEAM activities to further engagement for students with in the classroom. Teachers will leave the session with hands on activities that will be motivating for students in all STEM/STEAM field areas. Ideas will also be given on how to fund such activities.	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena C
Monday 10:20- 11:10 AM	Performative STEAM Jeff Mather	Jeff Mather, STEAM Artist-in-Residence at Drew Charter School, shares what STEAM Education looks like outside. Outside of disciplinary silos and literally outdoors, too. For 45 days each semester for six years, Mather has co-designed units with Drew Charter teachers in K through 12, in all subject areas, and co-taught them in STEAM partnerships. One of these partnerships, with dance educator, Tambra Harris, a large-scale ambitious, largely outdoor, STEAM event called SPACE IS THE NEW PLACE, has become a signature event at Drew over the past three years. Mather will trace the story of this school-wide collaboration from the beginnings of the nationally known TinkerYard that he developed with STEAM Ed leader, Courtney Bryant.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena D

Monday 10:20- 11:10 AM	Science Goes Mobile! I Hands On Workshop Sharon Holton	Come engage with the latest in hands-on, real-world, K-12 mobile science technology. A complete lab in the palm of your hand! Find out whether what you are drinking is increasing or decreasing your risk for cancer. Discover tools that make data analytics easy and fun! Whether your interest is Biology, Chemistry, Physics, Environmental, or General Science, you'll be amazed with ease and effectiveness of the Labdisc Mobile Science Lab...in or out of the classroom!	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena E
Monday 10:20- 11:10 AM	Aquapontastic STEM Challenge Diane Goldsberry Stephanie Ruffner	Join the 8th grade STEM Academy teachers of Cooper Middle School to learn about the aquaponics project funded by CCSD Shark Tank Grant. Our STEM project challenges our students design and create a self-sustaining aquaponics system that combines hydroponics (cultivating plants in water) and marine life (primarily fish) in a symbiotic environment. The project employs many cross-cutting concepts from mathematics and all three middle school science fields. We will share our aquaponics curriculum including a simple introductory lesson and a demonstration of setting up a system with a bucket and an aquarium.	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Athena F
Monday 10:20- 11:10 AM	Growing Young Scientists Through K-5 Science Fairs Bonne Kirkley Susie Strange	In this session, we will explain our format that works for Elementary Science Fairs. We create an interactive Science Fair 3 times yearly, and deliver instruction school wide that can be taken back into the classroom as background knowledge. We foster a culture that loves science through this format!	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, Administrators	Athena G
Monday 10:20- 11:10 AM	Elementary Science Olympiad Coaches Share-a-thon Sally Creel	Elementary Science Olympiad (ESO) is an awesome STEM Competition for students in grades 3-5. Join us for this interactive session for veteran and new ESO coaches. Ask questions, share ideas and discuss the ins and outs of all things ESO.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, Administrators	Athena H
Monday 10:20- 11:10 AM	CTAE: Putting the T and E in STEM Vickie Grant Leon Grant	Learn how a CTAE and STEM Magnet partnership provides collaboration between a high school pre-engineering teacher and a middle school science and math teacher. Take away examples of how you can extend your reach in your STEM program to find funding, expand partnerships, and develop richer experiences for your students. Discover how authentic, project-based, real world experiences can impact student learning.	<i>CTAE Integration</i>	6-8 teachers, 9-12 teachers, Administrators	Athena I
Monday 10:20- 11:10 AM	Time-Saving Strategies with Science Notebooks Rachel Miller	Are you racing the clock just to cover your curriculum? Do you find time constraints holding you back from incorporating STEAM into your classroom? Notebooking can be a successful way to overcome these challenges while allowing you to ramp up your STEAM integration, promote student organization, and provide endless opportunities for	<i>Nontraditional Student Participation</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Olympia 1

		student engagement. Join us as we share how an innovative notebooking system can extend learning and streamline instructional time. You will take away strategies and free resources that will maximize learning time and inspire a love of science in your own students.			
Monday 10:20- 11:10 AM	Mind Body Media Ginny Berkemeier Kelly Karr Mars Berwanger	Participants will explore non-traditional approaches to non-objective art. We will begin with dynamic movement, play with media in motion, and go with the flow! Please wear comfortable clothing and bring your inner child.	<i>STEAM</i>	6-8 teachers, 9-12 teachers, Administrators	Olympia 2
Monday 10:20- 11:10 AM	STEM Certification! It's Not Only Possible, It's Necessary! Navigating the GADOE STEM Continuum and Bringing it to Life Dr. Margul Woolfolk Melanie Johnson	Using Georgia Standards of Excellence, content integration, at-hand resources and authentic partnership connections, the successful implementation of the Georgia STEM Continuum will guide and support your school in earning Georgia STEM certification. This presentation will be sharing a journey one school, M. Agnes Jones in Atlanta Public Schools, and how they used these resources and practices with fidelity to gain STEM Certification.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, Administrators	Parthenon 1
Monday 10:20- 11:10 AM	Geographic Information Systems: There's Something for Everyone Vicki Albritton	Discover how to use GIS to enhance your instruction, regardless of content area. Middle school student projects integrating content areas will be shown, and tips for collaborating with GIS professionals will be shared. Participants will learn how to request a FREE school account to access resources and engage students in using the platform. Please bring a device with wireless capability if possible.	<i>Interdisciplinary Math and Science, STEAM, Technology Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Parthenon 2
Monday 10:20- 11:10 AM	Expanding STEM: Year-Long, Community-Based Projects Andrea McGee	Come learn how our STEM certified school has moved beyond isolated activities to integrate STEM concepts through year-long, focused projects. Each grade level will share their STEM projects, addressed standards, community outreach, and community partnerships.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, Administrators	Oconee River 1
Monday 10:20- 11:10 AM	Shifting Your Mindset- Collaborating Horizontally Before Vertically James Meadows Gerin Hennebault	This session will dive into the journey of how three elementary schools in the Archer High School Cluster of Gwinnett County Public Schools changed the narrative of working in isolation. With the mindset of working towards STEM certification and improving our community, teachers at Lovin, Harbins, and Cooper Elementary began collaborating on assessments, PBLs, and academic resources. This is leading to cluster-wide outreach by encouraging community service and working to build	<i>Interdisciplinary Math and Science, Community Partnerships</i>	K-2 teachers, 3-5 teachers, Administrators	Oconee River 2

	Trisha Connor	community partnerships. This presentation will highlight how the elementary schools joined together to strengthen the foundation for our middle and high school.			
Monday 10:20- 11:10 AM	STEM is a Mindset: Creating Engaging Lessons For Any Content Area Shana White	Learn how to infuse critical thinking, collaboration, and STEM concepts into content-based standards to create engaging learning experiences and lessons for students.	<i>Technology Integration</i>	3-5 teachers, 6-8 teachers	Cypress 1
Monday 10:20- 11:10 AM	7 Secrets to STEM Success Becca Thompson Courtney Carver	Uncover the seven ways this Georgia STEM Certified School makes connections for students between math, science, and other content areas through PBLs and day-to-day instruction. A 4th Grade STEM Teacher and a STEM Coach will offer insight on how to inspire students and staff to become STEM-minded. Topics presented include engineering design challenges, STEM pathway courses, and much more! Please download the Nearpod app to actively engage in this session.	<i>Interdisciplinary Math and Science, Technology Integration</i>	3-5 teachers	Cypress 2
Monday 10:20- 12:10 PM	Tooling Around with Technology in STEM Patricia Thomas Alex Larson Stacie Thompson	Have you been looking for creative ways for your students to share their stories or explain an idea? Do you want tech tools that can support interdisciplinary teaching and learning? Well, look no further! In this session, you will explore different technology tools such as Adobe Spark, Flipgrid, Do Ink, Stop Motion, Skype, Bloxels, TinkerCad, robotics, and coding that will allow students to take ownership of their learning while mastering content standards.	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers,	Grand Hall 2
Monday 10:20- 12:10 PM	Sun Power for Schools Curriculum: Explore the Sun- Wind Connection and Why This Matters in the Real World of Alternative Energy Resources.” (Grades 6-12) Judy Cox Gail Marshall, Randa Harris Georgiana DeWeese Shea Rose	After an introduction to the overall Sun Power for Schools Curriculum and website, participants will explore the latest Earth Science Module, “The Sun-Wind Connection.” Activities for attendees will involve: (1) an exploration of the real time and archived data on the Sun Power for Schools Dashboard, (2) an introduction to STEM-based projects, such as a wind-powered car and a passive solar house, connecting solar energy to real world applications, and (3) a survey of current resources related to solar energy. The activities and projects are selected from 5E based lessons in the curricula. Each lesson also provides suggested prompts and open-ended questions as well as guidance for probing anticipated student misconceptions. Attendees will participate in some of the student investigations in the lessons designed to emphasize GSE concepts and language to help students build concepts that are fundamental to many S.T.E.M. careers. For further knowledge of the other modules in the Sun Power Curriculum, attend the sessions on the Physics/Physical	<i>Interdisciplinary Math and Science Instruction</i>	6-8 teachers, 9-12 teachers	Grand Hall 3

		Science/Chemistry, Sun-Earth Motions, and/or Life/Environmental Modules.			
Monday 10:20- 12:10 PM	Harnessing STEAM Power Courtney Bryant Mae Pagett	Do you wonder about the perpetual question of how we can enable the development of 21st century skills, mixed fluidly with core content understanding? Interested in how to best leverage PBL (project-based learning) and STEAM? Drew Charter School, embraces a growing and successful framework for its PK-12 students, linking maker-centered learning to its foundational principles to create those connective threads. Join us to engage in concrete hands-on examples of what Drew does in its science classes. Participants will be encouraged to bring examples of their own scope & sequence and consider how maker education approaches, STEAM concepts, and big-picture project ideas integrate in appropriate and effective ways.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Grand Hall 4
Monday 10:20- 12:10 PM	#STEAMReframe: Leveraging Your LMS for STEAM Best Practices Jeff Giddens Kathleen Fritz	What does meaningful STEAM look like to you and what challenges do you face in getting there? How can we work together to reframe STEAM from a set of fun activities TO solving authentic AND curriculum-connected problems? In this BYOD interactive session, we will use a design thinking process to: 1 Analyze the strengths, weaknesses, opportunities and threats for conducting meaningful STEAM projects at your school; 2. Crowdsource ideas using the twitter hashtag #STEAMreframe; and 3. Create a #STEAMreframe resource document of tips, tools, technology, and techniques to share back at your school and with the conference at large. We will provide graphic organizers and materials so you can conduct this session to customize STEAMreframe resources for your PLC, school or district.	<i>STEAM</i>	3-5 teachers, 6-8 teachers, Administrators	Grand Hall 5
Monday 10:20- 12:10 PM	STEM in the Aerosol Industry Arleen Jones-Harkness	STEM in the Aerosol Industry will cover natural and human-made aerosols, a brief history, and the evolution of aerosols. We will also make a non-aerosol product using a simple formulation and look at the formulation for an aerosol product. Please bring a pair of safety glasses/goggles. Disposable gloves and Safety Data Sheets will be provided as well as a simple non-aerosol formulation.	<i>Community Partnerships</i>	6-8 teachers, 9-12 teachers	Empire 1
Monday 10:20- 12:10 PM	Where are the Soil-Less Gardens? Jason Padgett	This hands-on-workshop will introduce participants to the concept and innovations surrounding Hydroponics while incorporating STEAM throughout the workshop with such activities as blending dry nutrients to liquid nutrients, balancing of the pH and the construction of small a hydroponic garden using a water bottle. Participants will learn firsthand how planting a seed is really planting HOPE in some people and many	<i>Interdisciplinary Math and Science, STEAM, CTAE Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Empire 2

