

VIRGINIA ASSOCIATION OF SCIENCE TEACHERS 2022 PROFESSIONAL DEVELOPMENT INSTITUTE

SATURDAY CONCURRENT SESSION PRESENTATIONS

(This list and an Index of Presenters are on the WHOVA APP and on the Annual PDI page at www.VAST.org/2022pdi)

(Last minute cancellations are on the WHOVA APP)

Session 7: Sat. 8:30-9:20 AM, Amphitheatre (first floor), **Grade:** ALL GRADES, **Content:** Earth/Space Science, Biology/Life Science, General

98. Say Hello to the New eMediaVA: VA's Free Media Library

Lindsey Horner, WHRO Public Media

New Look and Features, Same Great Content. The goal of this session is to introduce you to the redesigned eMediaVA, with new easy-to-use features like an updated search engine, LMS embedding, and teacher-created collections. Educators will leave the session with ready-to-use science media like videos, simulations, and interactives for all grade levels and content areas, as well as strategies educators can utilize to successfully integrate digital media into science lessons. (Not-For-Profit Exhibitor)

Session 7: Sat. 8:30-9:20 AM, Room D (first floor), **Grade:** ALL GRADES, **Content:** Science Education Leadership

99. Growing Out of the Classroom: Becoming a Science Leader

Gregory MacDougall, Virginia Department of Education

You love learning and you love teaching. Maybe it is time to help teachers, coach teachers, or lead teachers? The process of becoming a teacher leader is exciting and rewarding. However, it is also challenging as you transition from a position where you have high levels of skill into a new role where you have much to learn. This session will identify a variety of roles teachers take in the process of becoming teacher leaders and identify specific transitional skills needed in the journey.

Session 7: Sat. 8:30-9:20 AM, Central Lounge (first floor), **Grade:** ELEM, **Content:** General, STEM, Interdisciplinary

100. Sensational Strategies to Integrate CS into Science

Jessa Campbell, Albemarle County Public Schools

Sandy Shaffer, Albemarle County Public Schools

Charli Nolan, Albemarle County Public Schools

Join us to learn about integrating K-5 computer science standards into classroom curriculum. Our session will include hands-on learning with different technology tools, a guide to integrated lesson planning, and lesson resources to get you started.

Session 7: Sat. 8:30-9:20 AM, Room 2-3 (first floor), **Grade:** HS-COL, **Content:** Biology/Life Science, Engineering, STEM

101. Bring Biotechnology to Your Class on a Budget

Heather Overkamp, I.C. Norcom High School

Have you wanted to "level up" your biology experiments by making them relevant to real-world problems? Do you know the value of biotechnology, but aren't sure about what to do or where to start? This workshop is for you! It will give you some simple ideas about how to use your knowledge of biology, experimentation and engineering to bring some simple challenges to your students with affordable materials.

Session 7: Sat. 8:30-9:20 AM, Room AB (first floor), **Grade:** ALL GRADES, **Content:** General

102. Classroom Dialogue: The Bedrock of Great Teaching & Learning

Erich Sneller, Harrisonburg City Public Schools

Engaging dialogue lies at the heart of all great teaching and learning. Students and teachers who experience healthy dialogue both learn to greater depths and also discover greater purpose in school. In this collaborative session, we will explore our current methods for stoking dialogue, examine research-based practices, and outline personal next steps for growth. Your participation in this session will put wind in your sails and embolden your mission as an educator.

Session 7: Sat. 8:30-9:20 AM, Room 4 (first floor), **Grade:** ALL GRADES, **Content:** General, STEM

103. The Albert Einstein Distinguished Educator Fellowship in DC

Kate Kogge, US Department of Energy

The Albert Einstein Distinguished Educator Fellowship Program provides a unique opportunity for accomplished K-12 STEM educators to serve in the national education arena. Fellows spend eleven months working in Federal agencies or in U.S. Congressional offices, applying their extensive knowledge and classroom experiences to national education program and/or policy efforts.

