

GSTA 2020 Conference Thursday Sessions at a Glance

Assessment, Equity, Literacy, STEM, and Content Specific Sessions. Check out the Thursday sessions!

Keynote Speakers:

8:00 am Kiana Willis – STEM Teacher, Georgia TOTY Finalist

11:00 am Samuel Garcia, NASA K-16 Professional Development with a Focus on Culturally Responsive Teaching

4:00 pm GSTA Meet & Greet

7:00 – 9:00 pm Mardi Gras Social



	Session Title	Brief Description
Assessment	Engaging and Effective Formative Assessment	Experience formative assessment strategies that evaluate understanding in way that is engaging, promotes higher level thinking, and uncovers misconceptions. Sample formative assessments will be shared.
	Developing Assessment Items Aligned to the GSE Expectations	Participants will engage in developing assessment items that capture the expectations set in our GSE.
	Formative Assessments in No Time: Making Sense of Phenomenon	Participants will learn how to help students make sense of phenomenon using a combination of formative assessment strategies that support students as they construct scientific explanations.
	Claim-Evidence-Reasoning: Scientific Explanations to Increase Student Voice	Claim-Evidence-Reasoning (CER) is a way for students to explain observed phenomenon in a scientific way. Students use reasoning to connect the claim and evidence together. CER is a highly successful instructional strategy.
	Matching 3D Teaching and Assessment	As students are learning in a 3D environment, using the right assessments can deepen understanding. Practice matching assessments and standard expectations.
	Real World Applications in Forensic Science	Learn to teach Forensic Science conceptually using real-world phenomena
	Learning to Assess with a 3-D Lens: First attempts at creating 3-D formative assessment and rubric	Experience High School 3-D assessments developed by a collaborative group of preservice and classroom teachers to investigate phenomena
Biology	A Road Trip Through Georgia's Regions	Explore cross-curricular connections as you take your students on a road trip through Georgia's regions!
	Virtual Vet: Learning the Human Body Systems through Gameplay	Join us to experience a serious game that addresses the human body systems virtually. The game is free to use in your classroom!
	To Taste or Not to Taste! PTC Genotype Determination	Use electrophoresis to solidify the theoretical teaching of Mendelian genetics and learn the basics of genotyping to determine the PTC taster genotypes for a family.
	Who is Baby Whale's Father? DNA Fingerprinting Solves the Mystery!	Get hands-on experience on how to teach gel electrophoresis and DNA fingerprinting in a single classroom session. You will pour, load, and run a gel, capture gel image, analyze the results, and deduce a probable conclusion for a whale baby.
	Dynamic DNA: More Than Just a Bunch of A's,T's,G's and C's.	We will demonstrate how a variety of physical models of DNA can be used to implement aspects of 3D teaching, learning and assessment.
	CRISPR Science: connecting CRISPR to what you already teach.	Learn about CRISPR science – what it is, why it is important...and how you can integrate it into your curriculum.
Chem	Assessment Practices in Chemistry	A review of common assessment practices in high school chemistry courses
	Using Science & Engineering Practices in Chemistry	Learn & share ways to be intentional in integrating SEPs in your chemistry classroom.
	Making Science STEAMy	Learn how to make your Science course STEAMy by adding visual arts and technology
Georgia DOE	Developing Assessment Items Aligned to the GSE Expectations	Participants will engage in developing assessment items that capture the expectations set in our GSE.
	Presidential Award for Excellence in Mathematics and Science Teaching	Participants will receive information about the Presidential Award for Excellence in Mathematics and Science Teaching Program
	Realizing the Vision	Join the GaDOE science team for updates about where we are on the journey and to collaborate about how we can realize the vision.
	Science & Literacy: The Perfect Combination	Explore resources (GaDOE and more) to assist your students as they obtain, evaluate and communicate.