		communities. I hope you can join me to witness how a seed can literally plant HOPE.			
Monday 10:20- 12:10 PM	Merging Creativity & Computational Thinking... A Method to Expand Diversity Gail Tate	The purpose of this workshop is to provide a new approach to integrate computer based learning into the core curriculum to ensure that ALL students take part. We will provide a hands-on experience using a robot making kit, known as the Hummingbird, in combination with a suite of curriculum and programs.	<i>Interdisciplinary Math and Science, STEAM, Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Willow
Monday 11:20- 12:10 PM	STEM Sims Brett Eaker	Interactive Contextual Simulations for Science, Math, and Engineering	<i>Interdisciplinary Math and Science</i>	3-8 Educators, Administrators	Athena A
Monday 11:20- 12:10 PM	Growing Greener in our Greenhouse Marnai Boose, Donna Ayers, Ronna DeMichiel, Stephanie Steed	Presenters will share a synopsis of the long-term PBL they worked through with their first graders that resulted in the building of a full-sized greenhouse on campus. Afterwards, participants will be invited to work through one of the activities as they build prototypes of greenhouses and ask questions about the process.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, Administrators	Athena B
Monday 11:20- 12:10 PM	Scratch Jr. and ELA Integration Sarah Anthony	This is an introductory session to Scratch Jr. I will also give suggestions of ways to integrate Scratch Jr. into ELA.	<i>Technology Integration</i>	K-2 teachers	Athena C
Monday 11:20- 12:10 PM	Liberty Elementary's STEM Certification Journey Chris Anderson Susan Battyanyi Jessica Cook Natalie Mondesir	Presentation will include the process that Liberty Elementary School (in south Georgia, adjacent to Fort Stewart) embarked on in the integration of STEM, while ensuring rigor and establishing ongoing, meaningful PBL partnerships. Learn about the journey that Liberty Elementary took on the road to district and state STEM program certification from administrators and teacher involved.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, Administrators	Athena D
Monday 11:20- 12:10 PM	Classroom 2030: Creating a STEAM-Driven School that Prepares Students for the Future Matt Tyson Pritul Patel Katie Clements	One of the most important tasks faced by educational leaders and teachers today is the struggle to stay ahead of the waves of technology that alter the world we live in on a daily basis. These waves of technology have become increasingly disruptive, each changing society in increasingly significant ways. School administrators and teachers must become more knowledgeable about each new technology that emerges, particularly the ones that have the potential to fundamentally alter the profession of teaching. This presentation will address how to implement	<i>Technology Integration</i>	6-8 teachers, 9-12 teachers, Administrators	Athena E

		some of the newest technological advancements into your school or classroom. Attendees will learn how to use virtual reality, augmented reality, artificial intelligence, Makerspaces, robotics programs, and other innovations to help provide students with the skills they will need for the jobs of the future.			
Monday 11:20- 12:10 PM	Engaging Community Partnerships to Bring Real World STEM/STEAM Into Your School Sheila Harmony Randy Strunk	Coleman Middle School and Columbia Engineering in Duluth will present their collaboration in bringing real-world engineering applications to students. Discussion will include initial engagement, preparation for the day, execution of event and lessons learned.	<i>Community Partnerships</i>	6-8 teachers, 9-12 teachers, Administrators	Athena F
Monday 11:20- 12:10 PM	STEM Connections Through Children's Literature Jenny Hendrix	Are you new to STEM? Or do you just want to incorporate more STEM lessons and concepts into your daily classroom routines? If so, this is the session for you! We will show you how to take children's books and turn your literacy block into a STEM lesson as well. Social Studies, Science, and Math lessons can start with a children's book and quickly become an engaging, hands-on STEM lesson. Ex: Room on the Broom - Great story for retelling, characters, and main idea. However, we can add engineering, math, and science to turn this literacy lesson into a STEM lesson as well! Perfect for those just starting out with STEM or if you are looking for more engaging ways to teach Science or Social Studies through STEM!	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Athena G
Monday 11:20- 12:10 PM	The Path to Practical STEM Lessons Gretchen Ayers Jiann Yi Liu Donna Caruso	Title 1 School in Cobb County School District shares their research on the impact of the Engineering Design Process (EDP) to improve STEM learning with English Language Learners (ELL). Participants will practice using content-based technology and ready to use STEM lessons. Door prizes will be given!	<i>Nontraditional Student Participation, Technology Integration</i>	K-2 teachers, 3-5 teachers	Athena H
Monday 11:20- 12:10 PM	Putting the "A" in STEAM! – Integrating Math, Science, ELA, Coding, and Technology with Music, Dance, and Theatre in Elementary Grades Melissa Hammonds	Using GSE in Music, Math, Science, ELA, Theatre, and Dance to create integrative lessons that are exciting, engaging, and unforgettable! <ul style="list-style-type: none"> • Ideas about arts integration • How classroom teachers and fine arts teachers can collaborate to form a STEAM team • Hands-on demonstrations of interactive STEAM lessons • Lesson plans ready to be implemented in your classroom • Lessons aligned with Georgia Standards of Excellence • Interactive technology for teaching Musical Fractions and the Science of Sound 	<i>STEAM, Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Athena I

Monday 11:20- 12:10 PM	NASA and Literacy Lester Morales	NASA has a collection of Literature non-fiction books from Earth Science to Life Science, all FREE to educators with the hope to enrich science vocabulary and scientific interest. I will share this collection of books with all participants. Some books are interactive online resources, other books are also in partnership with the National Oceanic Atmospheric Administration (NOAA). Most of these books also come in English and Spanish for grades K-5.	<i>Interdisciplinary Math and Science, Technology Integration, Community Partnerships</i>	K-2 teachers, 3-5 teachers	Olympia 1
Monday 11:20- 12:10 PM	Rewing up your STEM/STEAM program Sherrill Weihe Latriena Pitts Nancy Nicholson Erin Warner	So you are now STEM or STEAM certified! Here are activities and projects for elementary schools that will excite your students and rev up your current instruction.	<i>Interdisciplinary Math and Science Instruction, STEAM and Arts-Based Research, Content-Based Technology Integration,</i>	K-2 teachers, 3-5 teachers	Olympia 2
Monday 11:20- 12:10 PM	Our Journey: Tips from a Newly Certified STEM School Lucas Roof Robert Ensley Kim Patterson Milly Rice	West Fannin Elementary School became GaDOE STEM certified in March of 2018. We will share our failures and successes throughout our multi-year journey to GaDOE STEM Certification. We will also take time for Q&A.	<i>Interdisciplinary Math and Science, Community Partnerships</i>	K-2 teachers, 3-5 teachers, Administrators	Parthenon 1
Monday 11:20- 12:10 PM	Full STEM Ahead in Second Grade Jennifer Stephens	Hearing how a second grade team integrates STEM into a already packed day. By working together, we are able to integrate problem and project based learning with gardening, coding, and robotics.	<i>Interdisciplinary Math and Science</i>	K-2 teachers	Parthenon 2
Monday 11:20- 12:10 PM	“What’s In Your Water? A Cross-Curricular PBL Experience” Teresa Raines Lori McGovern	You really want to try PBL but don’t know where to start? Are you wondering how to make STEM cross-curricular and inclusive? Have you heard about Grand Challenges for Engineering but aren’t sure how to implement them? Come hear about an English/Language Arts project that tied STEM to all subject areas and included all students, from Gifted to Students with Disabilities, utilizing a Grand Challenge. We’ll lead you step-by-step through the planning process; learn how we brainstormed for ideas and created a driving question to focus the project. You’ll leave with ideas on how to start, where to find resources, and pre-made, ready to customize student handouts.	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers, Administrators	Oconee River 1

Monday 11:20- 12:10 PM	We See STEAM in Your Future - Visual Literacy in Today's Classrooms Ashlee Gruno Beth Lee	Being critical consumers and content creators is an integral component of being literate in today's digital landscape. As teachers we must seek to facilitate student learning through digital age work and learning through visual and critical literacy. In this session, participants will explore digital resources, classroom ready activities, and planning tools for content collaboration. Join us to learn more about specific strategies and online platforms for incorporating literacy based instruction that emphasize the connections between math, science, art, and other subjects.	<i>Interdisciplinary Math and Science, Technology Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Oconee River 2
Monday 11:20- 12:10 PM	Boosting Your AP Scores: Using FRQ Notebooks in AP Math and Science Courses Angela Wood Maria Avitia-Freeman	Teachers will gain experience and strategies for implementing weekly FRQ practice within your curriculum.	<i>Interdisciplinary Math and Science</i>	9-12 teachers, Administrators	Cypress 1
Monday 11:20- 12:10 PM	STEAM-a-lama-ding-dong... Beth Smith Wendy Peel	Music is a great way to get kids excited about STEAM. Learn how to use your calculators, a TI-Innovator hub, and some imagination to get kids excited about coding and engineering. This session will help any coding novice become comfortable with the basics by challenging them to create a popular song using a little imagination, cooperation, and coding on their calculator!	<i>STEAM, Nontraditional Student Participation, CTAE Integration, Technology Integration</i>	6-8 teachers, 9-12 teachers, Administrators	Cypress 2
Monday 12:15-1:45 PM	Lunch	Wayne Li- Professor of the Practice of Design and Engineering			
Monday 2:00-2:50 PM	Authentic STEAM Engagement Through Farm To School Brian Keefer Angela Dennis	Attendees will explore how STEAM strategies align with Farm to School authentic learning experiences to increase student engagement and academic outcomes. Staff members, including the STEAM Lead Teacher and Principal will share Hampton Elementary Charter School's journey of implementing effective Farm to School and STEAM teaching and learning. Attendees will walk away with an arsenal of implementation strategies including teacher buy-in strategies, creative funding ideas, community partnerships, and where to source quality teaching resources.	<i>Interdisciplinary Math and Science, Technology Integration</i>	K-5 Educators, Administrators	Athena A

Monday 2:00-2:50 PM	Contemporary Artists as Project Based Learners Lauren Phillips	Contemporary artists have been using project-based learning for decades. No longer bound by traditional disciplines, artists create multi-media works that address environmental, technological, and social issues. See examples of how secondary students use contemporary art as inspiration for project-based learning and learn about resources that can be used in any subject area.	<i>STEAM</i>	9-12 Educators	Athena B
Monday 2:00-2:50 PM	From Apples to Zucchini: Creating a Context for Teaching STEM in the Garden Karen Garland	Have you struggled to teach STEM in your school garden? Join us to discover how to incorporate 3D learning through STEM content, science and engineering practices, and crosscutting concepts to explain real-world phenomenon or solve an authentic problems. Through a variety of hands-on activities and strategies we hope to motivate, encourage, and support K - 6 teachers who want to explore ways of changing how they teach outdoors.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Athena C
Monday 2:00-2:50 PM	Science & Engineering Practices: How 3-Dimensional Instruction in the K-5 Georgia Standards of Excellence Aligns with STEM/STEAM Initiatives Amanda Buice	Asking questions, designing solutions, engaging in argument from evidence, and communicating are just a few of the practices incorporated in the new science GSE. As students are immersed in the Practices, their role as scientist and engineer open the door for interdisciplinary instruction.	<i>Interdisciplinary Math and Science, STEAM</i>	K-2 teachers, 3-5 teachers	Athena D
Monday 2:00-2:50 PM	The Four C's Made Easy with Portable Science Lab I Hands-On Workshop Sharon Holton	Looking for ways to make it easy to incorporate Critical Thinking, Creativity, Communication and Collaboration into your science classrooms? Learn how Atlanta Public Schools is seamlessly integrating technology and instruction. Experience the simplicity first-hand as you conduct a variety of real-world activities and experiments during this interactive hands-on workshop.	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena E
Monday 2:00-2:50 PM	Science & Math Collaboration and Integration with Results Vickie Grant Dr. Elijah Khan	Are your students struggling with mathematics or science concepts? This workshop will aid you in discovering how the science and math teachers can collaborate and integrate mathematics in science and integrate science in mathematics to generate positive results! What is the difference between how the science teacher teaches mathematics and how the math teacher teaches mathematics? Are they the same? Come find out the differences and how these differences can propel your students to greater success.	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Athena F

Monday 2:00-2:50 PM	From Textbooks to Integrated STEM Engagement Erin Peck	Have you been looking for a way to transform your classroom into a buzzing, hands-on, engaged learning session? This high-energy interactive program will give you the tools to break-out of the "Box" of traditional textbook teaching. Facilitating in this inquiry-based manner will transform your teaching into an exciting, diverse, student-centered environment that meets the needs of ALL students including differentiation for: Students with exceptionalities, Title One, Gifted, and Talented. This immersive experience will provide you the necessary steps for you to begin your adventurous journey or may offer a seasoned veteran additional resources to add to their toolbox.	<i>Interdisciplinary Math and Science, STEAM, CTAE Integration, Technology Integration, Community Partnerships</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Athena G
Monday 2:00-2:50 PM	Escape The Classroom Jessica Dugger Regina Blanton	Our presentation will teach teachers how to implement interactive escape room activities in their classroom. The escape rooms are very similar to the exploding trend across the nation where groups attend an attraction where they must work together to solve clues in order to "escape" the room. The clues the students must solve to escape the classroom are all related to the curriculum they are presently learning. Escape the classroom allows students to implement the design process to develop and use strategies to solve the clues.	<i>Interdisciplinary Math and Science, Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Athena H
Monday 2:00-2:50 PM	From Dirt to Dishes Krystal Evans	From the garden to the table. A school garden can be 2,000 square feet or planting box in the window. Students love working in the dirt and growing things they can eat. Learn how to plan, plant and cook in even the smallest spaces, all while teaching the standards and having fun.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers	Athena I
Monday 2:00-2:50 PM	Opportunities to Support STEAM: Georgia Council for the Arts Allen Bell	Join the Georgia Council for the arts to learn about resources available to support work in STEAM. Participants will walk away with information about funding, arts advocacy tools, and research to support STEAM initiatives.	<i>Community Partnerships, STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Olympia 1
Monday 2:00-2:50 PM	Where all the women in STEM? Natoshia Anderson	Where are all the women in STEM? This session will examine data that highlights what careers women are in within the world of STEM. Participants will also be asked to test their knowledge about great women in STEM and be given strategies on how to encourage girls and young women showing interest in STEM to persevere to greatness.	<i>Nontraditional Student Participation, Community Partnerships</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Olympia 2
Monday 2:00-2:50 PM	Got SMPs? Lya Snell	This session will focus on the importance of incorporating the 8 Standards for Mathematical Practice in all STEM lessons. Participants will engage with each of the SMPs and explore how these can be incorporated in the classroom.	<i>Interdisciplinary Math and Science Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Parthenon 1