Session 7: Sat. 8:30-9:20 AM, Room 16 (second floor), **Grade:** ELEM-MS, **Content:** Earth/Space Science, Math in Science, STEM

104. Mission to Mars: Mimicking Perseverance & Ingenuity Activity

Cindy Watson, Forest Middle School

Erika Mabry, Bedford County Schools

Much of the world's attention is focused on landing humans on Mars. This program will show you how to build an enclosed platform to secure a student created Mars topography map allowing a Mindstorm robot (mimic Perseverance) to navigate thru

multiple missions. A highlighted mission will showcase a robot (with a drone carrier platform) moving to a specific location, flying a drone (mimic Ingenuity) to a habitat built in the Northern Lowlands & back to the robot rover, then returning to Base.

Session 7: Sat. 8:30-9:20 AM, Room I (second floor), **Grade:** ALL GRADES, **Content:** STEM

105. NASA Digital Badging Resources for Educators & Students

Anne Weiss, NASA Langley Office of STEM Engagement

This session provides an overview of online NASA instructional resources, such as digital badges, that combine STEM content, unique mission assets (e.g., the Orion spacecraft), and engaging hands-on activities (with options to include social justice elements) for use in face-to-face, blended or virtual learning environments. Also known as “micro-credentials,” these learning tools provide opportunities for either educator professional development or student curricular enrichment.

Session 7: Sat. 8:30-9:20 AM, Room 17 (second floor), **Grade:** ELEM-MS, **Content:** Biology/Life Science, STEM

106. Micro:bit Coding and Technology for the Science Classroom

Natasha Schuh-Nuhfer, Northern Virginia Community College

Lisbeth Valladares Hernandez, Northern Virginia Community College

This presentation will introduce teachers to the BBC micro:bit and how to incorporate the technology into science, math, and health classrooms. The micro:bit is a low-cost, pocket-sized computer that is targeted towards the upper elementary to middle school classroom. During this session, attendees will get to know the micro:bit using block-based coding and explore the micro:bit’s temperature, light, accelerometer, and electrical sensors. Add-on smart accessories will also be discussed. (Not-For-Profit Exhibitor)

Session 7: Sat. 8:30-9:20 AM, Room J (second floor), **Grade:** ALL GRADES, **Content:** Biology/Life Science, Environmental Science, General

107. An Introduction to Project WILD

Courtney Hallacher, Virginia Department of Wildlife Resources

Join Virginia’s Project WILD state-wide coordinator for an introduction to the Project WILD suite of resources. Project WILD’s mission is to provide wildlife-based conservation and environmental education that fosters responsible actions toward wildlife and related natural resources. Walk away with a Project WILD activity you can immediately incorporate into your class as well as other resources from Project WILD’s sponsoring state agency, the Virginia Department of Wildlife Resources. (Not-for-Profit Exhibitor)

Session 7: Sat. 8:30-9:20 AM, Room 18 (second floor), **Grade:** ALL GRADES, **Content:** Biology/Life Science, Physics/Physical Science, General

108. Natural Inquirer: A Free Resource for Science

Anne Bryant, Cedar Lee Middle School

Natural Inquirer, a free science journal provided by USDAFS, is a resource for the science classroom. It can also be used effectively in an elective course or afterschool program or club. Each resource contains 4 real-life science studies, combined with activities/experiments to support the theme. There are opportunities available to work with the team and your own students! Come hear how Ms. Bryant has used these journals in a variety of ways to inspire and engage middle school students.

Session 7: Sat. 8:30-9:20 AM, Room H (second floor), **Grade:** ELEM, **Content:** General

109. Every Day is Earth Day with Agriculture in the Classroom

Lynn Black, Virginia Agriculture in the Classroom

Join Agriculture in the Classroom for a fun and hands-on session that will "sprout success" in your elementary classroom! Agriculture in the Classroom uses Virginia agriculture and natural resources as the hands-on medium for science and other core curriculum. Participants will take part in lessons exploring the importance of healthy soil and water as well as a renewable resources lab making bioplastic.

