

Science Teachers of Missouri Presents
SCIENCE OF THE TIMES
Conference Schedule 2022

12:00-1:00pm lunch (sponsored by Hand2Mind) and awards ceremony

Time (50 Min)	Grade	Presenter(s)	Title - Description
9:00	General/All	Heather Milo - Institute for School Partnership	mySci - Come experience the joy and rigor of the mySci K-8 Program for yourself. In this interactive workshop, participants will engage in a mySci lesson and consider how its core design components - anchoring phenomena, 5E inquiry cycles, and problem-based performance tasks - immerse learners in authentic science inquiry and meaningful sense-making.
9:00	General/All	Rachel Buchanan - Visible Body	Visible Body/Anatomy - The Groundbreaking 3D Biology and Anatomy Platform - Learn and teach biology, anatomy and health science in immersive 3D. Use simple controls to engage with interactive simulations. Study 3D models from multiple perspectives. Watch bite-sized 3D animations that explain big concepts. Visible Body's visually engaging 3D + AR human anatomy, physiology and biology technology is increasing grades and saving professors time. Our LMS, Courseware, maps to any textbook, features Canvas and Blackboard Single Sign On and allows professors to autograde A+P labs, annotate 3D models, assign immersive dissection quizzing and custom share links on web (PC/mac), mobile and tablet.
10:00	General/All	Katie Lodes	Data or It Didn't Happen: Resources and Lesson Plans for Incorporating Real-World Data in Your Classroom - Connect your classroom with the GO-BGC (Global Ocean Biogeochemistry Array), a project funded by the National Science Foundation. Learn how to adopt a float that monitors ocean health and leave with ideas for incorporating real-world data into your school.
10:00	General/All	Leslie Spaeny - Accelerate Learning	Let's Get Back to Hands-on Learning and Use 5E Science Lessons to Emphasize Effective Instructional Sequences - Research has shown that the actual doing of science or engineering will pique students' curiosity, capture their interest, and motivate their continued study. Combining this information with simple shifts in instructional sequencing will help students construct scientific meaning. Are ready to open your eyes to a whole new world of scientific inquiry! 1) Explore the research-based 5E instructional model with adaptations for acceleration and intervention. 2) Learn several techniques to embed hands-on learning experiences in various classroom environments. 3) Learn how to make simple shifts in your instructional plan and sequence to foster better student understanding of concepts.

11:00	General/All	Kate Polokonis - STEMSTL	Systems Change in STEM Education - STEM STL is a collaborative consortium committed to equitable access to high-quality STEM learning and employment opportunities for all learners in the St. Louis Metro region. Our mission is to collectively develop and deploy quality systems-level changes that will advance STEM learning and career opportunities to empower the growth of diverse problem solvers, innovators, and critical thinkers, enabling them to thrive in a globally connected world. Join us for a conversation on how we can collectively effect systems-level change in STEM education.
1:00	General/All	Bob Lynch	Science and Gender Identity - More than a thousand studies of aspects of Gender Identity have generated a scientific understanding of many of the mechanisms of atypical gender identities. This presentation will review critical bodies of relevant scientific data.
1:00	General/All	Heather Milo, Alex Gerber	Constructing Models to Explain Phenomena: A Focus on Meaningful Science Sense-making - We all know that science connects to our everyday lives, but how do we support students to see and feel these connections? Come experience a deep dive into modeling and explanation as levers into more meaningful science sense-making.
2:00	General/All	Leslie Spaeny - STEMscopes	Let's Engage Students through Phenomena-based Instruction in STEMscopes - Come preview our 5E-based science curriculum that is digitally delivered and written for the NGSS. We will explore phenomena to show the various types of student engagement in STEMscopes. The focus on constructivist learning in STEMscopes allows students to deepen their understanding about phenomena.
2:00	General/All	Tracy LaRose	AMS Opportunities: Project Atmosphere, Project Ocean - Are you interested in Meteorology or Oceanography? Would you like to learn from leaders of the National Weather Service, the American Meteorological Society, and other experts? Come learn about these completely free, amazing summertime experiences and the learning that you can bring back to your students.
3:00	General/All	Lynne Scott/ Kathleen Larkins	Community, Collaboration and Leadership: How Missouri Green Schools can Help Build Your Green School - Come learn about Principia School's journey to becoming a US Department of Education Green Ribbon School and how Missouri Green Schools supported their efforts along the way. Ideate, make connections, and start to build next steps for your own school.
3:00	General/All	Heather Arnett - U of I Urbana- Champaign Aerospace Engineering	Rocketry + Avionics: Taking Data to New Heights - Inspired by recent space launches? Wondering how to capture the excitement with your students? Join us to learn how we use rocketry and avionics to teach data analysis and system engineering. This course allows exploration of Newton's 2nd Law through guided modules that develop knowledge and skills.
9:00	Elementary	Jefferson Middle Students	Zoo - 53 students are currently trained as zookeepers, including many students from the RISE program for students with special needs. RISE stands for Reaching Independence through Structured Education. See this in action.