Monday 2:00-2:50 PM	STEAMing It Up in the Garden and Kitchen at Mableton Elementary School Alana Davis Sean Splawski	Come learn how Mableton Elementary School is providing the #UltimateLearningExperience everyday for their students by engaging them with STEAM strategies in the school STEAM Garden and in the STEAM Lab Kitchen. See how science, math, and art standards are integrated to empower students to help them succeed in Life and Physical Science. Session attendees will walk away with lesson ideas and how to get a garden and kitchen started at their school. Don't forget to bring an iPad or phone so you can download our favorite STEAM apps!	<i>STEAM</i>	K-2 teachers, 3-5 teachers	Parthenon 2
Monday 2:00-2:50 PM	Unplugged CODING(tm): Visual art conveys meaning James Wells	Throughout history, visual artists have used their artistic skills and techniques to tell stories. In this unplugged, hands on session with Crayola educators, we will immerse ourselves in the underlying concepts of coding and algorithms through cross curricular connections in Visual art, Science and ELA.	<i>STEAM</i>	<i>K-2 teachers, 3-5 teachers, 6-8 teachers, Administrators</i>	Oconee River 1
Monday 2:00-2:50 PM	Business Engagement in K-12 STEM Education Melinda Moore David Tanner	The Carl Vinson Institute of Government at the University of Georgia was awarded the President's Interdisciplinary Seed Grant to study business engagement in STEM workforce development. This session presents findings on how business engagement in K12 and college STEM programs may influence students' decisions to pursue STEM education and careers. During FY17-18, the Institute of Government held 10 focus groups with Georgia STEM educators and community businesses, including K-12 STEM teachers, university STEM faculty, deans, and administrators, and local community business partners. Findings include participants' perceptions of business engagement and student achievement (e.g. existing partnerships, student engagement as a result of business and STEM partnerships, and ways to measure levels of business engagement). Focus group findings will inform the development of a business engagement index to support workforce development in STEM to assist universities and K12 educators determine the best "return on investment" when developing business partnerships on the local level. Attendees will have the opportunity to provide feedback and insight after an in-depth discussion of the findings.	<i>Community Partnerships</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Oconee River 2
Monday 2:00-2:50 PM	Bridging the Gap between Science and ELA: A Study of Developing and Implementing a Science Literature Review	Science and English teachers detail their collaborative experience in creating a comprehensive cross-curricular unit that merges ELA with biology and chemistry through a shared literature review.	<i>Interdisciplinary Math and Science</i>	9-12 teachers	Cypress 1

	Maria Avitia-Freeman Rex Kienel				
Monday 2:00-2:50 PM	FLEET - Free engineering video game with STEM/Reading Curricula Michael Briscoe	FLEET is a free naval engineering video game sponsored by the U.S. Navy. We have worked with teachers around the country to integrate this video game into Reading, Math, Physics, and other Science classes. This presentation will introduce this program and show how we analyze the video game for standards-based instruction without losing the gaming aspects that motivate students.	<i>Interdisciplinary Math and Science, Technology Integration, Community Partnerships</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Cypress 2
Monday 2:00-2:50 PM	STEM Gems Stephanie Espy		<i>Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Grand Hall 1
Monday 2:00-2:50 PM	Keeping the Main Thing the Main Thing: A Focus on the Process J.W. Mozley	How can your school implement a framework for Problem/Project Based Learning while still targeting standards and achieving at high levels? It is possible with planning and beginning with the end in mind. Coleman Middle School will share strategies for how to blend your school's instructional framework with a PBL framework to create a seamless process and product. Data will be shared that reflects the success of Coleman's implementation plan.	<i>STEAM Interdisciplinary Math and Science</i>	3-12 Educators, Administrators	Grand Hall 2
Monday 2:00-2:50 PM	Become a National Geographic Certified Educator! Alexandra Perrotti	Join us to learn about National Geographic's Educator Certification Program and Educator Community. You will complete Phase 1 of the certification process, diving into National Geographic's Learning Framework, which covers the attitudes, skills, and knowledge areas needed to transform students into explorers. This certification is a free professional development program that supports educators to become innovative leaders who teach students about the world, empowering them to succeed and to make it a better place.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Grand Hall 6
Monday 2:00-3:50 PM	NGSS Success: How to Easily Embed the Next Generation Science Standards into Any Course Marquita Blades	Don't know where to start with NGSS? Implementing the Next Generation Science Standards can be a bit overwhelming at the start. Come to this session to learn how you can seamlessly embed the Next Generation Science Standards into the courses you have already worked hard to develop-using the lessons/activities that you already have.	<i>Nontraditional Student Participation, Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Grand Hall 4

Monday 2:00-3:50 PM	Save a Nickel and Learn to Trickle Wendy Peel	Come learn how to create a project-based camp or classroom lesson that enables students to apply concepts, such as photosynthesis and the water cycle, to design a smart irrigation system. Inspired by real-world events, students are motivated to apply problem-solving skills and learn some basic programming to come up with innovative solutions to the drought situation in southern Africa.	<i>CTAE Integration</i>	6-8 teachers, 9-12 teachers	Grand Hall 5
Monday 2:00-3:50 PM	Google Hyperdocs: How to Increase Student Engagement, Retention, and Rigor Michele Langhans Wanda Rice Helon Sneed	In the world of technology, teachers often can feel left behind by his/her students. This hands-on workshop will let you dive into the world of Google Hyperdocs and create a relevant and engaging concept/unit for your students. All of this while maintaining rigor and retention with student choice. Bring your laptop and your standards. You will experience a hyperdoc and will be given time to begin developing your own hyperdoc that can be used immediately.	<i>Technology Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Empire 1
Monday 2:00-3:50 PM	PAIR: Practical Tools to Engage 21 st Century Learners Through The Arts Sally Baker Austin Sargent	Based on the success of the PAIR Program in Muscogee and Harris Counties, this hands-on workshop will model experiential learning in the classroom. Participants will explore arts-integration strategies as they support teaching core content, especially content that is difficult to retain. Underpinned by 21st century skills that prepare students for all career fields, PAIR staff will share evidence of the program's impact on student engagement, teacher self-efficacy and student achievement of the Chattahoochee Valley.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, Administrators	Empire 2
Monday 2:00-3:50 PM	From Digital Consumers to Digital Producers Catrina Reid Kassidy Moore	The goal of this session is to equip teachers with a toolbox of practical application lessons on cutting edge instructional technology that allows STEM/STEAM learners to communicate their STEM knowledge through the production of digital media and web-based programs. Teachers will leave with a clear understanding of how to incorporate digital resources into their daily lessons and how to instruct students to produce a digital resource. Transforming teachers and students from Digital Consumers to Digital Producers. This course requires a laptop/Chromebook.	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Willow
Monday 3:00-3:50 PM	Support, Time, & Engagement in Middle School STEM Ken Deal Jessica Ogden	Integrated STEM experiences are important to increasing engagement and achievement in math and science education. Often times Middle Schools struggle to find the time and resources to incorporate these experiences into the regular school day. This presentation gives insight into how administrators can support the STEM initiative in a traditional middle school setting through building a program, finding the right	<i>Nontraditional Student Participation</i>	6-12 Educators, Administrators	Athena A

		people, scheduling, and support. (While the example is a middle school setting, the practices can be applied in other grade bands as well.)			
Monday 3:00-3:50 PM	TED and TED-Ed Across the Curriculum Vicki Albritton	Leverage the power of TED and TED-Ed to engage tweens and teens in a variety of content areas. Provoke deep thinking through dialogue, debate, and public speaking.	<i>STEAM</i>	6-8 teachers, 9-12 teachers	Athena B
Monday 3:00-3:50 PM	Destination Imagination STE(A)M Challenge Experience Annette Rogers Rebecca Millar LaTrina Howell	Destination Imagination - Incorporating Fine Arts into Challenge/Project based Learning engages both traditional and non traditional student STEM participants by incorporating Fine Arts, Teamwork, Creativity, presentation skills and more into the solving of 'Instant Challenges' and Team Challenges. Participants will receive resources for starting Teams and activities for classroom/program use.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Athena C
Monday 3:00-3:50 PM		<i>Georgia Power Focus Group Setup</i>			Athena D
Monday 3:00-3:50 PM	(Hands-On Science + Integrated Math) x Fun = Real World Learning Made Easy! Sharon Holton	Explore powerful real-world tools that make interdisciplinary instruction of math and science easy! Engage in hands-on activities that seamlessly integrate math and science. Learn how the Labdisc Mobile Science Lab with built in sensors makes collecting, storing and analyzing data fast and fun! Discover strategies that enable students to spend less time gathering data, and more time understanding what it means.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, Administrators	Athena E
Monday 3:00-3:50 PM	STeAM on a Low Budget Ernie Landry	The talk focuses on how a STEM curriculum can be incorporated on a low budget. A brief discussion of STEM and then various lessons will be offered to the talk attendees that can be implemented on a low STEM budget. An understanding of STEM is basic to creating lessons in inner city to rural schools. The a in STEAM can be added with little or no money.	<i>Interdisciplinary Math and Science</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Athena F
Monday 3:00-3:50 PM	Game Development Competition to Increase Interest in Computer Science Among Rural Students Sarah Boyd Bryan Fagan	Lumpkin County Schools, in partnership with Thrust Interactive and iThrive Games, has implemented an after-school program through which rural students learn computer science principles, develop digital games, and compete in an industry-sponsored game competition. Through a hands-on approach, students learn basic coding languages, the stages of game design from paper prototyping and wireframes focused on UI/UX to full development and bug-fixing. Throughout the duration of the program, students incorporate the themes of empathy and kindness.	<i>Nontraditional Student Participation, CTAE Integration</i>	6-8 teachers, 9-12 teachers	Athena G
Monday 3:00-3:50 PM	Integrating STEAM in Art Museum Programming	Many K-12 and family programs at the Georgia Museum of Art (GMOA) incorporate STEAM concepts and activities, connecting the museum's collection with interdisciplinary subject areas. Over the past few years,	<i>STEAM</i>	K-2 teachers, 3-5 teachers,	Athena H

	Callan Steinmann Sage Kincaid	the education department at GMOA has integrated STEAM into K-12 tours, hands-on art projects, gallery guides, and family programs. Two educators from GMOA will discuss their approach to the research, development, and implementation of STEAM materials and activities in an art museum setting. STEAM in art museum education programs can help visitors engage with artworks while using 21st-century skills such as collaboration, critical thinking, creative problem solving, experimentation.		6-8 teachers, 9-12 teachers	
Monday 3:00-3:50 PM	Science & Engineering Practices: How 3-Dimensional Instruction in the Georgia Standards of Excellence Aligns with STEM/STEAM Initiatives Keith Crandall	Asking questions, designing solutions, engaging in argument from evidence, and communicating are just a few of the practices incorporated in the new science GSE. As students are immersed in the Practices, their role as scientist and engineer open the door for interdisciplinary instruction.	<i>Interdisciplinary Math and Science</i>	9-12 teachers	Athena I
Monday 3:00-3:50 PM	Creative Use of PBLs at West Fannin Kim Patterson Amber Mitchell Marcie McDonald Cindy Hicks Katy Roberson Milly Rice Miranda Roof	Using the Georgia Standards of Excellence as a foundation, West Fannin collaboratively plans math and science PBL units to differentiate learning for all students. We creatively utilize small community partnerships and local agencies in the north Georgia mountains to enhance our STEM instruction.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Olympia 1
Monday 3:00-3:50 PM	Gatekeepers: Disrupting Who Is Allowed to Learn STEM Andrea Miller Andrea Pendergrass	Usually program model STEM schools have a traditional application process that considers a number of criteria (grades, test scores, teacher recommendation, etc.). Other programs allow any applicant who expresses an interest. But what if there was a selection model that observed behavioral traits in students applicable to a STEM mindset and chose students who demonstrated fit and potential beyond test scores and teacher opinion? Come find out how South Atlanta High School is disrupting selection models in a way that authentically includes non-traditional participants in STEM education.	<i>Nontraditional Student Participation</i>	6-8 teachers, 9-12 teachers, Administrators	Olympia 2