Session 7: Sat. 8:30-9:20 AM, Room 15 (second floor)

110. No Presentation

Session 7: Sat. 8:30-9:20 AM, Room 11 (second floor), **Grade:** HS, **Content:** General

111. Using Talk as Tool for Learning in High School Science

Angela Webb, James Madison University

Talk is a powerful tool for learning in our high school science classrooms. Yet for this to be the case, teachers need ways to intentionally cultivate productive, equitable science discourse for all learners. In this session, JMU preservice teachers discuss the value of science discourse in the classroom, highlight different discussion types and purposes, and share ideas for engaging all learners in science talk.

Session 7: Sat. 8:30-9:20 AM, Room 10 (second floor), **Grade:** ELEM-MS, **Content:** STEM

112. We Can Make It Work! : New Momentum for Science Fairs

Cheryl Lindeman, Central Virginia Regional Science Fair
Elizabeth Schupp, Amherst County Public Schools
Allison Kappler, Bedford County Public Schools
Lani Patrick, Campbell County Public Schools

Our Central Virginia Regional Science Fair team worked to maintain momentum by offering creative science fair opportunities for our 5th - 8th graders. Join us for a discussion about what worked virtually and how we are continuously developing ways to blend virtual and in-person events for our students. Share and take away ideas for in-class research skills, scheduling, and leveraging website tips for teachers and families.

Session 7: Sat. 8:30-9:20 AM, Room 8 (second floor), **Grade:** MS-HS, **Content:** Physics/Physical Science, STEM

113. Exploring Offshore Wind Energy

Emily Hawbaker, National Energy Education Development Project

Engage in fun hands-on, critical thinking activities to help students develop a comprehensive understanding of the scientific, economic, environmental, technological, and societal aspects of wind energy and offshore wind development. Activities include measuring wind speed by building an anemometer, learning how wind can do work using supplies to engineer a windmill that lifts paperclips, and a circuit activity to build simple, parallel, and series circuits. (Not-For-Profit Exhibitor)

Session 8: Sat. 9:35-10:25 AM, Amphitheatre (first floor), **Grade:** ELEM-MS-COL, **Content:** Environmental Science, General, STEM

114. Engaging Students with Science Using Local News and Events

Leigh Bartenstein, WorldStrides

How can teachers make the most of local current events in their science classrooms? Teaching students to use media resources, properly vet sources, and understand the value of current news topics from their region can help them connect to and learn science content. This session will delve into all of this and focus on classroom strategies to engage students. (Commercial Exhibitor)

Session 8: Sat. 9:35-10:25 AM, Room D (first floor), **Grade:** ELEM, **Content:** STEM

115. Using Robotics as a Vehicle for STEM

Keisha Tennessee, Virginia Department of Education
Anne Petersen, Virginia Department of Education

Engaging students and providing aligned, cross curricular instruction is a priority for many fifth grade teachers. This session will explore how robotics can be used to develop and reinforce both computer science and science standards.

Session 8: Sat. 9:35-10:25 AM, Central Lounge (first floor), **Grade:** ELEM, **Content:** STEM

116. Integrate Makerspace for Concept Development

Pam Caffery, hand2mind

Makerspace activities are ideal for making sense of a phenomenon. We'll explore design activities/challenges that make sense of core ideas and engage in design thinking. (Commercial Exhibitor)

Participants will be engaged in example activities that help students make sense of science concepts, immerse them in the engineering design process, and provide teachers with a window into students' thinking. Participants can register for a giveaway. (Commercial Exhibitor)

Session 8: Sat. 9:35-10:25 AM, Room 2-3 (first floor), **Grade:** ELEM, **Content:** Earth/Space Science, Biology/Life Science, Environmental Science

117. Invasive Species Are Taking Over Our Playground!

William McConnell, Virginia Wesleyan University
Melissa Economou, Norfolk Collegiate School
Michelle McNaughton, Norfolk Collegiate School
Lolita Kraft, Norfolk Collegiate School

When an overgrowth of ivy on the school playground began hindering their play, third graders took note and a teachable moment was realized. Creating Meaningful Watershed Educational Experiences (MWEs) that both relate to elementary students' lives and align well with curriculum is sometimes difficult. In this presentation, we describe how our students addressed their science standards while solving a real environmental problem common to many urban and rural schoolyards.