Earth	Sea Level Rise and Savannah: The Tide is High	In this STEM integrated curriculum, students analyze authentic datasets to better understand how coastal flooding, tides, sea level rise and climate change are impacting Savannah/Tybee Island.
	Promoting Argument Driven Explanation in Earth & Environmental Science	Engage in argument driven scaffolds for Earth & environmental science topics to critically evaluate connections between evidence & alternative scientific explanations using model-evidence link (MEL) diagrams.
	Bringing It All Together: Connecting Students to Real-World Data Through Earth Science Investigations	This session will briefly introduce participants to STEM-integrated, GSE-based earth systems and earth science lessons. This curriculum will be offered free after no-cost teacher summer training.
Eng	Examining disciplinary literacy in summer robotics STEM camp	Innovative Design Debriefs were used to allow high school students to gain disciplinary literacy and reflect on their design process during a robotics STEM camp.
	Argument-Driven Engineering in Grades 6-8: STEM Design Challenges	Make the world a better place using science and engineering
Environmental	Engaging Today's Youth in Outdoor Science	Session focuses on getting students outdoors by exploring current research in Georgia and program offerings at CEWC.
	Inquiry, Rigor, Literacy, Oh My! Equity of Access in an ELL Classroom	Exploring how equitable science instruction, laboratory experiences, and meaningful notebooking can engage and empower varying levels of English-Language Learners.
	Elementary STEM Activities for Earth's Sake	Discover hands-on activities on real-world human ecology concepts (population growth, natural resource use and biodiversity) while building foundational math and science skills. Receive electronic lesson plans matched to GSE.
	Activities for the Anthropocene	Combine history and environmental science in this hands-on session exploring how humans have shaped the earth and atmosphere since the Industrial Revolution.
	Experiential Learning - Just Add Water... plus a school system and a business partnership	Lucky enough to have water near your school? Navigate the waters of experiential learning. Explore a K-12 initiative that rippled out of a partnership with a businessman and has tidal waved into a system wide curriculum integration.
	Using personal watersheds to enhance environmental and science literacy	Interested in engaging students to develop their personal watersheds? Want to know how to connect to environmental and science literacy? Then, this session is for you.
Science for ALL	Blended-Personalized Learning in STEM for Next Generation Learners	Passionate about Personalized learning? Come explore resources that implement research-based strategies, flexible pacing, just in time direction, choice of demonstrating learning and mastery-based assessment to personalize learning in STEM courses.
	Productively Paperless Digital Notebook	This session will focus on the creation of digital composition notebooks using Google slides to increase student and teacher productivity and organization.
	It's simple: Equity for all begins with Planning for Instruction	To provide equitable learning opportunities for all students, teachers need support and resources to help plan for instruction that encompasses the shifts in instructional practices that lead to rich and meaningful learning opportunities.
	ALL WE DO IS WIN WIN WIN! - How to Develop Your Science Playbook to Foster a Winning Climate and Culture in Your Classroom.	How do you develop a winning classroom? In this session we provide a playbook with winning strategies and evidence-based activities for ALL to win!
	How 1 teacher and 1000+ students built a Butterfly Garden	Find out how 1 STEAM Lab teacher and over 1000 students changed the entire entry to our school by designing and constructing a butterfly garden.
	Science and Engineering Practices that Promote Questioning and Equity	This session will focus on questioning and the ways in which questioning can be used to promote equity in the science classroom.
	Building Classroom Equity with Learning Targets	Work session on building strong learning targets to focus student learning
	Sense-ational Science with the "Science Twins!"	With over 20 years of classroom experience each, the Science Twins will share their cheap and easy resources and tips to use in your classroom as early as Monday!
	Making Science Work for You	Exploring 5e's, SEPs, and Cross Cutting Standards that work well in your classroom
	Zooming Students to Learning	Students miss school, but all students have access to learning through Zoom. Come learn how to Zoom our students to learning regardless of their location.
	The Three Dimensions in the Classroom for Secondary Educators	Using Lab Experiences to Transform Instruction
	Argument-Driven Inquiry in Grades 3-12	Integrating Literacy and 3-D Science Instruction for Elementary Educators