Monday 3:00-3:50 PM	Mathematics and STEM: The beautiful connections that make it fun to learn mathematics! Lya Snell	Mathematics is a beautiful, fun subject that has many connections to STEM and STEAM. In this session, participants will explore design principles that should be included in an effective STEM (science, technology, engineering, and mathematics) program to ensure that learners are building deep mathematics understanding through intentional connections between rigorous standards and practices, appropriate applications of mathematics content in context, and innovation with technology.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Parthenon 1
Monday 3:00-3:50 PM	NASA Resources Lester Morales	At this presentation educators will have an opportunity to learn about all the NASA K-16 opportunities. We will explore some online resource websites, live connection opportunities, competitions, and professional development NASA has to offer.	<i>Interdisciplinary Math and Science, STEAM, Technology Integration, Community Partnerships</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Parthenon 2
Monday 3:00-3:50 PM	Artistic Crime Scenes Go to the Movies Tiffany Weser Chrisman Leah Carlton	Why just give a presentation when you could make a movie? In this session we will explore how the Forensic Science and art classes collaborated to create shoe box size models of crime scenes. Participants will be taken through the steps of the research process, and creation of the crime scenes. They will see how our students created their crime scenarios and built their models. The big finale is making the movie using a phone app and the shoe box crime scenes. We will show how students had to make sure parts of the crime scenes moved so they could capture the crime in action. There will be a movie premiere of the creations.	<i>STEAM</i>	9-12 teachers	Oconee River 1
Monday 3:00-3:50 PM	Increasing the Number of Underrepresented Students in STEM Brandi Sabb Becky Coutts Cale Golden	The need for more females and underrepresented minority students in STEM courses and careers has been well documented. Think about how your school or district encourages underrepresented students to sign up for STEM courses, are they successful? How is your district or school advertising these courses to appeal to underrepresented students? Is there a strategy to keep students engaged once they are enrolled in the courses? In this session, participants will review strategies for engaging underrepresented students in science, mathematics, computer science, engineering, technology, and other STEM classes with a particular focus on the new AP Computer Science Principles course. Join this session to hear how Georgia educators are using AP CSP to get more students interested in, and ready for, post-secondary STEM courses.	<i>Nontraditional Student Participation, Technology Integration</i>	9-12 teachers, Administrators	Oconee River 2
Monday	Raising Up STEM Scholars: Utilizing	Do you need a toolkit for moving your students from basic searchers to researchers? These tools for Researching and Writing across Content	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers,	Cypress 1

3:00-3:50 PM	21st Century Skills and Tools for Research and Writing Rosalyn Washington Felsa Ford	Areas will support the research process and writing processes. Come experience engaging processes and web 2.0 tools to facilitate the process. These modern methods are applicable across any device, in large or small groups, for the tech beginner to the tech savvy teacher and student. Embedded are methods to integrate the 4 C's of 21st Century Learning: Creativity, Critical thinking, Communication, and Collaboration.		6-8 teachers, 9-12 teachers, Administrators	
Monday 3:00-3:50 PM	GreenpowerUSA - The Hottest STEM Program You Never Heard Of Chip Giles, Matthew Graham, Jacob Boyett	The Greenpower program is a STEM initiative that allows students the opportunity to participate in a hands-on approach to engineering and project management. Participants of the Greenpower program design, build and race student-driven electric racecars. Long Cane Middle School, in Troup County, had an enormously successful implementation of Greenpower Tech as a STEM class last year. The students in this first-year program went from having a car kit in boxes to racing and competing as an elite Greenpower team. Hear their story and learn how easy it is to bring this program into your school as a STEM class or a club. Leaders of the GreenpowerUSA foundation will be on hand to help you get started in this remarkable program.	<i>CTAE Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Cypress 2
Monday 3:00-3:50 PM	Digging Deeply into the Nature of S.T.E.M. Gail Marshall, Judy Cox	This session is for you if you want a deeper understanding of S.T.E.M. and how this can enhance appropriate engagement for ALL students. Experience introductory thinking processes and sample activities to accentuate the focus on the characteristics of S.T.E.M.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Grand Hall 3
Monday 3:00-3:50 PM	LIVE STEM! EXPERIENCE STEM! LOVE STEM!	Elementary STEM programming is difficult to find...especially for pre-K to 3 rd grade students. This workshop will showcase the Irlly Bird Adventure and STEM NEXT Book Series that offers educators an intentional tool to improve literacy skills while students learn about STEM professions, basic science principles, and concepts. NEXT books are an alternative to text books. Come out to learn more!	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Grand Hall 2
Monday 3:00-3:50 PM	National Geographic's Geo-Inquiry Process in Action! Alexandra Perrotti	Geo-Inquiry is an exciting new integrated, project-based process that connects real-world challenges and National Geographic explorers to the classroom. In this interactive session educators will learn new strategies to help students develop the critical thinking skills to ask geographic questions, collect information, use GIS to visualize, create a compelling story, and ultimately become advocates for change in their local community.	<i>Interdisciplinary Math and Science</i>	3-5 teachers, 6-8 teachers	Grand Hall 6

Tuesday 8:00-8:50 AM	Theatre/Music/STEAM Ingrid Wingate Summer Hall	Let us entertain you! Let us wow you! Presenting 50 years of tradition in musical theater. Let us share our story of weekly musical productions performed by students for a school-wide audience. Here how we create multiple opportunities to grow and learn within musical development and instruction that supports classroom standards in all subjects.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, Administrators	Athena B
Tuesday 8:00-8:50 AM	STEM-Sational Learning with the Science Twins! Kristina Istre Donita Legoas	STEM-Sational Learning with the Science Twins! is a hands-on session that will provide cheap and easy ideas and techniques from two experienced classroom teachers. We will show you easy ways to integrate STEM into your regular classroom curriculum. So, come join the fun!	<i>Interdisciplinary Math and Science</i>	3-5 teachers, 6-8 teachers	Athena C
Tuesday 8:00-8:50 AM	Do Not Be Afraid: How to Use Technology Effectively in the Classroom Roger Shane Dowdney	I effectively use technology in my classroom to enhance my students' learning experience. This is done by marrying Google Classroom with Nearpod, Ed Puzzle, USA TestPrep, Google Suite, Socrative and Kahoot!. I assign everything through Google Classroom so that the students go to one place. Nearpod is used for presenting new ideas and for mini-assessments. USA TestPrep is my go to for warm-ups and test creation. Using Socrative and USA TestPrep together allows me to keep track of data so that I can differentiate for my students. Ed Puzzle and Kahoots! allow me to review material. Phones will be useful during the presentation, but laptops are preferred.	<i>Technology Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Athena D
Tuesday 8:00-8:50 AM	Administrator's Strand				Athena E
Tuesday 8:00-8:50 AM	Bio-Inspired Design: Using the Living Building to teach STEM Standards Sabrina Grossman Amanda Reding, Ken Kirtland IV	The Kendeda Building for Innovative Sustainable Design at Georgia Tech, also known as the Living Building for short, is designed to work harmoniously with nature and be a model of sustainable architecture for the southeast. The Living Building represents an opportunity for students to make connections with biology, and between designed and natural environments. The process of Bio-Inspired Design (BID) looks to natural systems to find innovative solutions to existing challenges, such as connecting the challenge of building insulation with bird feathers, polar bear fur, and whale blubber. Teachers will receive lessons and manipulatives that demonstrate how Bio-Inspired Design engineering challenges	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Athena F

		can be used in the classroom to support middle school science and math standards.			
Tuesday 8:00-8:50 AM	Using Swivl and Screencast-O-Matic to Create and Edit Digital Content Steve Kuninsky	<p>Screencast-O-Matic is an online tool that will record content shown on a computer screen and capture audio through your computer's microphone. Use Screencast to create tutorials, record lessons and student presentations, provide feedback, and more. Screencast provides online storage and extensive video editing tools that are easy to use.</p> <p>Swivl is a device that can be coupled with an ipad, iPhone, or another smart device to record audio and video. Swivl automatically rotates and tracks the speaker, eliminating the need for a camera-person. Swivl can be used to produce recordings of class for online posting, complete peer observations, and record student presentations and projects.</p>	<i>Content-Based Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena G
Tuesday 8:00-8:50 AM	STEAMing into the Future Romila Human Dr. Tyra Harris-Thompson Lindsay Limpert Lori Lubin Reynard Burgess Virginia Marion	Teachers will be able to join us in an interactive lesson about our journey towards STEAM certification. They will learn about different ways to integrate STEAM into their lessons and after school activities.	<i>Interdisciplinary Math and Science, STEAM, Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers	Athena H
Tuesday 8:00-8:50 AM	Fundraising for STEM & STEAM Brene Bradley	Writing proposals for private foundations and governmental grants is a great way to supplement local funding. However, the competition for these opportunities is fierce. This session will focus on a unique way to raise funds to support school-based STEM/STEAM programming, while expanding business and industry partnerships.	<i>Community Partnerships</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena I
Tuesday 8:00-8:50 AM	There Is No Blueprint Beth Haynes Dr. Jacqueline Peebles	Everyone wants to be shown the blueprint for implementing STEAM education in their classrooms and school systems. The fact is there is no blueprint; no step by step instruction manual. The truth is each school district must decide what they want STEAM to look like for their school system and then be brave enough to create their own manual, empower their teachers to take ownership of the change, and help all understand the importance of creating a "culture of change"	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Olympia 1

		that allows students to take ownership in their own education. Join us as we share what we have learned over the course of two years of implementing STEAM education in Jefferson County.			
Tuesday 8:00-8:50 AM	Incorporating Citizen Science into the STEM Experience Robert Hodgdon	Teachers will learn of citizen science activities that can be incorporated into middle grades Life Science, high school Biology, and AP Environmental Science classes. Some of these activities take place on campus while others can involve short field trips or be part of an extracurricular environmental club. These activities include the collection of real quantitative data which in some cases is sent to state or national databases.	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Olympia 2
Tuesday 8:00-8:50 AM	Equip & Engage the Next Generation through Community Collaboration Sharon Holton	There's no substitute for practical experience when it comes to preparing your students for success. Learn how GA DOE STEM Grant Winners are using the Labdisc Mobile Science Lab to collaborate with local enterprises. Engage in hands-on activities using the latest technological tools to analyze real-world data to solve real-world problems. Explore strategies for creating collaborative partnerships throughout your community that provide a valuable service, while giving students the experience and confidence they need to succeed.	<i>CTAE Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Parthenon 1
Tuesday 8:00-8:50 AM	Bring Math to Life: Making Real World Experiences Essential to Math Instruction Richard White	Math classrooms can be rushed places these days. We have so many topics that we feel we must cover, and we often leave the important stuff behind - specifically, those word problems at the end of a math book lesson. But that's the most important part! As teachers, we must bring reclusive math out of its isolation from the other subjects and let students see it shine in what they see and do every day. Discover how students planned their own prom utilizing rational functions, or how catapults helped them to better understand parabolas. I will also discuss my work to bring this approach to mathematics in the other disciplines throughout our department.	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Parthenon 2
Tuesday 8:00-8:50 AM	Interested in App Development but Do Not Know Where to Begin? Kimberly Bynoe	Your Next Steps to Stress-free App Development: Removing the Barriers for Teachers and Students Utilizing an Easy-to-Implement App Template Program	<i>Content-Based Technology Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Oconee River 1

		<p>Where To Begin With App Development? A Session Designed for Novice Educators Who Want to Explore an Easy-to-Implement Live App Development Program</p> <p>No experience in App Development? Perfect! A Session Designed for Novice Educators Who Want to Explore an Easy-to-Implement Live App Development Program Come see actual student creations and even get a taste for building an app, yourself, using MAD-learn’s online platform on your tablet, Chromebook or laptop.</p>			
Tuesday 8:00-8:50 AM	<p>Math in the Real World: AMP-IT-UP for student learning Jeffrey Rosen Doug Edwards</p>	<p>Providing Math content through a PBL that integrates science practices and engineering contexts is a difficult task for many. The AMP-IT-UP math modules provide 3 - one-week long PBL experiences for each grade level that can be used as a standalone module or woven into a unit to provide the context for a full exploration of the content.</p>	<i>Interdisciplinary Math and Science</i>	6-8 teachers, Administrators	Oconee River 2
Tuesday 8:00-8:50 AM	<p>“Lettuce” Talk About STEM and ELA Integration Alexandra Lamping</p>	<p>How do you engage students in STEM activities outside of the Math and Science classroom? "Lettuce" talk about ELA and STEM Integration.</p> <p>In this engaging session, participants will develop an understanding of how to seamlessly integrate STEM into an ELA classroom. In addition, participants will experience the usage of apps that enhance student led projects. Educators will walk away from this experience with practical steps for implementing ELA and STEM integration.</p>	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Cypress 1
Tuesday 8:00-8:50 AM	<p>STEAM That's LIT Carrie Siegmund</p>	<p>Once upon a time, a technology specialist realized the power of a good story to engage students. Come explore literacy enhanced approaches to interdisciplinary STEAM-based learning. You'll leave with tools, strategies and resources for STEAM that's LIT to begin your happily ever after.</p>	<i>Interdisciplinary Math and Science, STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Cypress 2
Tuesday 8:00-8:50 AM	<p>Spotlight on the Innovative STEM Teachers of 3-D Science in the Schoolyard Karan Wood</p>	<p>Following an overview of the 3-D Science in the Schoolyard model, participants will hear from outstanding teacher-facilitators of this model, describing their favorite innovative STEM projects ranging from 3-D printing of turtle prosthetics to use of drones to survey ecological impacts.</p>	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Grand Hall 1