10:00	Elementary	Susan German	Incorporating Reading and Writing in Science Lessons - Going through a science lesson using the format, Gather, Reasoning, and Communication, participants use simple materials to figure out an everyday phenomenon. Using the science and engineering practice, to obtain and communicate information, participants will use reading and writing as part of the figuring out process.
11:00	Elementary	Melanie Carden-Jessen	Earth Science for Educators - How many of your students bring you the fascinating rock they found? This workshop will provide classroom-ready activities to teach elementary/middle school students earth science concepts and mineral/rock ID with inexpensive earth science labs. Be ready to dig in!
11:00	Elementary	Lisa Reid	3-D? Who Me! - You think you're covering all the 3-5 standards with the resources you're given, but are students truly learning 3 dimensionally? We will look over Generation Genius, Mystery Science, and common TPT resources to see if they reach 3D and how to supplement when they don't.
1:00	Elementary	Lorrie Coates/ Dr. Brandy Hepler	Creating a Generation of Problem Solvers - Science standards are ever-changing, but creating problem solvers is timeless! Explore strategies to engage ALL learners in high-quality STEM activities to improve academic, personal, and societal outcomes.
1:00	Elementary	Sandra Hamar	People, Natural Resources and the Environment: It's Elementary! - Discover hands-on activities that introduce students to gathering, representing and interpreting data on people's use of natural resources (land, water, energy and minerals), population ecology and problem-solving around environmental stewardship and conservation.
2:00	Elementary	Pat Brown	Students' Ideas Matter! Linking Formative Assessment to Instructional Sequence - Learn how to use the Uncovering Student Ideas probes in an explore-before-explain instructional sequence to support a classroom where all students' ideas matter!
3:00	Elementary	Christina Hughes	Phenomena - The focus of this session is to use assessments probes as a starting phenomenon for mini science investigations.
9:00	Middle School	Jennifer Rahn	So Much to Know - In this presentation we will extract the products (oil and protein) soybeans offer and create bioproducts from them.
9:00	Middle School	Jonathan Filzen - Everfi	EVERFI - A No-Cost Tool for Middle School Science Integration - Join us for an overview of what EVERFI has to offer middle school students to garner engagement in the science fields and an understanding of the variety of post-secondary tracks their interests can lead to. Teachers will leave with an understanding of the courses available and turnkey lesson plans focused on STEM, Sustainability, career readiness, and exploration.
10:00	Middle School	Jefferson Middle Students	Zoo - 53 students are currently trained as zookeepers, including many students from the RISE program for students with special needs. RISE stands for Reaching Independence through

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11:00	Middle School	Melanie Carden-Jessen	Earth Science for Educators on the Cheap - How many of your students bring you the fascinating rock they found? This workshop will provide classroom-ready activities to teach elementary/middle school students earth science concepts and mineral/rock ID with inexpensive earth science labs. Be ready to dig in!
1:00	Middle School	Pat Brown	Instructional Sequence Matters: Explore-Before-Explain - Find out how to use explore-before-explain learning to flip the traditional teaching script and promote long-lasting science understanding.
2:00	Middle School	Anne Green	Teaching Middle School Science - Engage in conversations discussing how 3-D science is integrated into your teaching. Learn and share your ideas.
3:00	Middle School	Susan German	Analyzing and Interpreting Data - Participants will be taken through teaching strategies related to assisting students with data analysis and interpretation in the middle school science classroom.
9:00	High School	Amy Lannin/ Maha Kareem	Issue-based Argumentation to Support Literacy and Learning in STEM - The STEM Literacy Project brings together teachers across STEM to use literacy practices in their classrooms. Presenters in this session will share some of these practices including the use of scenario-based assessments that merge reading and writing about current issues.
9:00	High School	Melanie Carden-Jessen	Earth Science in the Biology Classroom - This workshop is designed to help biology teachers with Earth Science Strands within the EOC. Topics include geologic/environmental hazards and climate change. Explore past extinctions, natural resource use, sinkholes, and more. Help students balance political, economic and environmental issues.
9:00	High School	Christina Hughes	Changing the Way Students Think About CCC's and SEP's - Through various content-specific activities, participants will learn ways to help students integrate crosscutting concepts into their thinking and planning along with applying scientific thinking through the use of the Science and Engineering Practices. The session will focus on utilizing graphic organizers as planning tools for designing scientific investigations.
10:00	High School	Lisa Reid	Biology: A Phenomena Approach to MLS - Heard of storylines for Biology but not ready to take the plunge? Take a look at the scope and sequence of a full year Biology course using phenomena, inquiry and some storylines to help students cross over to 3D learning.
10:00	High School	Elizabeth Hobbs	Tips for Gender Inclusive Classroom - This is an introduction to gender inclusion in the biology classroom. The gender identity spectrum will be discussed, as well as general and biology specific classroom techniques
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11:00	High School	Jonathan Filzen - Everfi	EVERFI - A No-Cost Tool for High School Science Integration - Join us for an overview of what EVERFI has to offer high school students to garner engagement in the science fields and an understanding of the variety of post-secondary tracks their interests can lead to. Teachers will leave with an understanding of the courses available and turnkey lesson plans focused on STEM, career readiness, and exploration.
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3:00	High School	Rolland Yoakum	Measure the Size of the Earth Using Shadows - In a simple lab, students can follow the ancient Greeks, and come up with their own estimates for the size of the Earth. Follow-up activities let students estimate the sizes and distances to the Sun and Moon.
3:00	High School	Taylor Mae Lawson-Smith/ Lauren Martinez	Storyline Deep Dive - Storyline curriculum is a phenomenon based approach to guiding students through real world application and three-dimensional learning in science. You will experience engaging lessons and open source resources. Learn an exciting way to make science relevant to your students!
3 hour 9:00- 12:00	Middle/High School	Dr. William Folk	Linking Science, Mathematics and Literacy for All Learners <ul style="list-style-type: none"> • Examine how multi-modal STEM text sets support students in claim, evidence & reasoning (CER). • Learn with middle school teachers about developing and using multi-modal STEM text sets. • Learn about the Linking Science Mathematics and Literacy for All Learners Program (LSM&L4AL)