	Developing a Growth Mindset for Success	Explore methods used to get students to buy into having a growth mindset for success.
GYSTC Presents	STEM Inspirations from the GSE	In this session we will share 3rd, 4th, and 5th grade projects which align to the investigations, designs, and constructions of the GSE. Grading rubrics will also be shared.
	The Solarize- A- Classroom Project for Elementary Classrooms	Explore the Solarize-A-Classroom Project through hands-on activities from the SAC Curriculum and discover ways to collect data from the SAC Hardware.
	Life Without Honeybees	Honeybees are an extremely important part of our ecosystem and the population is declining. What does this mean for our planet?
	Toy Runner: Define Problems and Test Solutions to Develop a Toy Cleaning Robot	Use Edison Robots & Legos to master K-2 force & motion standards while introducing students to engineering design. Be ready to collaborate in an engaging, hands-on learning experience!
	STEM Challenges = Stimulating STEM Integration	STEM Challenges immerse students in a hands-on inquiry focused on a phenomenon that aligns with key concepts. Kids absolutely love doing them and you will too.
	Fly Me To The Moon: Teaching Earth & Space Science Concepts with Mobile Planetariums	Experience how Earth & Space Science GSE Standards can be taught using mobile digital planetariums and learn how to construct your own for less than \$10,000.
	Real Science: Chemical Reaction Racers	Learn how to challenge your students to work together to design a race car that uses chemical reactions as fuel.
	Literature + A STEM Challenge = Success	Explore the world of force and motion through the use of children's books. Come and participate in "How Do I Lift an Animal"? STEM challenge.
	GYSTC Share-A-Thon: Innovative Projects	Each Regional GYSTC conducts an innovative project to impact students within their area. This share-a-thon showcases the projects from the previous year.
Literacy	Phenomena and Energy in the Web of Life (Grades 3-5)	Explore the impact of invasive species on energy flow through food webs by seamlessly blending hands-on investigations, leveled informational text, and notebooking.
	Reading and Writing in Science! Oh My!	Come to this session to get hands on KLEWS about reading and writing strategies you can use in your classroom.
	Literacy and Notebooks and Engagement! OH MY!	This session focuses on activating and summarizing strategies that promote engagement and improve literacy skills using interactive notebooks in Physical Science and Biology courses.
	More important than the answer: Questioning for learning	Session will emphasize techniques for questioning students for formative assessment, including collaborative conversations, and helping students articulate better questions to guide their own learning.
	Literacy: Why Not in Science, too?	Session will start with brief overview of literacy misconceptions and examples of how literacy can work in the current science classroom will be given.
	Science and Literacy: The Dynamic Duo	This session will introduce educators to engaging interdisciplinary lessons including various GSE standards and fiction and non-fiction children's literature.
	Reading and Vocabulary Strategies in the Science Classroom	Experience reading and vocabulary activities that will transfer directly into you lessons tomorrow.
	Linking Literacy to Science	Add fiction texts to your science curriculum! Session includes hands-on science activities related to fiction texts for grades K-5. Lesson for all elementary grades included!
	Engaging Your Students with the Science Workshop Model	Does it seem like your science instruction time keeps getting less and less each year? Come learn how to teach science through the Workshop Model that integrates 3-dimensional science, technology integration, and guided discussions in a shorter amount of time during the day. Session attendees will gain knowledge on how to plan and implement this new instructional model and walk away with work session ideas to use immediately in the classroom. Who says you can't teach authentic science in 30 minutes or less? We want to share with you how to make it possible!
	Modeling Literacy Integration with Science	Reading, writing, and oral communication are critical literacy practices that are needed in our global society. Today's classroom requires students to obtain, evaluate, and communicate information throughout the content areas, and literacy is an integral piece of that. They need the opportunity to practice many of the science skills that scientists use such as arguing from evidence, communicating and evaluation information, and constructing explanations. Learn how to easily bring literacy into the Science classroom in this session.

