



**SCIENCE
CENTER**

SCIENCE SUMMIT



WEDNESDAY, DECEMBER 7, 2022

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WELCOME



FIRST Education Science Summit Winter 2022

On behalf of our entire team at FIRST Educational Resources, we are so pleased that you have chosen to join us for the Winter 2022 Science Summit! During the one-day Virtual Science Summit, you will be able to engage with thought-leaders and practitioners and gain new ideas and perspectives, gather tons of tools and resources to develop critical thinkers and maximize the potential of your learners.

In the **Keynote**, on December 7, Greg Wolcott, the author of the best-selling book, *Significant 72: Unleashing the Power of Relationships in Today's Schools*, describes why teaching resiliency skills in today's schools can help overcome the significant challenges education has faced in the last two and half years. These resilience skills will help reduce mental health challenges, such as anxiety and depression, as well as improve and enhance behavior, well-being, and self-efficacy. And what better place to teach kids how to fail than an engaging and safe science classroom!

Next, the multiple "**Breakout Sessions**" will engage you in new learning that will be immediately useable in your role. With so many great options to choose from, you will definitely want to plan to catch your top choice during the Summit and the other video sessions afterward.

We want to be your continued partner in learning! As you participate in the Summit, know that we offer workshops, customized sessions, and on-site support for teachers and leaders like you! We'd love to discuss your goals and how we might partner with you to make these goals a reality!

I hope you enjoy the December FIRST Education Science Summit!

Heidi Salm
Science Center Director
heidi@firsteducation-us.com



THE SCIENCE SUMMIT

Summit Schedule



December, 7th 2022

All times are Central

9:00 - 10:00 **Welcome & Keynote**

What Falling Down Teaches Us About Getting Up
Greg Wolcott

10:00 - 10:15 **Break**

10:15- 11:15 **Live Breakout Sessions (Select 1)**

Digital Science Notebooks and Journals
Mridula Bajaj & Shefali Mehta

Inspiration to Fruition
Kelly Hartings & Jessica Brown

Creating Curiosity Through Scientific Phenomenon
Heidi Salm

11:15 - 11:30 **Break**

THE SCIENCE SUMMIT

Summit Schedule



December, 7th 2022

All times are Central

11:30 - 12:30

Live Breakout Sessions (Select 1)

Structured Collaborative Learning in the Science Classroom

Mridula Bajaj & Shefali Mehta

Encouraging the Love of Science Through Picture Books and Literacy

Nicole Mashock

Getting Real about Standards-Based Grading in the Secondary Science Classroom

Heidi Salm

12:30 - 1:30

Lunch

1:30 - 2:30

Live Breakout Sessions (Select 1)

Building Your Own Escape Room Activities

Mridula Bajaj & Shefali Mehta

Supporting Diverse Learners in the Science Classroom

McCall Conroy Emerick

Thinking and Writing Like Scientist Through Claim Evidence Reasoning

Heidi Salm

THE SCIENCE SUMMIT

Detailed Schedule



December, 7th 2022

All times are Central

9:00 - 10:00

Welcome & Keynote

What Falling Down Teaches Us About Getting Up

Greg Wolcott



Babies fall down 38 times per day when learning to walk. Falling down doesn't prevent a baby from learning to walk, but promotes it. In this inspiring keynote, Greg Wolcott, the author of the best selling book, *Significant 72: Unleashing the Power of Relationships in Today's Schools* describes why teaching resiliency skills in today's schools can help overcome the significant challenges education has faced the last two and half years. These resilience skills will help reduce mental health challenges, such as anxiety and depression, as well improve and enhance behavior, well-being and self-efficacy. And what better place to teach kids how to fail, than an engaging and safe science classroom!

10:00 - 10:15

Break

10:15- 11:15

Live Breakout Sessions (Select 1)

Digital Science Notebooks and Journals

Mridula Bajaj & Shefali Mehta

Digital Journals and Notebooks are an interactive way to transfer learning, practice, and reflection into an engaging digital environment. Research has shown that benefits range from allowing students space to record and reflect on their experiences, guiding teacher instruction, providing more opportunities for differentiation, and allowing students to participate in multiple settings. During this virtual workshop, we will review some of the benefits of using digital journals and notebooks, share different styles and options you can use in your own classroom, and provide resources to create your own resources for student use.

