Highlighted Sessions on Science Instruction and Materials

Saturday, December 1 — 9:00 a.m. – 4:00 p.m.

PC108 | NexGen TIME: A Toolkit for Instructional Materials Evaluation Focused on Professional Learning for Next Generation Science
Learn about a suite of tools and processes designed to help you select and support the enactment of instructional materials for next generation science. Engage in a mock selection committee to learn to analyze instructional materials based on important look-fors in high-quality instructional materials. Dig into resources that support leaders, first, in preparing for the selection process and, then, planning to monitor and support the effective use of materials in classrooms.
Jody Bintz, BSCS Science Learning

Monday, December 3 — 9:30 a.m. – 11:30 a.m.

1204 | Today's Students- Tomorrow's STEM Leaders
Explore the instructional pedagogies needed to transform your classroom into an innovative, engaging STEM environment. Learn to support students through engaging them in higher order thinking, inquiry-based problem solving and the engineering design process. Create inquiry-based STEM instruction that encourages learners to think critically and have a high level of STEM proficiency. Leave with classroom-ready resources and a better understanding of how to draw from existing assets such as literacy-based strategies to inform STEM-focused learning and instruction.
Fouada Hamzeh, **Clara Howitt**, Greater Essex County District School Board

Monday, December 3 — 2:30 p.m. – 4:30 p.m.

1422 | Designing STEM Project-based Learning Curriculum for All Learners
Learn how Oak Ridge Schools' middle school science teachers engaged in a 2-year process to co-design a STEM project-based learning curriculum. Explore the development process, analyze a unit, and determine what constitutes high quality project-based learning. Leave this session with clarity on how you can impact your system by collaboratively developing your own rigorous, STEM project-based learning curriculum through a design-based research approach.
Jane Chadsey, **Amy Baeder**, Educurious, **Tracey Beckendorf-Edou**, Oakridge Schools

Tuesday, December 4 — 9:30 a.m. – 11:30 a.m.

2211 | Spark Creativity and Innovation With STEAM
It is never too early to begin nurturing students' creativity and problem-solving abilities. In this session you will explore implementation of STEAM in the early grades including: planning, resources, coding in preK and Kindergarten, collaborating, equipping staff, standards alignment, lessons learned, and how to replicate STEAM at every level. Be inspired to transform your campus and empower your students and staff using STEAM experiences and challenges.
Heidi Veal, Lewisville ISD, **Nancy Alvarez**, Celina ISD

2218 | Gifted Science Teacher
Teachers will enjoy a hands-on approach to teaching the underrepresented gifted child to defend their scientific gifted claims based on evidence gather during an inquiry based experimentation using labs aligned with the Next Generation Science Standards. Argument-Driven Instruction (ADI) is an innovative approach to laboratory instruction that is based on current research about how people learn science.
Anquinette Jones, **Shannon Harris**, Atlanta Public Schools

Highlighted Sessions on Science Instruction and Materials

Tuesday, December 4 — 3:30 p.m. – 5:30 p.m.

2426 | Fostering Future-Ready Innovative Thinkers Through STEM/Makerspace
Explore the positive impacts of inquiry-based instruction on students' thinking, perceptions, and experiences. Learn how to use MakerSpace, STEAM, and NGSS ideals to foster creativity, reduce fear of failure, and offer natural differentiation through collaboration and the development of problem-solving skills. Hear how professional learning for staff can be scaffolded, yet targeted, to encourage the continuous development of future-ready learners. Experience student-centered activities that you can use tomorrow.
Stacey Linzenbold, **Jessica Lacasse**, Wyckoff School District

2462 | Enhancing NGSS with 3D Printing
Join us on a technological journey where we infuse 3D printing into 6th–8th grade science classes to increase the depths of learning aligned with Next Generation Science Standards (NGSS). Examine the instructional planning framework used to design 3D printing projects starting with alignment with the learning target and assessment in mind and including deciding on the project-based model for students to use. Close the session by applying the framework to brainstorm project ideas for 3D printings.
Howard Frishman, **Michelle Garlick**, Kildeer School District 96

Wednesday, December 5 — 8:45 a.m. – 10:45 a.m.

3203 | A School/Business/Community Partnership That Truly Benefits Kids!
Take a deep dive into how one Wisconsin School District partnered with a global business leader in Mercury Marine to begin two STEM Charter Schools. Explore how the partnership has transformed education and further engaged the business and larger community in equipping Fond du Lac, Wisconsin students for the future. Learn how to engage in similar pursuits in your home school or district.
James Sebert, **Tim Scottberg**, Fond du Lac School District

3226 | STEM and Early College HS
Learn how Educate Texas supports the T-STEM Network through coaching, professional development and technical assistance to support academic outcomes for students and uses the T-STEM Academies Design Blueprint to serve as a basis for assessing academies' plans. Review the adapted T-STEM Academy Design Blueprint, the basis for assessing academic plans and unpack seven core elements essential to academy success. Leave inspired to transform classrooms and schools to meet the needs of learners in an increasingly competitive, knowledge-based and technologically driven society.
Susan Henderson, Educate Texas

3235 | Students With Inquiring Minds Are Scientists (S.W.I.M.A.S.)
Learn about an effective way to engage elementary students in thinking, acting, and communicating like scientists using the Students With Inquiring Minds Are Scientists (S.W.I.M.A.S.) model. Experience the S.W.I.M.A.S. process including asking researchable and investigable questions, assessing prior understanding, planning and conducting investigations, supporting claims with evidence, engaging in scientific discourse, recording and analyzing data, and reflecting on the learning. Participants will leave with the understanding of how to begin to design their own S.W.I.M.A.S. units aligned with upcoming national or state science standards.
Linda Cook, **Malachi Ewbank**, Coppell ISD

Please see conference.learningforward.org/program for a complete program and lfp.learningforward.org/session-selection/find-a-session.cfm for additional sessions on Science Instruction and Materials.