	Amanda Buice				
Tuesday 8:00-9:50 AM	Getting Started: Learn to Play Minecraft Education Edition Microsoft Staff	Learn about Minecraft: Education Edition, its place in learning, and unique features suited for teaching & learning with immersive games. Become a Minecraft player. Learn the controls, crafting, and game features necessary to gain confidence and lower anxiety about game-based learning.		K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Grand Hall 2
Tuesday 8:00-9:50 AM	Sun Power for Schools: Exploring Fundamentals of Waves, Circuits, and Solar Cells Tyson Harty	Solar energy will be vital for humanity's future, yet its fundamentals can be confusing to students. Explore hands-on methods to integrate waves, circuits, and energy.	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Grand Hall 3
Tuesday 8:00-9:50 AM	NASA Operation STEM Clare Swinford Patty Forehand Lawren McLemore	This workshop will provide educators with a detailed breakdown of the components that make up NASA Operation STEM. Educators will participate in activities that are provided for middle school students through OpSTEM Outreach. They will also be exposed to various resources that will enhance STEM in their own classrooms. The presenters will share data to show the effectiveness of the OpSTEM Program. Educators will leave this workshop with a variety of resources and hands on activities that can be implemented in their own schools, as well as an understanding of NASA	<i>Interdisciplinary Math and Science, Technology Integration</i>	6-8 Educators	Grand Hall 4
Tuesday 8:00-9:50 AM	Inspiring Early Learning STEM Exploration and Creativity Through PBS Kids Programs and Applications Mary Anne Lane Laura Evans	PBS Kids programming engages preschool and school-aged children with STEM-inspired content that invites them to further explore their environment and grow in the four key areas of childhood development – cognitive, social, emotional, and physical. Characters like Ruff Ruffman and Sid the Science Kid encourage curiosity about the natural and physical sciences, while Peg + Cat and Cyberchase offer opportunities to use math in application with problem-solving skills. Join GPB Education in an exploration through the enchanting world of PBS Kids, where participants will learn about many of the free digital resources available for STEM learning and output, engage in a Play and Learn Science activity, and model a ScratchJr coding design project.	<i>Technology Integration</i>	K-2 teachers	Grand Hall 5
Tuesday 8:00-9:50 AM	Interested in PBL with a STEM/STEAM focus, but	During this presentation, you will learn how we do STEM/STEAM into a PBL environment. You will learn how we	<i>Interdisciplinary Math and Science,</i>	6-8 teachers, 9-12 teachers	Grand Hall 6

	<p>no clue how to start? Then this presentation is for you! Michele Langhans Helon Sneed</p>	<p>use technology and PBL to create an authentic learning environment. Gaining practical practice in integrating different courses into this environment is our focus. We will give you our "how-to" guide that will walk you through our PBL with a STEM/STEAM focus. It is strongly recommended that you come with a colleague that will allow you to begin the brainstorming of an actual project. So, bring your standards as you will begin planning. See you soon!</p>	<p><i>Technology Integration</i></p>		
<p>Tuesday 8:00-9:50 AM</p>	<p>Integrating Math and Science in STEM using Models Valerie Sellers</p>	<p>More than just digital delivery - Technology is about designing authentic solutions in a blended environment. Balancing hands-on with digital investigations is the perfect mix for STEM-based science classroom! Technology can be an integral part of observing phenomenon, gathering evidence and justifying conclusions. Join us to see how this balancing act is possible and needed for student achievement gains.</p>	<p><i>Interdisciplinary Math and Science</i></p>	<p>3-5 teachers, 6-8 teachers</p>	<p>Empire 1</p>
<p>Tuesday 8:00-9:50 AM</p>	<p>When the Wheels are Turning, the Students are Learning! Beth Smith Wendy Peel</p>	<p>This session will help those who are new to coding get up to speed! Appropriate for middle or high school students, this session will bring coding and hands-on together as you learn how to program a robotic vehicle (called a Rover) to perform different challenges. Code your rover to navigate a path, collide with another Rover, and draw a geometric shape or graph. Learn how the TI-Innovator™ Rover provides students the opportunity to explore the relationship between speed, distance and time.</p>	<p><i>Interdisciplinary Math and Science, Nontraditional Student Participation, CTAE Integration, Technology Integration</i></p>	<p>6-8 teachers, 9-12 teachers, Administrators</p>	<p>Empire 2</p>
<p>Tuesday 8:00-9:50 AM</p>	<p>Get Going with Drawings! Jennifer Hall</p>	<p>Let's get creative! Would you like to walk away with ideas and resources you can use on Monday? Come explore Google Drawings and learn how to take engagement to the next level, while fostering the 21st Century 4 C's.</p>	<p><i>Technology Integration</i></p>	<p>3-5 teachers, 6-8 teachers, 9-12 teachers</p>	<p>Willow</p>
<p>Tuesday 8:00-9:50 AM</p>	<p>Interdisciplinary Math and Science Instruction Leshan Ferguson Terra McMillan Travis Phelps</p>	<p>NASA Orion Missions provide a great platform for students to analyze the interdisciplinary connections between math and science. As well as engage in engineering design challenges that incorporate disciplinary core ideas and cross-cutting concepts to land humans on Mars. During this forum, teachers will be provided an overview of the NASA Orion Missions to Mars and how a uniquely designed STEM lesson unit can be used in day-to-day instruction. Teachers will also be introduced to how the Orion missions can be used to teach disciplinary core ideas in Earth, Life, and</p>	<p><i>Interdisciplinary Math and Science Instruction</i></p>	<p>6-8 teachers</p>	<p>Athena A</p>

		Physical Science through the incorporation of engineering design challenges. In Earth Science, one of the crosscutting concepts is energy and matter. Attendees will learn how renewable energy will play a role in the mission. In life science one core idea focuses on how changing environments affect organisms. Attendees will learn how microgravity affects astronauts. Lastly, in Physical Science, core ideas such as energy, and waves and their applications play a vital role in the Orion missions. Attendees will engage in conducting an experiment to measure the speed of electromagnetic waves, as well as data collection and analysis, and develop and use models, and construct explanations.			
Tuesday 8:00-9:50 AM					Grand Hall 1
Tuesday 9:00- 9:50 AM	Pot, Spot, or Plot: Garden-Based Learning in The Elementary Classroom Heather Ledet	Gardening is a wonderful way to integrate STEM into your classroom, no matter how much room you have. Emphasis will be placed on improving STEM outcomes in an elementary setting. Dig in as we unearth how garden-based learning creates a rich context for science and mathematics.	<i>Interdisciplinary Math and Science Instruction</i>	K-2 teachers, 3-5 teachers	Athena B
Tuesday 9:00- 9:50 AM	Creating Opportunities for Today's Youth: Preparing Tomorrow's Industry Leaders Andrea- Bowens Jones	An overview of the impact and lessons learned from the development of the Resident Scholar Program at Procter & Gamble Company (a unique job-shadowing program developed in 2004) to (a) inspire others to make a difference and (b) serve as a program model to aid in filling the STEM pipeline with talented minority candidates.	<i>Industry and Community Spotlight</i>	9-12 teachers, Administrators	Athena C
Tuesday 9:00- 9:50 AM	Building Strong Thematic Units that Supports Arts Integration Learning in the 21st Century Trina Reaves Joane McDonald Micki Smith Jeanine Townsend Yvette Moorehead	Creating thematic units that will assist teachers and administrators with the implementation of arts integration in daily classroom practices. We speak about arts integration being the key to learning, however, it is necessary to connect the standards all while creating engaging lessons that promotes mastery. This achieved by using various hand on activities and Project Based Learning.	<i>STEAM, CTAE Integration</i>	K-2 teachers, 3-5 teachers, Administrators	Athena D
Tuesday 9:00- 9:50 AM	Administrator's Strand				Athena E

Tuesday 9:00- 9:50 AM	Art Integration into Biology Curriculum (Cellular Energy Unit) For High School Sahar Aghasafari	Presenters draws on Marshall's (2010) "Five Ways to Integrate Using Strategies from Contemporary Art" to present curriculum designed to integrate art into a high school biology course.	<i>STEAM</i>	9-12 teachers	Athena F
Tuesday 9:00- 9:50 AM	EVERFI- Interactive STEM & Career Readiness resources at NO COST Holly Juras	Tap into student interest and curiosity to make critical math, science, and career concepts relatable. EVERFI's engaging and interactive STEM & Career Readiness resources inspire students to pursue the careers of tomorrow. Learn how to bring STEM alive with the EVERFI learning modules! All resources are online, standards-aligned, student-paced, self-graded, and highly engaging. During this session, attendees will be given the tools to implement impactful technology in their classroom at NO COST.	<i>Interdisciplinary Math and Science Instruction, CTAE in STEM and STEAM, Content-Based Technology Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena G
Tuesday 9:00- 9:50 AM	Art Smash your Math Instruction Ty Sutz Eric Wingate	Do you ever feel stuck or even overwhelmed when it comes to teaching the geometry standards? Are you looking for ways to make mathematical content more approachable and enticing to students? Through the visual arts you can tap into your students' creativity, help build spatial ability, and strengthen their visual imagery so that mathematical principles are more easily approached now, understood, and stored for recall later. Through this session you will be presented a variety of tried and tested arts integrated projects you can easily adapt for use in your classroom. Participants will also receive a handout of resources to help them easily get started integrating the visual arts into their math lessons.	<i>Interdisciplinary Math and Science, STEAM</i>	K-2 teachers, 3-5 teachers	Athena H
Tuesday 9:00- 9:50 AM	STEAM4Ward with Digital Music Composition: Music Your Students Ears (No Coding Required) Margo King	Using free, online resources teach your students about the basic science of sound, the math in music and the art of composing electronic music. Participants will leave with a ready to implement unit of study. No coding required.	<i>CTAE Integration</i>	6-8 teachers	Athena I
Tuesday 9:00- 9:50 AM	How to incorporate math and science throughout your curriculum from	Sagamore Hills Elementary in Atlanta is a dual STEM Certified school through the Georgia Department of Education and AdvancED. Learn how teachers have incorporated math and science into their daily instruction in a meaningful way. You'll also learn how math, science, social studies and language arts	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Olympia 1

	Robotics to STEM Gardening Stephanie Spencer Julia Harrison Kristen Garrett Julie Taylor	are incorporated into Sagamore Hills STEM garden. Using their science knowledge, applying their math skills and using current events the fifth graders started their own plant business, fourth graders designed and built vermiculture bins, third graders solved an issue dealing with poor drainage, and second graders created gardens for the conservation of monarchs.			
Tuesday 9:00- 9:50 AM	Create a culture of STEM with Discovery Education Aubrey LeGrand Desiree Sujoy	Come explore how Discovery Education supports your STEM initiatives! From our Connect The Dots Initiative with free STEM Camp resources, Virtual Field Trips, and Corporate Partnerships to our award winning, Global STEM Alliance certified Science Techbook, STEM Professional Development, and STEM Connect resources. Discovery has also teamed up with US2020, an organization with the mission of matching 1 million STEM mentors with students at youth-serving nonprofits by the year 2020. Learn about our STEM partnership with the Navy - STEM for the Classroom resources, where there are career connections and virtual interactives. There will be explicit connections to GSEs and the GADOE STEM Frameworks of Instruction.	<i>Interdisciplinary Math and Science, CTAE Integration, Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers	Olympia 2
Tuesday 9:00- 9:50 AM	Tales of the Traveling STEAM Trunks: Increasing Access to STEAM and Making Courtney Bryant Caitlan Cole Stacey Bradley Mae Pagett Candice Price	Mobile makerspaces offer a versatile solution for leveraging limited resources and space to transform every classroom into a hub of hands-on making. When supported by ample educator training, these maker carts, or “STEAM Trunks,” facilitate interdisciplinary Project-Based Learning that is engaging, rigorous and standards-aligned. This session serves as a blueprint for introducing STEAM Trunks at your school and will feature recommendations for STEAM Trunk best practices, including logistics, professional development and sustainability information.	<i>STEAM, Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Parthenon 1
Tuesday 9:00- 9:50 AM	Developing Community Partnerships to Support STEM/STEAM District Initiatives Sarah Graham Laura Freeman, Jenna Barton, Marores Perry, Monica Rydza	Sizzling Summer STEM is Paulding County School District’s innovative summer professional learning opportunity that combines real-world experiences with structured planning to support the integration of STEM and STEAM. For the past 3 years, Paulding County School District has partnered with local businesses, government agencies, and Chattahoochee Technical College to provide a small group of teachers each year with 4-5 days of STEAM powered professional learning in	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Parthenon 2