Target Audience: 4-Year-Old Kindergarten - 12th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

THE SCIENCE SUMMIT

Detailed Schedule



SCIENCE
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December, 7th 2022

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10:15- 11:15 Breakout Sessions Continued

Inspiration to Fruition

Kelly Hartings & Jessica Brown

During the presentation, Inspiration to Fruition science teacher Kelly Hartings, and math teacher Jessica Brown will share their process of creating organic and authentic projects for and with students. In this narrative of their journey, they will describe how they have collaborated with each other, other members of their teaching team, members of the community, experts in the field, and their students to organically construct inquiry-based activities, including but not limited to STEM, Project Based Learning, and Problem Based Learning. All of these activities align with science standards and incorporate math practices while also drawing on natural cross-curricular relationships. Moreover, the projects provide relevant, real-life applications, promote the development of 21st Century Skills, and range in length from a few class periods to quarter-long projects. This session will provide teachers with a project development toolkit and kickstart their brainstorming of a new project for students. The toolkit includes a sample project planning guide, top ten tips and tricks for success, and a list of beneficial resources for further support. Through sharing example projects and processes, the focus will be on bringing inspiration to fruition in a manageable way while also highlighting reasons for using STEM, Project Based Learning, and Problem Based Learning to enrich the curriculum from the teacher and student perspectives.

Target Audience: 4-Year-Old Kindergarten - 6th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

Creating Curiosity Through Scientific Phenomenon

Heidi Salm

In this session, you will explore how to create curiosity and excitement within your science lessons through phenomena, modeling, collaboration, and experimenting. We will also explore how to encourage students to think deeper, write scientifically, and incorporate vocabulary that strengthens their understanding of a phenomenon. The target audience would be 4k-8th grade.

Target Audience: 4-Year-Old Kindergarten - 12th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

THE SCIENCE SUMMIT

Detailed Schedule



SCIENCE
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December, 7th 2022

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11:15 - 11:30 Break

11:30 - 12:30 Live Breakout Sessions (Select 1)

Structured Collaborative Learning in the Science Classroom

Mridula Bajaj & Shefali Mehta

It is not enough for students to learn only subject matter. They also must learn the skills that they will need in the working world—how to listen, respond, agree, disagree, clarify, encourage, and evaluate. These skills are necessary for team members to work together productively and to succeed in today's team-oriented workplaces. Because of the increasing importance of interaction, it's essential that educational strategies include cooperative learning. This workshop will focus on the tools needed for forming, managing, and troubleshooting cooperative groups.

Target Audience: 4-Year-Old Kindergarten - 12th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

Encouraging the Love of Science Through Picture Books and Literacy

Nicole Mashock

Our students are naturally inquisitive, budding scientists as they explore the world around them every day. These students are asking questions, making observations, experimenting, and sharing their thoughts with others using their literacy skills. As classroom teachers, we can create meaningful cross-curricular learning experiences that foster both students' love of science and literacy by infusing science into our literacy blocks using picture book read-alouds. Nicole Mashock has many years of experience developing students' love of STEM and literacy to see themselves as scientists, writers, and readers. During this session, Nicole will provide teachers with an understanding of why we use picture book read-alouds to increase STEM understanding, how to select books that meet science and literacy standards that need to be addressed and are representative of all people, and strategies to use to extend student learning with inquiry ideas and explorations.

Target Audience: 4-Year-Old Kindergarten - 6th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

THE SCIENCE SUMMIT

Detailed Schedule



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11:30 - 12:30 Live Breakout Sessions Continued

Getting Real about Standards-Based Grading in the Secondary Science Classroom

Heidi Salm

You may be familiar with standards-based grading, or your district has started to adopt standards-based grading already, and you may wonder, “What does standards-based grading look like in the science classroom?” During this virtual session, we will walk you through and show examples of what the standards-based grading process looks like in a science classroom. You will explore how to select priority science standards, write clear and observable targets and what aligning science targets to assessments looks like.

Target Audience: 6-12th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

12:30 - 1:30 Lunch

1:30 - 2:30 Live Breakout Sessions (Select 1)

Building Your Own Escape Room Activities

Mridula Bajaj & Shefali Mehta

Educational games have been around for years, but they can be difficult to use when students don't buy in 100%. By adding a simple challenge and using code-breaking activities, the lure to students can become impossible to resist. Students can then explore a new topic, review an old topic, learn how to work in small groups, and how to strategize. Using the escape room formula, learn how to create simplified physical set-ups and digital forms to create engaging activities for the classroom.

Target Audience: 4-Year-Old Kindergarten - 12th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

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1:30 - 2:30 Live Breakout Sessions Continued

Supporting Diverse Learners in the Science Classroom

McCall Emerick

The student population of a 2022 science classroom can be extremely diverse. Do you ever find yourself wondering what can I do to make your content accessible for all learners? As an educator, you may not have the experience or training to confidently meet the needs of all of the students in your classroom. During this session, we will take a look at content, activities, and assessment associated with specific NGSS standards and walk through how to adapt and modify content to make it appropriate for all learning levels within your classroom. You will see examples of 6th-grade activities and adaptations that have been successfully implemented in a science classroom.

