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| **PROPOSED SCHEDULE - REVISED 01/21/18** |
| **MONDAY, JANUARY 29TH****7:00 a.m. - 8:00 a.m.** **BREAKFAST SNACKS AND REGISTRATION** |
| **MONDAY, JANUARY 29TH****8:00 a.m. - 9:00 a.m.****CONCURRENT SESSIONS** |
| **#1 - sycamore 1****The OSU Honors Robotics Project:  An Authentic Engineering Learning Experience (6-12, DRE)****Dr. Kathleen Harper, The Ohio State University** The Fundamentals of Engineering for Honors Program (FEH) at The Ohio State University was developed so that first-year students contemplating engineering could solidify their understanding of what engineering is, the kinds of activities engineers engage in and the elements of engineering design.  In the second semester, the most popular course option is the design-and-build robotics course.  The class has been developed to give students a fairly complete picture of an engineering project, including planning, budgeting, documentation, and the technical aspects of designing, programming, constructing, and testing a robot.  Using the robotics project as an example, participants will explore elements of engineering design and consider ways in which they might incorporate similar elements into their own course. |
| **#2 - sycamore 2****Climate Change: The Science and the Connections Between Your Community and Your Classroom (6-12, REA)****Sharon Graper, Holden Forests and Gardens** **Darci Sanders, Lake Erie Nature and Science Center****Char Shryock, Bay Village City Schools**Climate change is all over the news. What does it mean to you in the classroom? Are you comfortable explaining what it is and what it is isn’t? Join Holden Forests & Gardens, Lake Erie Nature & Science Center and The Curriculum Department at Bay Village City Schools to learn about some of the best activities, websites, videos and other resources we used in a recent teacher workshop. Activities cover how to teach the science behind climate change, ways to incorporate these concepts into your classroom, how to look at the local impacts and how it applies to the standards. Take part in a few hands-on activities that bring the concepts to life and leave with resources to help you weave it seamlessly into your curriculum. Learn about a new set of free Climate Literacy Posters from Ohio Sea Grant that can be used in your classroom. |
| **#3 - birch 1****How Does Your Garden Grow? (PK-12, RE)****Liz Spector, University School**All students can benefit from involvement in a garden. Learn ideas for an appropriate garden for your school, strategies for making your garden sustainable from year to year, curricular connections and tips for getting started. |
| **#4 - cypress 1****You Can’t Make Them Care… Or Can You? (PK-12, R)****Chris Blackstock, Center for Teacher Effectiveness**Having a tough time getting students engaged in their learning? This is the session for YOU! Come learn easy, effective strategies to increase student engagement and motivation. These research-based strategies can be adapted for any subject and any grade level. |
| **#5 - dogwood 1****Creating Shape Memory Polymers (3-12, DRE)****John Fellenstein, The University of Akron** Shape memory polymers have been recognized for their unique ability to change shape under a stimulus and then return to an original shape. This multi-day lesson guides students through one process used to coagulate liquid latex to fabricate their own rubber bands and then tasks them with creating a shape memory polymer.  |
| **#6 - dogwood 4****Physics Mysteries:  OP2 Activities for Engaging Middle Grades Students (6-8, RE)****Wendy Sherman Heckler, Otterbein University****David Robertson, Otterbein University****Dave Reber, Black River Local Schools****Karen Richards, Columbus City Schools**We will share discrepant event demonstrations tied to known student misconceptions in physical science from our Ohio Board of Regents (OBR) grant-sponsored course, "OP2: Operation Physics for Central Ohio Middle Grades Teachers." These demonstrations can support teachers’ work in guiding students’ understanding of science concepts including energy, motion, thermodynamics, sound, electricity and other topics. |
| **#7 - hickory 1****Dive into Design (PK-12, DR)****Robin Deems, Center of Science and Industry**Desire to get your students involved in the learning and exploring design process, but don't know how to start? In this session, we will tackle some simple design experiences and show new resources for introducing design-based learning into your classroom curriculum.  |
| **#8 - hickory 2****GreenSchools Investigations (PK-12, RE)** **Sue Wintering, Coordinator, Project Learning Tree - Ohio**Come have fun and explore Project Learning Tree (PLT)'s GreenSchools Investigations! Students are engaged in greening their school in Green Teams using ready-made and accessible student-driven investigations of their school's energy, water, school site, waste and recycling, and environmental quality.  Two versions to use with grades PreK-HS. Experience PLT's hands-on GreenSchools today and use tomorrow with your students. |