		the summer. Teachers are introduced to STEM/STEAM careers by participating in tours, demonstrations, or hands-on experiences from our partners. This summer program kicks off a year-long teacher and community collaboration that culminates in Project Based Learning initiatives that engage students in STEM and STEAM right in their own backyard.			
Tuesday 9:00- 9:50 AM	Science in the Kitchen- Keep it Clean Leigh Cape Barrett Amanda Hayes	How clean is your classroom? You will learn how to grow bacteria colonies and observe the growth of bacteria with this hands-on presentation and experiment. Each participant will be given all the supplies needed to go back and teach students the importance of sanitation and how to keep foods safe.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers	Oconee River 1
Tuesday 9:00- 9:50 AM	Project Based Learning with Sound Kera Davis Kathleen Bunn	Come hear about how our 4th graders changed our school! Working with our community partners, we explored sound concepts and then helped improve the acoustics in our band room. This session will describe the process of planning and implementing an authentic PBL unit.	<i>Interdisciplinary Math and Science</i>	3-5 teachers	Oconee River 2
Tuesday 9:00- 9:50 AM	Start Them Early: Coding for K-2 Students Using ScratchJr Tamioka Grizzle	In this hands-on session for beginners, learn how to introduce coding to young learners using the introductory programming language, ScratchJr. With this program, students can create their own interactive stories and games by snapping together graphical programming blocks to create scripts that will make characters move, jump, dance, and sing! Leave the session with ideas on how to implement ScratchJr into the curriculum and create your own ScratchJr project! Requirement: Download the ScratchJr app on your iPad and bring your fully- charged iPad to the session.	<i>Technology Integration</i>	<i>K-2 Educators</i>	Cypress 1
Tuesday 9:00- 9:50 AM	Learning Blade - STEM Career Awareness in Action (Case study Adairsville Middle School) Joshua M Sneideman Sarah Callaway	In 2017, The Governor's Office of Student Achievement (GOSA) in collaboration with Thinking Media awarded schools throughout the state, licenses to use Learning Blade's online STEM platform to enhance student interest and awareness of STEM careers. This session will share highlights of one of the most active school in the state, Adairsville Middle School, and their tremendous success using Learning Blade to inspire students.	<i>Interdisciplinary Math and Science Instruction, Nontraditional Student Participation, CTAE in STEM and STEAM, Content- Based Technology Integration</i>	6-8 teachers, Administrators	Cypress 2

Tuesday 9:00- 9:50 AM	G.R.E.A.T. Projects and Citizen Science: Interactive Tools to Scaffold 3-D PBL Karan Wood	Discover four apps that engage students in exciting and purposeful schoolyard investigations. Also try out a new interactive web tool that scaffolds PBL by leading students to decision points for data collection, problem-solving and project implementation, all while integrating GSES units. Captain Planet Foundation's new Project Pathways tool is intended to make real world PBL more accessible, student-directed and teacher-friendly.	<i>Interdisciplinary Math and Science Instruction</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	
Tuesday 10:00-10:50 AM	EarSketch: Teaching Computing through Music Douglas Edwards	This presentation will introduce the use of EarSketch, a free browser based computational thinking learning platform that is used to teach coding through music remixing. Participants will see how accessible and authentic EarSketch is to teach JavaScript or Python programming.	<i>STEAM, CTAE Integration</i>	6-8 teachers, 9-12 teachers	Athena B
Tuesday 10:00-10:50 AM	Destination Imagination for STE(A)M Clubs Annette Rogers Rebecca Millar Markyta Holton	A grant from Destination Imagination and Ford allowed Matthews Boys and Girls Club to host a successful Try DI event to kick off the club's STE(A)M emphasis. Attendees will receive activities and activity materials to take back to their school/organization in an effort to engage non-traditional participants in the Destination Imagination Challenge experience.	<i>Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena C
Tuesday 10:00-10:50 AM	Leveraging Bio-inspiration in STEM Education: Root-inspired Piles Ariel Siegel Amanda Reding, Michael Helms, Sabrina Grossman, Ken Kirtland IV	Learn about the outreach efforts from the Center for Bio-Mediated and Bio-Inspired Geotechnics (CBBG) at The Georgia Institute of Technology in developing problem-based design challenges that can be implemented in STEM and CTAE classrooms. Teachers will experience GSE and NGSS aligned engineering modules that culminate with a bio-inspired design challenge: a 3D printed root-inspired deep-pile foundation (root analog). The goal of these modules is to introduce students to the engineering design process and expose them to the basics of geotechnical engineering, bio-inspired engineering, and biogeotechnics. The modules integrate Earth, Life, and Physical Science through the study of soils, plant root structures, biological systems, and force and motion. Math is integrated in the modules through root geometry, measurement, and cost and efficiency calculations. Teachers who attend the workshop will receive access to digital teacher	<i>Interdisciplinary Math and Science, CTAE Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Athena D

		materials for these modules along with copies of student sheets and bio-inspired design manipulatives.			
Tuesday 10:00-10:50 AM	Administrator's Strand				Athena E
Tuesday 10:00-10:50 AM	Moving Past "Pinterest" STEM: Building a PBL Culture in Your School Susan Curtis Natalie Parham Kera Davis	This session will discuss challenges in building a STEM culture at your school and give participants ideas about how to use Project-Based Learning to address those challenges.	<i>Interdisciplinary Math and Science Instruction</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena F
Tuesday 10:00-10:50 AM	Promoting Student Voice through STEAM in Project Based Learning Carrie Siegmund Carrie Yawn	This session highlights the development of a literacy-inspired, technology rich, project-based learning unit. It aims to foster cross-curricular lesson planning in a format that engages students and promotes student voice in the classroom. In addition to meaningful connections between standards, teachers will see how to integrate technology tools, STEM challenges, and art into an interdisciplinary unit that reinforces multiple content areas.	<i>STEAM</i>	K-2 teachers, 3-5 teachers	Athena G
Tuesday 10:00-10:50 AM	Using a nanotechnology magazine (nanooze.org) to bring standards based nano lessons to the middle school Nancy Healy Quinn Spadola	Nanooze is a free magazine for middle school students that encourages students to read about cutting edge STEM. This session will demonstrate ways to connect Nanooze topics to standards based lessons. Nanotechnology is an excellent way to connect to 3D learning particularly because of its interdisciplinary nature. We will provide examples of hands-on activities to help students see the connections to real world nanotechnology applications.	<i>Interdisciplinary Math and Science</i>	6-8 teachers	Athena H
Tuesday 10:00-10:50 AM	STEAM Through Project Based Learning Kristyn Lopez Monica Taggart	Come learn from the first state STEAM certified school in the state of Georgia. Presenters will show how to use collaborative planning to design a Project Based Learning unit with authentic arts integration, technology, and real-world connections.	<i>Interdisciplinary Math and Science, STEAM</i>	K-2 teachers, 3-5 teachers	Athena I
Tuesday 10:00-10:50 AM	Engaging English Learner (EL) students in investigative STEM research Carmen Flammini	You will learn how to engage your English Learner (EL) students in investigative STEM research. This type of work provides EL students with standards-based, integrated, higher order work at a DOK level 4. You will be provided with example investigative research projects and details about how our EL students are advancing research in different areas like	<i>Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers	Olympia 1

		environment conservation and organic gardening. Because of the collaborative efforts between our school and researchers from Michoacán, Mexico, this research extends the boundaries of the typical meaning of STEM partners to one of an international perspective. Through this work, our EL students are changing the community's conscience about the environment. This session will be interactive for participants and you will leave prepared to begin investigative research with your own students.			
Tuesday 10:00-10:50 AM	Developing STEM Lessons with Authentic Integration of Science and Math Ann Williams- Brown Nikki Cooper Tonya Woolfolk	Content experts have collaboratively developed a process for planning STEM lessons. Teachers will be engaged throughout the session in activities to plan and carry out investigations and design solutions to engineering problems. Participants will be guided through the process for planning a STEM lesson as they are engaging in the inquiry-based activity. Participants will also be provided a template to assist with the planning and development of STEM lessons for their classroom.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers	Olympia 2
Tuesday 10:00-10:50 AM	Driving the Planning for STEAM Teaching Courtney Bryant Lieu Nguyen	Planning a STEAM Project Based Learning unit doesn't just happen--it takes strategy. Learn the who, what, when, where, and how of interdisciplinary project planning. This presentation will assist teachers in understanding the steps and processes needed to plan for STEAM units. During the presentation, attendees will learn details such as who might be invited to join the team, when it is best to meet and what types of things should be discussed and decided before beginning. Participants will have the opportunity to role play planning out an interdisciplinary unit in small groups.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Parthenon 1
Tuesday 10:00-10:50 AM	Arts Integration in STEM Education Virginia McCullough	There is a direct relationship between students' attitudes about learning in meaningful ways and the integration of the arts into their curriculum. The arts provide a sense of personal accomplishment and increases motivation. The arts creative factors can be the inoculation against the low effort and boredom affecting our learners. This presentation will introduce you to the cross disciplinary synergistic benefits that are produced when you link the arts purposefully and equally within the implementation of STEAM education. A hands-on activity will offer examples of the innovative connections the arts can make.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Parthenon 2

Tuesday 10:00-10:50 AM	Be Great and Integrate: A beginners guide to integrating Science and Math Kelly Greene Natalie Mondesir	Audience members will gain new insights into making standards come alive with STEM integration. In this presentation, teachers will learn how to use Georgia Standards of Excellence for Mathematics, Next Generation Science Standards , English Language Arts and robotics to create engaging STEM lessons for students.	<i>Interdisciplinary Math and Science, Technology Integration</i>	K-2 teachers, 3-5 teachers	Oconee River 1
Tuesday 10:00-10:50 AM	Science of Sport STEM partnership with the Atlanta Braves Kara Reeder Aron Rooze	Play Ball!!! The Science of Sport, Cherokee County Schools, and the Atlanta Braves partnered this spring to teach 7th grade students at ET Booth Middle School the "Science of Baseball". Learn about launch angle, reaction time, base running and take part in this "out of the park" experience.	<i>Interdisciplinary Math and Science</i>	6-8 teachers	Oconee River 2
Tuesday 10:00-10:50 AM	STEM Innovation and Design: Integrating Math and Science into MS Engineering & Technology Jeffrey Rosen Roxanne Moore	During this session we will present the AMP-IT-UP STEM-ID middle school connections course that integrates Math and Science practices into the Engineering & Technology course. We will describe each grade's 18-week course, the research results on student achievement and demonstrate the use of our online engineering design log.	<i>CTAE Integration</i>	6-8 teachers	Cypress 1
Tuesday 10:00-10:50 AM					Cypress 2
10:00-10:50 AM	PBL in Physics and Biology Shannon Watkins	Come engage in Project Based Learning ideas that include Physics, Biology, and STEM for your classroom. PBL lesson examples will be shared and how technology is incorporated into the Physics and Biology classroom.	<i>Technology Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Grand Hall 2
Tuesday 10:00-11:50 AM	Using STEAM for Entry Events in PBL Katherine Fowler Chris Bellagamba	Participants will receive hands-on examples of various PBL events that integrate STEM into K-5 classrooms. Entry events set the tone for your entire unit, and STEM is the best way to get great buy-in. There will be a hands-on example of an event per elementary grade level. Come get great ideas for math and science units even if your school does not participate in PBL.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Grand Hall 1
Tuesday 10:00-11:50 AM	Sun Power for Schools: Explore S.T.E.M./GSE Lessons Highlighting Solar Energy Concepts	Delve into samples of ready to use 6-12 student-active lessons based on the 5E model, a vertical progression of GSE standards, and instructional strategies supporting the meaning of S.T.E.M., S.T.E.A.M. and more.	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9- 12 teachers, Administrators	Grand Hall 3