Target Audience: Kindergarten - 8th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

Thinking and Writing Like Scientist Through Claim Evidence Reasoning

Heidi Salm

How can you get your students to think deeply and write like scientists? In this course, you will learn how the Claim-Evidence-Reasoning (CER) model can be incorporated into K-12 science activities, STEM projects, and labs to help students develop the ability to think critically and create reasonable, clear, and concise scientific explanations. Heidi Salm has many years of experience developing students' love of the sciences and is currently teaching students in her science classroom. She has applied the CER Framework in her classroom teaching with much success and is excited to share that success with others. During this series, we will provide teachers with student tools and worksheets, as well as teacher resources to effectively implement and scaffold the Claim Evidence Reasoning Framework in a current or future classroom.

Target Audience: 4k - 6th Grade Classrooms, Co-Teaching Teams, and Instructional Coaches

THE SCIENCE SUMMIT

Summit Speakers



Mridula Bajaj



Mridula Bajaj has over 33 years of international professional educational experience spanning over three countries – India, Kuwait and the U.S. She is currently serving as Assistant Superintendent of Curriculum & Instruction for Mount Laurel Schools in New Jersey. A graduate of Delhi University, India where she earned a Bachelor of Science in Chemistry Honors and a Master of Science in Organic Chemistry, Mridula pursued advanced coursework in educational administration at Rutgers, New Brunswick and NJ EXCEL, Monroe, NJ. Mridula has been honored as “the most influential teacher” by a 2006 Star Ledger Scholar and was bestowed with the 2008 Edward J. Merrill award by the American Chemical Society for being a distinguished teacher of high school chemistry. In February 2022, Mridula was selected by the U.S. Department of State’s Bureau of Educational and Cultural Affairs (ECA) and World Learning to serve as Fulbright Specialist for a tenure of four years. If one takes a closer look at the alchemy of the achieving person, two distinct virtues pop up: pioneering spirit and vision. Evidenced throughout her career, Mridula has embodied these virtues. With a unique worldview, coupled with an impressive background, Mridula Bajaj is a dynamic leader and a devoted servant educator. She is a strong advocate of making STEM education accessible to all and has furthered this mission through her varied leadership roles. Mridula’s firm belief is that one must “Prepare the child for the road, not the road for the child.”

McCall Emerick



McCall Emerick has 16 years of public education experience in the Allegheny Valley School District in Springdale, Pennsylvania. McCall is currently a 6th grade science teacher at Acmetonia Elementary School. She is a member of the Pennsylvania State Education Association (PSEA) and the National Science Teachers Association (NSTA). McCall uses her diverse educational background to create engaging, hands-on learning in her classroom. She has worked closely with science researchers from TERC - an educational non-profit - to start a Hummingbird Robotics program in her 6th grade science classroom that enables technology integration to be used to enhance curricular content. McCall started a Farm to Classroom program in her science classroom that introduced her students and her school district to aquaponic and hydroponic farming. McCall has a Master’s Degree in Special Education from Waynesburg University, a Master’s Degree in Middle Level Mathematics from Wilkes University and a Bachelor’s Degree in Elementary Education from La Roche University.

THE SCIENCE SUMMIT

Summit Speakers



Kelly Hartings

Kelly Hartings is a Middle School science teacher of 22 years who has had the opportunity to work in 3 wonderful Ohio school districts. Kelly holds a Bachelor of Science Degree from Wright State University in Education (grades 1-8) and a Masters Degree from the University of Cincinnati in Curriculum and Instruction in Science. She is a member of the NSTA (National Science Teachers Association) and SECO (Science Education of Council of Ohio). Currently, Kelly teaches seventh-grade science, is a member of her district's leadership team and co-advises the Middle School Outdoor Club. Her academic and career-oriented goal for her students by the end of the year is that they feel like scientists and have the skills to investigate their own questions, and can apply processes to solve problems they stumble upon.



Jess Brown

Jess Brown is a Middle School Math Teacher of 10 years who has had the opportunity to work in 2 Ohio School Districts located near Cincinnati, Ohio. Holds a Bachelor of Science Degree from the University of Cincinnati in Middle School Education (grades 4 - 9) focused in mathematics and natural sciences. She also holds a Masters Degree from the University of Cincinnati in Curriculum and Instruction with a STEM Certificate. She is a member of NSTA (National Science Teachers Association) and NCTM (National Council of Teachers of Mathematics). Currently, Jessica teaches seventh-grade mathematics, is a member of her district's leadership team, and advises the Middle School MATHCOUNTS club. Jessica's goal as an educator is to show students the beauty of mathematics and its relationship to all that is around them, focusing on STEM initiatives to help young scholars experience and appreciate these connections.