Session 8: Sat. 9:35-10:25 AM, Room AB (first floor), **Grade:** MS-HS-COL, **Content:** Environmental Science, STEM

118. Community Science at the Science Museum of Virginia:

Devin Jefferson, Science Museum of Virginia

The Science Museum of Virginia's Community Science program has grown significantly over the past few years. Community science engages scientists, local organizations, and public volunteers to gather new knowledge about the world. Here, we will

share lessons learned from urban heat mapping campaigns and RVAir, an air quality monitoring project. Participants will also have the opportunity to use the Airbeam 2 sensors to practice collecting real-time air quality data. (Not-For-Profit Exhibitor)

Session 8: Sat. 9:35-10:25 AM, Room 4 (first floor), **Grade:** MS-HS, **Content:** General

119. Building Literacy In Secondary Science

Janine D'Elia, Chesterfield County Public Schools

Emily Stains, Chesterfield County Public Schools

Learn and practice literacy strategies that support all students in growing their literacy skills in secondary science classes.

Session 8: Sat. 9:35-10:25 AM, Room 16 (second floor)

120. No Presentation

Session 8: Sat. 9:35-10:25 AM, Room I (second floor), **Grade:** ALL GRADES, **Content:** Biology/Life Science, Environmental Science

121. Macro Mania

Melinda VanDevelder, Virginia Commonwealth University, School of Education

Suzanne Kirk, Virginia Commonwealth University School of Education

Macroinvertebrates are one of many options to sample local waters and increase student knowledge of MWEEs. Challenges to these types of lessons are 1) increasing student comfort levels with the type of animals they'll be handling, and 2) increasing teacher comfort levels with the type of animals they'll be handling. This activity is designed to bridge the gap between theory and practice, as well as increase comfort, knowledge, and ease of how to conduct a bioindicator lab within a classroom.

Session 8: Sat. 9:35-10:25 AM, Room 17 (second floor), **Grade:** MS, **Content:** Biology/Life Science, General

122. Strategies for CS Integration in the MS Science Classroom

Natalie Rhodes, CodeVA

Valerie Fawley, CodeVA

The challenge many K-12 educators experience with the addition of the computer science state standards centers around the need to integrate content. Participants will explore fully integrated middle school science lessons, discover best practices for integration, and walk away with a variety of integration tools, skills, and resources. We will cover a broad range of ways to engage students in CS content from unplugged lessons to building computer models for scientific investigations. (Not-For-Profit Exhibitor)

Session 8: Sat. 9:35-10:25 AM, Room J (second floor)

123. No Presentation

Session 8: Sat. 9:35-10:25 AM, Room 18 (second floor), **Grade:** MS, **Content:** Biology/Life Science, Physics/Physical Science, General

124. Making Science Inclusive: Interactive Vocabulary Instruction

Anne Bryant, Cedar Lee Middle School

Michael Kennedy, University of Virginia

Rachel Kunemund, University of Virginia

Cedar Lee Middle School and the UVA Curry School of Education have partnered to use UVA-designed lessons that focus on using: student-friendly definitions, evidence-based practices for teaching vocabulary in the content areas, and embedded questions to help monitor student understanding. Dr. Kennedy and a teacher from Cedar Lee will model lessons, answer all your questions, and provide student feedback. Access to all customizable materials and lesson plans will be provided.