	Using Protocols to Promote Literacy and Integrating Science and Technical Text Standards	This session will focus on literacy integration to promote intentional discourse. This will be done using a paired questioning protocol and GSE Text Standards.
	From Lecture to Literacy: Protocols that Engage and Empower Students as they Process Scientific Texts	Explore protocols for text annotation, summarizing, and discussion to guide students through reading, writing, listening and speaking as they process scientific texts and associated figures.
	Claim-Evidence-Reasoning Model as a Literacy and Writing Strategy	Rationale and examples of how the CER Model can be used to promote argumentation from evidence and as a Literacy Strategy in the science classroom.
	The Evolution of ADI from Middle to High	Explore the difference in expectations of Argument Driven Inquiry (ADI) between the middle school and high school classrooms.
	Google Hyperdocs: How to Increase Student Engagement, Retention, and Rigor	Participants will learn about Hyperdocs and will be given an opportunity to create a hyperdoc to use immediately.
	Write On! The Positive and Powerful Impact of Journaling	Trying to find ways to integrate writing literacy into your classroom? Join us as we explore ways to implement journaling with a purpose.
	3-D Learning through 5E Investigations	Explore hands-on investigations utilizing the 5E instructional model for 3-D learning. Participate in activities & discover how to integrate the 5E model into your curriculum
	Teaching Students to Ask Questions	Getting students to ask good questions can be a challenge. Come to this session to learn how to incorporate the Question Formulation Technique in your science class.
	Using hand2mind VersaTiles for a Science-Literacy Connection	Description: hand2mind VersaTiles have been in classrooms for over 40 years. Participants will experience how to use VersaTiles in the science classroom to increase reading comprehension and promote student autonomy. Each participant will receive a VersaTile sampler bag at the end of the session.
	Argument-Driven Inquiry	Lab Investigations for Grades 6-12
	Argument-Driven Inquiry in Grades 3-5	Three-Dimensional Investigations that Integrate Science, Literacy and Mathematics
	Minor Misbehavior, Major Headache: How Minor Misbehaviors Affect Student Learning	Are you tired of student behavior interfering with learning? Learn a simple but powerful strategy to stop low-level misbehavior so you can focus on teaching!
Physical Science	Exploring Potential and Kinetic Energy Through Engineering a Water Wheel	In this session, teachers will engage in a middle school STEM lesson that involves engineering a water wheel to explore potential and kinetic energy.
	From Race Cars to Atoms: Board Games in Physical Science	This session explores how to implement board games that emphasize physical science content and enhance literacy skills at the middle and high school levels.
	Investigating Electricity & Magnetism	A series of hands-on investigations build off each other to develop the connections between electric current and magnetic field using cheap, readily available materials.
	STEM Circuit Boards	Are you interested in finding fun ways to integrate STEM in your classroom? Learn how to effectively use STEM to close the gap and have students excel. (Elementary)
	Short Circuited: Teaching With STEM In Mind	Using the 5 E model to develop students' abilities and engaging them in real world problem-based learning of circuits. (Elementary)
	Engaging Pre-Service Teachers with NSTA Student Chapters	Preservice teachers benefit from NSTA Student Chapters. Learn more from these UNG Chapter Leaders.
	Lab Safety 101-What You Really Need to Know!	
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	Driving Student Growth with Standards Based Grading	Learn how communicating student progress with standards-based grading can improve achievement and drive student growth for all learners in science.
STEM	BioBits™: Hands-on Investigation of the Central Dogma of Molecular Biology	Students directly visualize transcription and translation in real-time through fluorescence
	Power Up: Integrate your Physical Science and Algebra Curriculum using Energy-Based Simulations	Come "Power Up" your physical science and algebra curriculum with energy-based simulations that were developed by Georgia Tech researchers. Bring an internet-ready device for exploration.
	Engage, Excite, and Energize Your Students As They Explore Basic Energy Concepts with Real-World Applications	Explore Energy in Physical, Life, Earth Systems: Students Connect Energy Concepts to Complicated and Growing Real-World Energy Demands with the Green Power Energy Education Curriculum