| **MONDAY, JANUARY 29TH****9:10 a.m. - 10:30 a.m.****KEYNOTE ADDRESS - BALLROOMS 1, 2, 3 AND 4****Phenomena-based Science for Student Engagement****Ken Wesson, Consultant, Neuroscience**Several contemporary surveys have revealed that the #1 single-word description that students offer for education is “boring.” In our technology-rich and highly-visual world (think “YouTube”), student attention, engagement and imagination are enhanced through exciting phenomenon-based learning (PhenoBL) experiences, where students get to analyze a real-life scenario or phenomenon that is examined through a largescale interdisciplinary lens. Neuroscience tells us that the human brain works best when it processes information in ways relevant to one’s personal life rather than germane to a designated subject area. In Pheno-BL, student questions, ideas, investigations and explanations are used to conceptualize the topic under investigation. Most importantly, prior knowledge from all subject areas is incorporated into grasping an understanding of a given phenomenon. (Pheno-BL is one of the cutting-edge approaches that has been implemented in Finland, which is consistently recognized as one of the highest achieving nations in the world). |
| **MONDAY, JANUARY 29TH****10:30 a.m. - 11:00 a.m.****EXHIBITOR OPENING** |
| **MONDAY, JANUARY 29TH****11:00 a.m. - 12:00 p.m.****CONCURRENT SESSIONS** |
| **#9 - sycamore 1****3 Steps to Successfully Implement STEM in your Classrooms (PK-12, RE)****Jim Mays, School Specialty** Discover why STEM education is growing like wildfire, the tools and materials you will need to support STEM (especially for coding and robotics), and how to successfully apply them into yourclassrooms. |
| **#10 - sycamore 2****A New Formula?  PASCO + Curriculum = PASCO Education (ALL-in-One STEM Solution for Chemistry and Physics) (9-12, REM)****Julie Thomas, PASCO Scientific**PASCO Scientific is now a provider of curriculum and equipment for physics and chemistry.  Not only does this complete STEM solution meet ALL Ohio Science Learning Standards, it includes a complete print and digital curriculum with PASCO equipment for the price of most textbooks!  Attend this session and receive free access codes for both solutions for the remainder of the school year.   |
| **#11 - ballroom 1****Setting the Stage: SECO for Preservice Teachers****Angela McMurry, Darke County Educational Service Center** **Ann Drake, Brookeville Local Schools****Leslie Silbernagel, Northwest Local Schools****Sharon Graper, Holden Forests and Gardens**Welcome, preservice teachers! This session will introduce you to what you can expect at the 2018 SECO Science Symposium. You will also learn the "Top 5 Things All Preservice Science/STEM Teachers Need to Know Before Graduating College”. Preservice teachers, college of education professors, supervisors and administrators are welcome and encouraged to attend.  |
| **#12 - ballroom 2****Project WET (PK-12, RE)****Dennis Clement, Ohio Environmental Protection Agency****Jeff Montavon, Ohio Environmental Protection Agency**Project WET is a curriculum which focuses on water education for teachers, students, parents, and community leaders. The curriculum offers over 60 hands-on activities that educate about water and water issues, with minimal supplies and funding needed. We will offer session participants the Project WET sampler, which has 7 of the activities. We will also provide Healthy Water, Healthy People (HWHP), which is the middle/high school secondary curriculum module to the Project WET Guide. HWHP offers 25 hands-on activities involving water-related issues, health and aquatic insect education for students and adults. |
| **#13 - ballroom 3****NASA's BEST Educators: Beginning Engineering, Science and Technology (PK-12, RE)****Dr. Diane McElwain, NASA Glenn Research Center**NASA’s BEST (Beginning Engineering, Science and Technology) is an instructional program that connects students with NASA’s content, mission challenges and the engineering design process. NASA’s BEST provides students the opportunity to be engineers as they imagine, plan, build, test and improve their solutions to each of the challenges. During the session, NASA’s BEST resources and professional development programs will be presented. |
| **#14 - ballroom 4****Enhancing STEM Curriculum with Virtual Simulations (3-12, EM)****Kelly Battistone, ExploreLearning**Virtual simulations are a perfect solution for schools looking for ways to enhance STEM curriculum and build 21st century skills for students. Simulations help teachers take advantage of research-proven instructional strategies and let students of all ability levels develop deep conceptual understanding. Teachers can supplement and enhance instruction with powerful interactive visualizations of science and mathematics concepts. Students can manipulate key variables, generate and test hypotheses, and engage in extensive “what-if” experimentation.  |
| **#15 - birch 2****Using Fossils to Investigate Ancient Organisms (PK-5, RE)****Dr. Danielle Dani, Ohio University**In this session, participants will use fossils to investigate organisms that lived in Ohio a long time ago. Participants will use science inquiry practices and processes to explain the relationship between these organisms and organisms that are alive today and the type of environments in which these organisms lived. |