Session 8: Sat. 9:35-10:25 AM, Room H (second floor), **Grade:** ALL GRADES, **Content:** General

125. Applying the Science of Learning to Assess Science Learning

Demetrice Smith-Mutegi, Old Dominion University

Are you interested in learning about key assessment strategies based on the cognitive science research? Come learn about brain-based. Assessment strategies perfect for implementing in your science classroom. This session will cover retrieval practice, interleaving, and the role of metacognition in science teaching and learning. Participants will also see and share samples of formative assessment strategies in science. (Not-For-Profit Exhibitor)

Session 8: Sat. 9:35-10:25 AM, Room 15 (second floor), **Grade:** HS, **Content:** Earth/Space Science, Environmental Science

126. Using Rock ID to Build Skills in Scientific Inquiry

David Matchen, Madison County High School

Richard Howell, Tabb High School

Rock identification in Earth Science classes can be very difficult to teach as a scientific endeavor. Commonly, students have to identify a single kind of rock without learning how to differentiate between igneous, sedimentary, and metamorphic rocks. We will present some tools that can be used to guide students through the observations required to differentiate rock types. Identification keys and worksheets will be made available to those in attendance.

Session 8: Sat. 9:35-10:25 AM, Room 11 (second floor), **Grade:** ALL GRADES, **Content:** General

127. Experiencing Science as a Language Learner

Angela Webb, James Madison University

Emily Stewart, James Madison University

Although most science teachers may have limited personal or professional experience engaging with multilingual learners (MLLs), MLLs are a fast-growing population in today's K-12 public schools and deserve equitable and accessible science education. In this presentation, we will (1) demonstrate and facilitate discussion of specific supports for language learners in science, and (2) foster an understanding and appreciation of the unique learning experiences of MLLs in science.

Session 8: Sat. 9:35-10:25 AM, Room 10 (second floor), **Grade:** ALL GRADES, **Content:** Environmental Science, STEM

128. Reach Out Locally, Form Connections, Make Contributions Now

Laurie Witt, Albert Harris Elementary School

Krista Hodges, Dan River Basin Association

Today's educators recognize the need to work smarter, not harder. One of Virginia's best educational resources is community partners. Community partners provide expertise in different fields of science while offering many engaging opportunities for your students. The Dan River Basin Association's classroom and related field experiences allow my students the opportunity to learn Virginia Science Standards of Learning in a hands-on manner, while giving back to their community at the same time.

Session 8: Sat. 9:35-10:25 AM, Room 8 (second floor), **Grade:** MS-HS, **Content:** Physics/Physical Science, STEM

129. Exploring Solar Energy

Emily Hawbaker, National Energy Education Development Project

Come investigate with UV beads, build a solar oven, and see how photovoltaic (PV) cells work! These hands-on activities let you see just how solar energy can be used in many different ways! You'll leave with a better understanding of radiant energy to share with your elementary and middle school students. (Not-For-Profit Exhibitor)

Session 9: Sat. 10:40-11:30 AM, Amphitheatre (first floor), **Grade:** ALL GRADES, **Content:** Biology/Life Science, Environmental Science, STEM

130. Sands to Drones: Research Translated to K-12 Classrooms

Bethany Smith, Virginia Institute of Marine Science

Sarah Nuss, Virginia Institute of Marine Science

Lisa Lawrence, Virginia Institute of Marine Science

Celia Cackowski, Virginia Institute of Marine Science

Graduate students at VIMS have translated their research about how nitrogen affects coastal waters by using drones and how dune profiles help us see patterns of erosion into hands-on STEM lessons for K-12 science classrooms. During the session, learn how students will apply principles of image sensing to answer questions, make heat maps, use graphing to make scientific inferences, make observations about dune changes over time, and discover what types of events contributed to those changes. (Not-for-Profit Exhibitor)

Session 9: Sat. 10:40-11:30 AM, Room D (first floor), **Grade:** ELEM, **Content:** General

131. Exploring Science Literacy

Myra Thayer, Virginia Department of Education

Anne Petersen, Virginia Department of Education

Gregory MacDougall, Virginia Department of Education

Literacy in science goes well beyond reading about science. Reading, vocabulary, reading comprehension, and writing are essential to all disciplines and in communicating ideas, but science literacy extends beyond these elements to include the science literacy skills that are reflected in the Scientific and Engineering Practices. Developing and interpreting graphs, constructing data tables, communicating findings, and using data to support arguments are all fundamental to science literacy.