	in Life and Environmental Sciences Gail Marshall, Judy Cox, Nancy Sills, Stephanie Miles				
Tuesday 10:00-11:50 AM	Science and Drama - Really? Barry Stewart Mann	Science and Drama don't always seem like natural candidates for fusion but integrating Drama and Science can be surprisingly easy and effective. In this interactive workshop, we'll use five points of entry - Theatre Games, Folklore as Scientific Inquiry, Story Enactment, Scientists and Science History, and Metaphorical Constructions - to engage imagination and activate learning across the science curriculum. Walk away with exercises and approaches to use as soon as you get back to class.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Grand Hall 4
Tuesday 10:00-11:50 AM	Building an Interdisciplinary STEAMystery with GPB's Free Digital Resources Tracey Wiley Mary Anne Lane	Join Georgia Public Broadcasting for a hands-on inquiry workshop that begins with an intriguing STEAMystery and ends with exciting STEAM career ideas! Participants will use the scientific method and an active imagination to analyze a puzzling story, explore connections in math, science, literature, and social studies via GPB's quality online content, create an engineering design process output, and consider associated STEAM career options. Walk away with engaging teaching strategies and easily accessible resources that can be applied immediately in your own school setting.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Grand Hall 5
Tuesday 10:00-11:50 AM	"Ease on Down Another Road": The Unlikely Collaboration between Engineering and Musical Theater Marianne Parker Jennifer Grazer	The Unlikely Collaboration Between Engineering and Theater Production. Discussion of the partnership between the engineering and drama/chorus department to produce scaled models of Atlanta landmarks for use in the HHS spring musical, The Wiz.	<i>CTAE Integration</i>	9-12 teachers	Grand Hall 6
Tuesday 10:00-11:50 AM	Can Your Robot Navigate Mars? Wendy Peel	Come learn to code your graphing calculator and the TI-Innovator Rover to investigate a model of Martian terrain just like Curiosity! No coding experience is necessary.	<i>CTAE Integration</i>	6-8 teachers, 9-12 teachers	Empire 1
Tuesday 10:00-11:50 AM	Collaborating with Students to Create More Engaging, Exciting	To more effectively teach Scientific Inquiry, previous year's students were invited to collaborate and design more engaging lessons. For the opening unit of the year, Scientific	<i>STEAM</i>	6-8 teachers	Empire 2

	and Relevant Lessons at The STEM Academy Deanna Fanning	Inquiry, A murder mystery was written in the style of Edgar Allan Poe’s, The Raven. Students helped to bring the mystery alive by creating a video in the voice of each of the characters. Original art was utilized to portray the characters and crime scene. The Unit is launched when students view the video. Then, they are tasked with the job of detectives and are asked to utilize scientific inquiry to solve the murder. Students present who their group believes to be the murderer. They may choose any creative method of presentation if they present their argument in an organized and logical manner and convince the audience that their solution is correct. After all the presentations have concluded, the Final Reveal video will be played to learn who the actual murderer is.			
Tuesday 10:00-11:50 AM	STARBASE ROBINS Leading a Legacy of STEM Learning through Partnerships Wesley Fondal	STARBASE ROBINS is a Department of Defense STEM Education Program that partners with surrounding school district to strengthen the STEM education that is taking place in the Middle Georgia Area. Their partnerships help to increase STEM literacy that not only affects the outcome of the students they serve, but also enhances the districts and one of the major employers of the state, Robins Air Force Base. The STARBASE ROBINS programming involves meeting the STEM needs of students during the school day, afterschool and summer.	<i>Interdisciplinary Math and Science, Community Partnerships</i>	3-5 teachers, 6-8 teachers, Administrators	Willow
Tuesday 10:00-11:50 AM	School Counselors Supporting STEAM Instruction Sheila Garth	School Counselors are such an integral part of a student’s educational journey. This presentation shows how school counselors can support STEAM in Elementary School ASCA Mindsets and Behaviors Core Curriculum. The session also shows how teachers in Middle and High school can work with school counselors to enrich and expand on an already well-developed STEAM lesson. Participants will take lessons and strategies that can be utilized in a K-12 educational setting.	<i>Nontraditional Student Participation, STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena A
Tuesday 11:00-11:50 AM	Novel Engineering Kimberly Boucher Chris Anderson Susan Battyanyi	Inspired by kids and grounded in research, Novel Engineering (©Tuft’s University, Center for Engineering Education and Outreach) is an innovative approach to integrate engineering and literacy in elementary and middle school.	<i>Interdisciplinary Math and Science, Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, 6-8 teachers	Athena B

		Students use classroom literature—stories, novels, and expository texts- as basis for engineering design challenges to: Identify engineering problems, impose constraints by using details from the text, Design functional, realistic solutions for characters, and Engage in the Engineering Design Process while reinforcing their literacy skills.			
Tuesday 11:00-11:50 AM	STEM for Every Student Elizabeth Ferguson Timesha Brooks	STEM is for every student, this presentation is designed to address the self-contained and special education population. We will show you how to engage in STEM activities that will address standards for math and science that extends across the k-5 grade band in one educational setting.	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Athena C
Tuesday 11:00-11:50 AM	GreenpowerUSA - The Hottest STEM Program You Never Heard Of Chip Giles, Matthew Graham, Jacob Boyett	The Greenpower program is a STEM initiative that allows students the opportunity to participate in a hands-on approach to engineering and project management. Participants of the Greenpower program design, build and race student-driven electric racecars. Long Cane Middle School, in Troup County, had an enormously successful implementation of Greenpower Tech as a STEM class last year. The students in this first-year program went from having a car kit in boxes to racing and competing as an elite Greenpower team. Hear their story and learn how easy it is to bring this program into your school as a STEM class or a club. Leaders of the GreenpowerUSA foundation will be on hand to help you get started in this remarkable program.	<i>CTAE Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena D
Tuesday 11:00-11:50 AM	<i>Administrator's Strand</i>				Athena E
Tuesday 11:00-11:50 AM	STEM in the GYM Jacob Carlock	Participants will be able to participate in a hands-on activity that merges exercise science with STEM in a Physical Education Class.	<i>Nontraditional Student Participation</i>	3-5 teachers, 6-8 teachers	Athena F
Tuesday 11:00-11:50 AM	Practicing Creativity: How to Increase the Creative Capacity of STEAM Instruction Caitlan Cole	As one of the 4 Cs within the 21st Century Learning Framework, creativity is recognized as an indispensable skill student need to make their mark on the world. But what does it really mean to treat creativity as a skill that must be taught rather than an abstract trait that some have and others don't? At its core, creativity is the process of generating ideas, and this process requires intentional practice, refinement and reflection. This session will focus on research-based strategies	<i>STEAM, Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Athena G

		for teaching and assessing creativity in your classroom, specifically looking at how to maximize opportunities for creative expression and creative thinking in your STEAM lessons and PBLs. We will explore the teaching of creativity in the most practical terms, moving beyond the misconception of creativity as simply “arts and crafts,” and instead embracing it as a must-have habit of mind critical to every discipline and every future opportunity your students will encounter.			
Tuesday 11:00-11:50 AM	Peergrade & Essay Feedback Nateil Carby	Using Peergrade to distribute effective student feedback and to incorporate the writing process in all content areas.	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Athena H
Tuesday 11:00-11:50 AM	Want More Girls in STEAM, Put More STEAM Tools in the Hands of Girls James Campbell	This session will share the path Atlanta Girls' School has traveled to put meaningful STEAM tools into the hands of their students and develop STEAM curriculum. This session will include a brief IGNITE style talk and then a variety of hands on activities.	<i>Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena I
Tuesday 11:00-11:50 AM	Canned Data?? Not in the House of STEM! Jeff Lukens Wendy Peel	When students collect their own data, they are WAY more likely to take an interest in the data. Come experience the engagement and get your hands on simple, reliable data collection activities that will bring STEM/STEAM to life!	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Olympia 1
Tuesday 11:00-11:50 AM	Empowering Resources Playground Kelly Hines	Looking for some free new tools & resources to energize your classroom? Go hands-on in this station’s-based session to explore virtual field trips, computational thinking skills, innovation challenges, acts of kindness and many more resources available at no cost. There are literally hundreds of lessons and activities for the classroom and home, with student challenges offering thousands of dollars in prizes.	<i>Technology Integration, Community Partnerships</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Olympia 2
Tuesday 11:00-11:50 AM	"Lights, Camera, Action!" Video Production & the 4 C's Jennifer Hall	In this session, learn how video production can encourage student engagement and increase student achievement. Participants will explore how filmmaking addresses the 4 C’s as well as discuss ideas and resources for implementing film projects, including the use of green screen.	<i>Technology Integration</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Parthenon 1
Tuesday 11:00-11:50 AM	Demystify STEM and become a STEM Teacher Leader with a STEM Certificate Valerie Sellers	Life-changing STEM outcomes are the result of purposeful instructional planning and delivery that integrates standards-based instruction and high impact STEM strategies. Effective, engaging and evidence-based, these doable strategies will transform your student outcomes. Get your STEM Teacher	<i>Interdisciplinary Math and Science</i>	3-5 teachers, 6-8 teachers, 9-12 teachers	Parthenon 2

		Certificate through NISE as you refine and demonstrate your understanding of STEM.			
Tuesday 11:00-11:50 AM	Pike County STEM Academy - Our Certification Journey James Stanford Molly J. Bestge	Come learn about the journey that Pike County's STEM Academy program took to become the first STEM Agriculture program in the State of Georgia to achieve STEM Certification. Learn more about the process of visioning a program focused on your CTAE niche, and the commitment to providing rigorous and ongoing professional learning for its STEM teachers through Cultivate21, which has resulted in a STEM program that prides itself on a high level of application of STEM best practices for its students, with STEM Project-Based Learning being a cornerstone of implementation. The CTAE Director and STEM Academy Instructors from the Pike County STEM Academy and Cultivate21 will share process and will field questions that you may have about the journey toward STEM Certification.	<i>CTAE Integration</i>	6-8 teachers, 9-12 teachers, Administrators	Oconee River 1
Tuesday 11:00-11:50 AM	STEAM and Co-Teaching Lieu Nguyen Joshay Simmons	Come and learn about interdisciplinary education in Art and an integrated classroom, ChemVAS. You will be provided with project ideas and how STEM can be enhanced through Visual Arts (STEAM). In addition, see the importance of collaboration among teachers such as the ChemVAS course, Chemistry and Visual Arts study, a co-taught class with a focus on PBL and STEAM education.	<i>Interdisciplinary Math and Science, STEAM</i>	9-12 teachers	Oconee River 2
Tuesday 11:00-11:50 AM	Growing Artists: Agriculture, Artwork, and Academic Rigor Andre Mountain Carolita Chester-Benton	This presentation outlines how Marbut Traditional Theme School launched a journey toward STEAM certification with a solid arts program where students transformed the school through photography, three-dimensional projects, and collaborative mural projects. Teachers, students, parents and administration transformed green spaces around the school into teaching gardens and outdoor classrooms to support instruction.	<i>STEAM</i>	K-2 teachers, 3-5 teachers	Cypress 1
Tuesday 11:00-11:50 AM	A Leap of Faith! - Our First Year Implementing whole school STEAM Catherine Hampton Elizabeth Anderson	Take a virtual field trip with Dr. Elizabeth Anderson and Nikki Hampton as they speak openly and honestly about how the dream for a STEAM program at a Title 1 school in North West Georgia came to life. What happened after Dr. Anderson took a leap of faith to bring STEAM to life for ALL students in her school, not just the gifted population? This presentation includes how the program is funded and developed. There will	<i>Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, Administrators	Cypress 2

		be a discussion of project choices as well as the joys and 'oh no!'s' of the first year.			
Tuesday 11:00-11:50 AM	Plea Your Case Erica Carillo Robin Estavan	Do you find your learners have difficulty developing an evidence-based claim? Come learn fun and engaging ways to help all learners differentiate between data, evidence, and reasoning while developing a solid evidence-based claim and argument. We will make connections to STEAM, literature, and offer ways to incorporate Personalized Learning strategies. Resources for all grade levels will be provided so that you can dive right in with a plan of action for implementation in your learning environment. So, journey with us as we develop 21st century learners who can provide solid reasoning to support evidence-based claims.	<i>STEAM, Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Grand Hall 2
Tuesday 12:00-1:20 PM	Lunch				
Tuesday 1:30-2:20 PM	This or That: Using Technology to Inform Instruction Andrea Wright	This interactive presentation focuses on the integration of technology by educators to facilitate instruction and assess students formatively. Technology programs students can use to validate their learning while fostering creativity will also be shared. Through experience and rich conversation, participants will leave with a plethora of ideas and resources to enhance rigorous instruction and rich educational experiences.	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Athena A
Tuesday 1:30-2:20 PM	Step Into STEM & Career Connections Pamela Inabinett	Are you looking for new and creative ways to integrate STEM into your curriculum? Take a deeper dive into Discovery Education's STEM resources and immediately learn new instructional strategies for teaching STEM. Learn how to implement STEM Career Challenges with your students that will enable them to find their path to a successful career.	<i>CTAE Integration</i>	3-5 teachers, 6-8 teachers	Athena B
Tuesday 1:30-2:20 PM	Escape the Lab: A Simulated STEM Escape Room Investigation Marquita Blades	Participants will apply principles of STEM/STEAM to solve clues and complete a simulated escape room investigation. This activity will require participants to use critical thinking, questioning, and collaboration skills. In this interactive session, the presenter will model a simulated investigation and provide an overview of the planning & implementation process.	<i>Nontraditional Student Participation</i>	6-8 teachers, 9-12 teachers, Administrators	Athena C