The STEM of PBL	Teachers will learn how to use PBL's to foster a learning environment in which students are guided to produce original ideas, objects, and structures using math, science, and technology.
For the Love of Sweet Potatoes! A Farm to table Culinary Adventure!	Get cooking with Sweet Potatoes and learn how culinary arts can happen in Elementary School!
Robots, Robots Everywhere in the Classroom	This session will introduce educators to engaging STEM lesson using various robotics and coding technologies.
Standards Based Strategies for Integrating STEM into Science Instruction	Participants will explore ways to integrate the Engineering Design Process in Science Instruction based on the standards Science and Engineering Practice.
Get Your Game On: Game-Based Learning with Legends of Learning!	Legends of Learning provides thousands of standards-aligned math and science games backed by rigorous research, driving student engagement and higher test scores in the classroom.
Developing Effective In-School and Out-of-School Science Learning Collaborations	Join the President of NSTA to explore effective connected science experiences between schools and out-of-school programs, and to consider similar experiences that you can use in your STEM education efforts.
Promoting Emotional Engagement through STEAM	Increase engagement, content retention and FUN in your classroom with STEAM projects.
Do The Right Thing: Effective Integration of GSE Standards into STEM/STEAM Project Based Learning Units	Come LEARN and SEE examples of Effective Integration of GSE Standards into STEM/STEAM Project Based Learning Units. These units include science, math, ELA and social studies in grades K-5!
Rev Up with STEM: Grades K-5	Elementary STEM Lab teachers share strategies for implementing STEM and Project Based Learning to build critical thinking skills in students across the elementary grade levels.
One School's Journey from Focus School to STEM Success	Come and learn how our school is using a STEM culture mentality to transform our school into an inspiring and effective learning environment.
Engaging Minds and Hearts: Developing a STEM Program with Character Education in the Elementary School	Come learn about our journey of developing a STEM/STEAM program integrating character and content. We will share our planning template and examples.
Leveraging NASA Resources to Inspire the Artemis Generation	The need to develop a robust STEM workforce has increasingly become a national priority. With STEM related occupations projected to grow faster than non-STEM
Looking for Field Trips that Count? Fly Down to the Museum of Aviation	The Museum of Aviation provides hands on science activities and tours at the Museum of Aviation in Warner Robins, Georgia
The STEAM Dream Team: Digital Media Arts, Educational Technology, and STEAM Lab in Elementary	The "STEAM Dream Team" will shares strategies for effective integration of Digital Media Arts, Educational Technology, and STEAM instruction in elementary grades Kindergarten through Fifth.
Engagement by Design: Fostering STEM Skills with PBL	Discover engaging real-world problems that can be used as a springboard either indoors or in the schoolyard that will provide a context for authentic STEM design.
5E Unit Plan about Aquatic Pollution	Come learn about a 5E unit plan on aquatic pollution that is aligned to GSE, NGSS, and the A.P. Environmental Science CED.
Integrating Innovation with hand2mind Makerspace	hand2mind VersaTiles have been in classrooms for over 40 years. Participants will experience how to use VersaTiles in the science classroom to increase reading comprehension and promote student autonomy. Each participant will receive a VersaTile sampler bag at the end of the session.
Making our House a Home with STEM Learning for ALL	After learning about Otwell Middle School's commitment to become STEM-certified, participants will engage in problem-solving activities to implement STEM learning at their individual school.
From Blah to BAM!	Energize your classroom and engage your students with some low prep, high yield strategies that you can take back to your class tomorrow.
Building a STEM Culture in the Primary Grades (K-2)	We will highlight the steps we took to gain teacher buy in and build a rigorous, collaborative, culture for STEM instruction.
Connecting Science and Society through Modeling	Students learn about the process of science as they create physical models of proteins while working with researchers at the local university.
First Timers Session	First time to GSTA? Come and hear about ways to get the most out of the GSTA conference!