Session 9: Sat. 10:40-11:30 AM, Central Lounge (first floor), **Grade:** ALL GRADES, **Content:** General, STEM

132. "STAR" Teacher Traits and Turnover in Urban STEM Classrooms

Clair Berube, Virginia Wesleyan University

Sueanne McKinney, Old Dominion University

Retaining good teachers is a current crisis in America. In the Spring of 2022, Virginia Wesleyan University was awarded a grant from the NSF. The Noyce Teacher Scholarship grant funds students becoming secondary STEM teachers who promise to teach in high-needs school districts in return for the funds. Part of the grant is the program KEEP: Keep Exceptional Educators in Place. This presentation will focus on how to use STAR teacher traits during teacher induction programs to prevent turnover.

Session 9: Sat. 10:40-11:30 AM, Room 2-3 (first floor), **Grade:** MS-HS, **Content:** Earth/Space Science, Environmental Science

133. Dive in: Linking Ocean Exploration to Your Class

Cassi Weathersbee, Patriot High School

95% of our world is unexplored and looking to inspire the next generation of scientists, engineers, and creative thinkers. Learn how the Ocean Exploration Trust's EV Nautilus explores the world below the waves and how you can connect your students with onboard scientists in real time. Discover the Nautilus's rich digital and hands-on resources; adaptable to different grade levels and curricula. Learn about the exciting professional development opportunities for educators on board the Nautilus!

Session 9: Sat. 10:40-11:30 AM, Room AB (first floor), **Grade:** ELEM, **Content:** Biology/Life Science, Environmental Science, Math in Science

134. People, Resources and the Environment – It's Elementary!

Anne Mannarino, Regent University

Engage in hands-on activities that will give your elementary students practice in collecting and interpreting data to better understand their local and global environment and human impacts on ecosystems. Create 3-D representations of global land use, model resource extraction, simulate world population growth trends, and role play parts of a habitat. Learn how to implement these activities as part of broadening students' understanding of Science SOLs in life and earth sciences.

Session 9: Sat. 10:40-11:30 AM, Room 4 (first floor), **Grade:** MS-HS, **Content:** Environmental Science, Math in Science

135. Trash Talk: Engaging ELLs in Science & Math

Lydia Grote, James River High School

Detailed lesson that engages ELL students in math and science through use of hands-on trash collection around the schoolyard or a nearby location. The lesson includes app integration (Ocean Conservancy Clean Swell App), graphing, and presentations. Students use google sheets to record data, make pie charts, and discuss their findings. Advanced ELLs can present to a peer group. The hands-on, graphing, and discussion activities allow ELLs to feel accomplished through a tangible final product.

Session 9: Sat. 10:40-11:30 AM, Room 16 (second floor)

136. No Presentation

Session 9: Sat. 10:40-11:30 AM, Room I (second floor), **Grade:** MS-HS, **Content:** Biology/Life Science, Environmental Science

137. What's Bugging You?

Debbie Mickle, VPM, Virginia's Home For Public Media

Melinda VanDevelder, Virginia Commonwealth University, School of Education

"What's Bugging You?" is a workshop designed to bring a variety of classroom-friendly (and teacher-friendly) insect activities to your science classroom. The modules highlighted in this presentation incorporate hands-on activities that pair with animated short videos that explore and excite interest in those things we call "bugs." Try your hand at "Building a Bug" or "Designing a Water Strider" and learn about adaptations, and take ready-made, low cost curriculum modules back to your classroom.