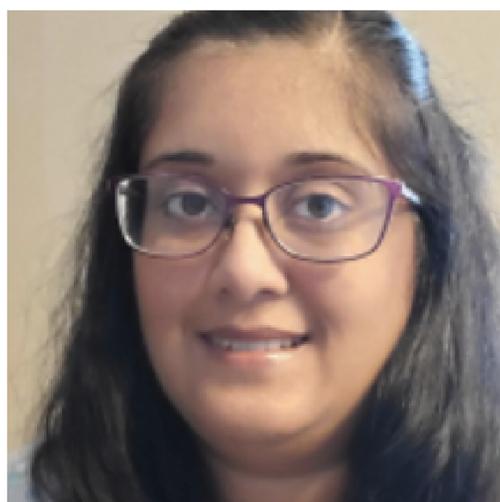


Nicole Mashock

Nicole Mashock has 18 years of experience in public education in which she has enjoyed working as a middle school Business Education Teacher, an instructional technology coach, and a founder and teacher at a 6-12 STEM project-based learning charter school. Most recently, she was a 6-12 Instructional Coach for the Winneconne Community School District located in Wisconsin. Nicole has extensive experience in building community and relationships with students, developing student agency in the classroom, differentiation and social emotional learning, standards and target-based grading, and literacy literacy practices.

THE SCIENCE SUMMIT

Summit Speakers



Shefali Mehta

Shefali Mehta has over 18 years of science teaching experience, which has taken her across the country, and from the classroom to museums and back again. Her formal teaching experience spans 16 years, beginning in California and then leading her to Connecticut and eventually New Jersey, where she is currently a Science Teacher at Princeton High School. Her classroom experience spans a variety of science courses, including Physical Science, Chemistry, Astronomy, and Environmental Science, and she is currently working towards creating a fully student-centered, technology-infused, and differentiated classroom. Over the past three years, Shefali has also worked within her district to train and mentor other teachers in using new strategies and technology to create engaging lessons and curriculum. Most recently, Shefali co-presented workshops at NSTA and BCCE during the summer of 2022. In addition to formal teaching experience, Shefali also has over 2 years of experience as an educator at The Traveler's Science Dome Planetarium in CT, The Museum of Science in Boston, and with the Center for Talented Youth through Johns Hopkins University. Shefali has a Master's of Science in Natural Sciences from Central Connecticut State University, where she received a Graduate Studies Award, and a Bachelor's of Science in Chemistry with a minor in Education from the University of California, Irvine.



Heidi Salm

Heidi Salm is the director of the Science Center. She has 15 years of professional experience in public education, working in the Winneconne Community School District in Northeast Wisconsin. Heidi is currently a 6th-grade science teacher, the 6-12 Curriculum Science Chair, and a member of the District Leadership Team. She is a member of the Wisconsin Science Education Leadership Association (WSELA), Wisconsin Society of Science Teachers (WSST), and the National Science Teachers Association (NSTA). Heidi has a passion for creating STEM-based lessons and labs that are interdisciplinary and based on real-world applications. She believes in teaching science and agriculture in ways that bring science back to being an essential content area in each and every school while ensuring that all students are learning at high levels. Heidi has a Master's Degree in Curriculum and Instruction from the University of Wisconsin Oshkosh and a Bachelor's Degree in Education and Environmental Science from the University of Wisconsin Stevens Point.

THE SCIENCE SUMMIT

Summit Speakers



Greg Wolcott

Greg Wolcott is the Director of the FIRST Education SOAR Center. He also currently serves as the Assistant Superintendent for Teaching and Learning in a suburb of Chicago. As an educator in the Chicagoland area for over 20 years, Greg is passionate about developing opportunities for all students to succeed as well as finding ways for all teachers and staff members to utilize their strengths to maximize the learning of each and every child whom they interact with on a daily basis. Greg has presented at the National School Board Association National Conference, the National Conference on Bullying, the ASCD Annual Conference, the NAESP (National Association of Elementary School Principals) Annual Conference, the Illinois ASCD Curriculum Leadership Development Network, the Illinois ASCD Conference on Learning, the Annual No Child Left Behind Conference and the ATEC (Association of Teachers of Exceptional Children) Conference in Nova Scotia, Canada. Greg consults throughout the United States on a variety of subjects including enhancing teacher-student relationships, social-emotional learning, adult learning, developing innovative practices in the classroom to engage all learners, formative assessment to drive instruction, response to instruction/intervention, multi-tiered systems of support, and data usage for school improvement. Greg is an adjunct professor in the College of Graduate and Innovate Programs at Concordia University Chicago where he instructs graduate and doctoral students on the utilization of research-informed decision making to strengthen classroom instructional practice. Greg is also the author of the best selling book, *Significant 72: Unleashing the Power of Relationships in Today's Schools*.