Tuesday 1:30-2:20 PM	Robots and Elementary Mathematics: Ideas and Advice John Mativo Theodore Kopcha	This session will showcase some of the ways robotics is being integrated into elementary school classrooms and how it can address specific mathematics standards. Ideas and materials will be shared, as well as advice for successful implementation.	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers	Athena D
Tuesday 1:30-2:20 PM	<i>Administrator's Strand</i>				Athena E
Tuesday 1:30-2:20 PM	Point of View (PoV): Exposing and Integrating STEAM for Social Change Erich Thomas J. Nicole Thomas	Music and art are languages that transcends culture, socio-economic status, race, religion, etc. Music and art are also languages that can be used to convey ideas in Science, Technology, Engineering, Math, and Computer Science in a creative and socially- as well as culturally-relevant way. This session describes the enactment of and findings from the Social Change Youth Foundation's Game design Arts, Media & Film (GAMEFi) program, which engaged African-American high school students in collaborative, integrated, project-based learning that resulted in the creation of a set of integrated artifacts (i.e., a documentary, artwork, music, and a game) to bring awareness to and address a social issue (in this case, poverty).	<i>STEAM, Nontraditional Student Participation, Technology Integration</i>	9-12 teachers, Administrators	Athena F
Tuesday 1:30-2:20 PM	Creating a STEM-tastic Program Focused on Closing the Achievement Gap In Under Resourced Urban Communities Veronica- Wilson Seville Mr. Ernest Sessoms Dr. Bobby Allen	This session demonstrates how STEM practices directly supports Common Core Standards, Georgia Standards of Excellence, and New Generation Science Standards geared towards interdisciplinary learning using "real world" engineering design challenges and project/problem-based learning.. Educators will also receive information that will better their understanding of how crosscutting concepts are intrinsically embedded in STEM instructional practices (i.e. patterns, cause and effect, scale, using models, etc...) while building 21st Century skills of collaboration. In the end, the goal is to have students receive the answer to that age-old question, "Why are we learning this stuff?"	<i>Interdisciplinary Math and Science</i>	K-2 teachers, 3-5 teachers	Athena G
Tuesday 1:30-2:20 PM	Want to Live Broadcast Your School News Station? YouTube to the Rescue!	This past year, our school started a live, daily news broadcast. Come see how easy and inexpensive this can be with resources you probably already have.	<i>Technology Integration</i>	6-8 teachers, 9-12 teachers, Administrators	Athena H

	Joey Mitchell				
Tuesday 1:30-2:20 PM	Sparkling Innovations Through Real-World Challenges Kelly Hines	Designing authentic, real-world challenges can be, well, a challenge. They are, however, powerful tools for learning. Through more than ten years of challenge design with programs like, the 3M Young Scientist Challenge, we've developed strategies and resources that we want to share with you. We will look at STEM, ELL, Health & Wellness, & Innovation Challenges spanning elementary through high school grade levels.	<i>Technology Integration, Community Partnerships</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Athena I
Tuesday 1:30-2:20 PM	Claim-Evidence-Reasoning: Scientific Explanations of Phenomenon Valerie Sellers	CER is a way for students to explain observed phenomenon in a scientific way and how observations and data from an investigation are connected to science knowledge. This acclaimed and highly successful instructional strategy is changing how lab instructions are conducted and making science investigations meaningful for students. ELD strategies will be shared and modeled for an equitable learning environment.	<i>Interdisciplinary Math and Science</i>	3-5 teachers, 6-8 teachers	Olympia 1
Tuesday 1:30-2:20 PM	Use STEM to Battle the Zombie Apocalypse! Jeff Lukens Wendy Peel	Use the "Zombie Craze" to make STEM/STEAM become "un-dead" in your science classroom! This is a hands-on, brains-on session!	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers	Olympia 2
Tuesday 1:30-2:20 PM	Creating Apps for Change Angelique Barnett	Come learn about the MAD About Mattering Social Entrepreneurship - App Creation Contest.	<i>STEAM, Nontraditional Student Participation</i>	6-8 teachers	Parthenon 1
Tuesday 1:30-2:20 PM	Digital Literacy & Puppet Pals Heather McKeen	Puppet Pals is a digital puppet theater that creates recorded animations, voice, and student interaction which allows for self-expression in a movie play world. Directly linking this tool to literacy and other subject areas is simple and easy to do. This FREE app can help students plan, develop, and create numerous movies for an "Each One Teach One" classroom experience.	<i>Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers	Parthenon 2
Tuesday 1:30-2:20 PM	The STEM/STEAM Classroom Molly Bestge	Molly J. Bestge of Cultivate21 will help you build basic knowledge about STEM/STEAM, learn what can encourage STEM/STEAM thinking in your classroom, and help you find resources for implementing STEM/STEAM activities in your classroom. Come prepared to participate in a design task to	<i>Interdisciplinary Math and Science, STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Oconee River 1

		flex your STEM/STEAM muscles as well! (www.cultivate21.com)			
Tuesday 1:30-2:20 PM	Increasing Interdisciplinary and Applied Learning in your High School STEM Program through Networking with National Organizations Amanda Baskett	Looking for ways to expand interdisciplinary and applied STEM opportunities for your students and teachers? This session will share lessons learned from networking with national professional organizations at Rockdale Magnet School for Science and Technology over the last 18 years. Content will include tips and contacts for connecting with national organizations (such as American Chemical Society and the National Consortium of Secondary STEM Schools) for everything from professional development to student competitions.	<i>Interdisciplinary Math and Science</i>	9-12 teachers, Administrators	Oconee River 2
Tuesday 1:30-2:20 PM	A STEM Journey Katie Thompson	"What do you want me to be?" This is the question asked to Dr. Katie Thompson that made her connect the importance of STEM education with the life of a student. Student empowerment is vital to the success of STEM education. Through this keynote, one can be prepared to take a STEM journey that begin several years ago has continued to grow. Through experiences, trials, and tribulations, educators can grow in the knowledge and understanding of STEM, and how through integration and application success will come!	<i>Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Cypress 1
Tuesday 1:30-2:20 PM	Try Destination Imagination: Creativity at Work James Meadows Julie Pemberton Bridgett Brown	Can you stand the pressure? This hands-on workshop will give you a first person encounter of what DI-ers go through during an instant challenge. Are you up for the task? If you are interested in learning more about Destination Imagination Competitions, Project Based Learning, or just want to stop in and see what it's all about, this workshop is for you. Educators will receive activities to take back to the classroom.	<i>STEAM</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Cypress 2
Tuesday 1:30-2:20 PM	Integrating Robotics into Math Instruction Susan Curtis Natalie Parham	Are you interested in robotics, but unsure of how to use them in your math classroom? Expose your students to the fascinating world of robots while exploring the K-8 Georgia Math Standards of Excellence. In this hands-on session, we will show participants how to use robots to engage students and teach the standards!	<i>Content-Based Technology Integration</i>	K-2 teachers, 3-5 teachers, 6-8 teachers	Grand Hall 2
Tuesday 1:30-3:20 PM	Orbit Earth Expo Ginny Rushing Stephanie Mathewson	Orbit Earth Expo is an in-school STEM experience designed for the K-6 student. Participants will experience concepts such as phases of the moon, eclipses, seasons, tides, and planets.	<i>Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, 6-8 teachers	Grand Hall 1

		Come see what all the fuss is about! This session is great to preview for potential school booking or as a brush up on astronomy topics!			
Tuesday 1:30-3:20 PM	Sun Power for Schools Curriculum: “Explore the Reasons for the Seasons and Why This Matters in the Real World of Alternative Energy Resources.” (Grades 6-12) Gail Marshall, Judy Cox, Nancy Sills, Stephanie Miles	The “Reasons for the Seasons” and the variations in the amount and types of electromagnetic energy coming to Earth are often poorly understood but are fundamental to concepts that are important in many careers and other areas of our lives. After an introduction to the overall Sun Power for Schools Curriculum and website, participants will explore the latest Module, “Sun Earth Motions.”	<i>Interdisciplinary Math and Science</i>	6-8 teachers, 9-12 teachers, Administrators	Grand Hall 3
Tuesday 1:30-3:20 PM	Molarity Murder Mystery - Engaging High School Students with STEM Problem Based Learning Gina Clark	It is imperative that teachers work to get students excited about STEM education and the prospects it could hold for them. In my Forensic Chemistry class, I create STEM challenges in the form of Forensic investigations that integrate math and science through Problem Based scenarios and Engineering Design Challenges. My students are engaged in their own learning as they apply math and science to solve each investigation.	<i>Interdisciplinary Math and Science</i>	9-12 teachers, Administrators	Grand Hall 4
Tuesday 1:30-3:20 PM	Exploring Discovery Education’s Multimodal Content for Encouraging Differentiated Learning in STEM Tracey Wiley Mary Anne Lane	Through Georgia Public Broadcasting’s partnership with Discovery Education, all Georgia educators and students have free access to an expansive digital library of various content types, including images, audio, video, text, interactives, and more. These multimodal resources provide diverse representations of information, allowing educators to assign targeted content to collective groups or individual students depending on learning style, degree of readiness, and interest. Accessibility and literacy-promoting features such as closed captioning, text-to-speech, and Google translate provide further options for enhancing learning in every student. Join GPB in an exploration of Discovery Education’s learning management system as a supportive resource for differentiated STEM learning and instruction in your own school setting.	<i>Nontraditional Student Participation</i>	K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators	Grand Hall 5

<p>Tuesday 1:30-3:20 PM</p>	<p>Going Beyond Presentations: Integrating Technology in STEM Units Nancy Balaun</p>	<p>Ready to move beyond the “go to” technology integration of a PowerPoint or Prezi presentation for the culminating activity or formal assessment? Looking for technology to be an essential tool in your classroom rather than required window dressing? Want to make technology an integral part of your STEM unit and not just an add-on? This session will help change the way you approach technology integration and give you ideas for ways to use technology as a valuable collaborative tool throughout your STEM units, from research through the design, build, and test phases, and, of course, for the presentation of findings at the end.</p>	<p><i>Technology Integration</i></p>	<p>K-2 teachers, 3-5 teachers, 6-8 teachers</p>	<p>Grand Hall 6</p>
<p>Tuesday 1:30-3:20 PM</p>	<p>Technical Communication: Helping Your Students Develop Meaningful Content Laura Palmner Jonathan Arnett</p>	<p>The presentation will explain the basic practices of technical communication and its value in the STEM/STEAM classroom. Attendees will learn how to teach key concepts such as audience analysis/assessment, rhetorical situation, and situational context so students can better prepare content that meets readership needs. Attendees will receive access to an OER (Open Educational Resource) textbook for technical communication. The text contains chapters that teachers can draw upon for reference and more in their classes.</p>	<p><i>Technology Integration</i></p>	<p>9-12 teachers, Administrators</p>	<p>Empire 1</p>
<p>Tuesday 1:30-3:20 PM</p>	<p>AMP UP Your Curriculum with Integrated Practices Jayma Koval Sabrina Grossman</p>	<p>The Advanced Manufacturing and Prototyping Integrated to Unlock Potential (AMP-IT-UP) project is an NSF-sponsored Math and Science Partnership between the Griffin-Spalding County School System and Georgia Tech’s Center for Education Integrating Science, Mathematics and Computing (CEISMC). The AMP-IT-UP curriculum consists of engineering coursework for middle and high schools and 1-week modules that integrate STEM practices for middle school science and mathematics classrooms. Three modules have been designed for each core math and science class across grades 6-8 and integrate the Georgia Standards of Excellence and the Next Generation Science Standards. Each module focuses on one of the practices of Experimental Design, Data Visualization and Data-Driven Decision Making, integrates math and science content and uses grade level core ideas as a backstory to engage students. This presentation will focus on the development and design of the science modules and how they can be used within 3D learning. Participants will learn how they can access the curriculum materials for free.</p>	<p><i>Interdisciplinary Math and Science</i></p>	<p>6-8 teachers</p>	<p>Empire 2</p>

<p>Tuesday 1:30-3:20 PM</p>	<p>The PLTW Experience: K-12 Computer Science, Engineering and Biomedical Labs Davis Woods Casey Martin</p>	<p>During this session attendees will participate in various hands-on mini-labs from PLTW Elementary, Middle and High School level curriculum; with a focus on Engineering, Biomedical, and Computer Science competencies. Some of the materials that will be covered are VEX EDR and VEX IQ platforms, Micr:bit programing chipsets, crime scene processing with wet lab components.</p>	<p><i>Interdisciplinary Math and Science, CTAE Integration, Technology Integration</i></p>	<p>K-2 teachers, 3-5 teachers, 6-8 teachers, 9-12 teachers, Administrators</p>	<p>Willow</p>
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