Session 9: Sat. 10:40-11:30 AM, Room 17 (second floor), **Grade:** ALL GRADES, **Content:** General, STEM

138. Teaching and Learning about Variables in Science

Scott Watson, Liberty University

This activity-based presentation will focus on teaching the use of variables in science. Use of variables is both a basic component of research methods and an essential integrated science process skill. In science, a variable is anything that can change or vary. The main variables taught at the elementary level are the manipulated (independent) variable and the responding (dependent) variable. Variables introduced in the middle-grades include controlled variables and extraneous variables.

Session 9: Sat. 10:40-11:30 AM, Room J (second floor)

139. No Presentation

Session 9: Sat. 10:40-11:30 AM, Room 18 (second floor), **Grade:** ALL GRADES, **Content:** Environmental Science

140. Environmental Education Connections

Bianca Myrick, Virginia Association for Environmental Education

Interested in learning about the importance of environmental education and how to make it relevant within the classroom? A sustainable and just future within the Commonwealth starts with fostering environmentally literate students. Join the Virginia Association for Environmental Education to chat, learn about resources, and sound off about how we can best support you. Connect with resources from the North American Association for Environmental Education. Prizes and giveaways included! (Not-For-Profit Exhibitor)

Session 9: Sat. 10:40-11:30 AM, Room H (second floor), **Grade:** MS, **Content:** General

141. Social Emotional Learning and Classroom Discourse

Martina Dunlap, Norfolk Public Schools

Demetrice Smith-Mutegi, Old Dominion University

Social and emotional learning is an excellent opportunity to integrate in the classroom setting in lieu of, or addition to, traditional content-based warm-ups. SEL warm-ups not only give students a space to converse in a casual manner, but the practice also helps build positive relationships and increased discourse throughout the lesson.

Session 9: Sat. 10:40-11:30 AM, Room 15 (second floor), **Grade:** ALL GRADES, **Content:** General

142. Coffee Chat with the VAST Content Chairs

David Matchen, Madison County High School

Jennifer Sharp, Floyd County High School

Jill Collins, Martinsville City Public Schools

Tony Wayne, Albemarle High School

The goal of the VAST Content Chairs is to ensure all science teachers know they are not alone. We want to strengthen the science education community and we plan to do this content by content. Please join the VAST Content Chairs and let's have a discussion on how we can assist you to achieve your goals as a science educator.

Session 9: Sat. 10:40-11:30 AM, Room 11 (second floor), **Grade:** ALL GRADES, **Content:** General, STEM

143. Plant the Moon Challenge

Rudo Kashiri, Virginia Space Grant Consortium

Cindy Watson, Forest Middle School

Take your own giant leap into lunar exploration with real lunar soil simulant from the Exolith Laboratory. Find out how your students can join a global science experiment, learning activity, and inspirational project-based-learning challenge to see who can grow crops using lunar or Martian soil. Participants will also learn about NASA's new lunar exploration program, the Artemis program, and how your students get a chance to help get astronauts back to the moon. (Not-for-Profit Exhibitor)

Session 9: Sat. 10:40-11:30 AM, Room 10 (second floor), **Grade:** ALL GRADES, **Content:** Environmental Science, STEM

144. Make the Most of Your Space by Creating a Green Schoolyard

Laurie Witt, Albert Harris Elementary School

Krista Hodges, Dan River Basin Association

Many of Virginia's schools have untapped or underdeveloped outside space. Learn how to create a plan for a Green Schoolyard which will allow your students the opportunity for hands-on science learning in an outdoor classroom setting. We will show you the first steps to take to get started, as well as share possible ways to fund your project. We will show how our Green Schoolyard has grown over the years and continues to blossom today. We will discuss how our partnership has made it possible.

Session 9: Sat. 10:40-11:30 AM, Room 8 (second floor)

145. No Presentation