| **#16 - cypress 1****Ohio Geology** **(6-12, RE)****Heather Bryan, Ohio Oil & Gas Energy Education Program****Jane Hunt, Ohio Oil & Gas Energy Education Program** Practice science modeling with three different content topics, including differentiating earth’s layers, tectonics and plate movement, and sedimentary basins. These activities are part of a larger curriculum and workshop developed by the Ohio Oil and Gas Energy Education program. Receive free materials and hear about the free geology professional development workshops offered.  |
| **#17 - dogwood 1****Charge Up Your Elementary Classroom with Electricity (PK-5, DRE)****Belinda Clark, Science Education Consultant**Not sure how to teach electricity to elementary students?  This session will give you an opportunity to engage in an elementary lesson on electricity using readily available materials.  The lesson will weave together electricity content with science and engineering practices while emphasizing big ideas in science.  Learn what topics are included in Ohio’s Learning Standards for elementary science and how this builds upon knowledge students will gain in later grades. |
| **#18 - dogwood 4****A Particle Model for Density: Experiments, Evidence and Explanation (6-8, REM)****Dr. Paul Wendel, Otterbein University****Amy Pochodylo, Otterbein University**In a 5-day unit, students develop a particle model for density through experiment and discussion.  In this session, participants will engage in hands-on experiences drawn from the unit and encounter evidence that the approach improves students’ conceptual understanding and computational skills. |
| **#19 - hickory 1****Science Storytelling at the Heart of Integration (PK-5, RAM)****Char Shryock, Bay Village City Schools**Learn how to create your own stories as the starting point for integrating science, math, literacy and arts. Science is the real world application of the reading and math skills that students are learning in grades preK-3. Too often teachers feel that they don’t have enough time to teach science because they must get in 90 minutes of reading or 60 minutes of math during their short instructional day.  Writing your own science stories, or selecting science concept based literature and informational texts to be at the center of a unit plan, allows students to connect literacy and math to their real world science experiences.  Participants will learn basic story writing strategies that will allow them to pull in math skills, fine arts activities, vocabulary and literacy skills while engaging students in science inquiry.  Frameworks for building science-centered integrated units will be shared.  |
| **#20 - hickory 2****Conservation education in your county! (PK-12, RE)** **Becca O’Neill, Stark County Soil and Water Conservation District**True or False? There is a non-profit organization in each Ohio county that will present activities to your students, provide resources, and assist with lessons and grants ABSOLUTELY FREE? True! Each county houses a Soil and Water Conservation District that is devoted to conservation education through classroom activities, resources and more! What can we do for you?  |
| **MONDAY, JANUARY 29TH****12:00 p.m. - 12:45 p.m.****LUNCH** |
| **MONDAY, JANUARY 29TH****12:45 p.m. - 1:45 p.m.****CONCURRENT SESSIONS** |
| **#21 - sycamore 1****Motivating and Engaging Students to Think Critically through Close Reading (PK-12, EA)****Leah Ames, Perfection Learning**Help students understand and retain key science content through close reading strategies. A rich variety of scientific texts will be analyzed for applying close reading strategies and for understanding how to motivate and engage students to think critically through multiple readings of scientific texts. |
| **#22 - sycamore 2****Earth System Science Project: More Authentic Inquiry with Technology (6-12, RE)****Dr. Bridget Mulvey, Kent State University****Kelly Calvelage, Kent State University and Parma City School****Laura Sass, Kent State University and Bio-Med Science Academy****James Martell, Bio-Med Science Academy** Learn about a free teacher professional development, Earth System Science, funded by the Ohio Department of Education for secondary science teachers. We will share how to use Google Maps and Google Earth for authentic science investigations (e.g., natural disaster recovery, water quality, etc.).   |
| **#23 - ballroom 1****Desmos! (PK-12, REM)****Angela McMurry, Darke County Educational Service Center** Participants will investigate logistic growth by simulating changes in population in a closed environment and will then analyze the collected data using the FREE graphing software program Desmos.  This fun, interactive lesson easily incorporates the Ohio Math Standards and Ohio Science Standards by exploring the potential impact of a “zombie virus.” Teachers will learn how to integrate the math concepts of graphing and rate of change as well as the science concepts for population growth and biodiversity. Session attendees will walk away with a complete lesson to share with math/science colleagues to encourage STEM partnerships in their building. This rigorous lesson encourages critical thinking, team-building and technology integration. However, it’s accessible for all students because of the differentiated methods required to complete the activity. Your students will be engaged in this pop-culture themed activity!  |
| **#24 - ballroom 2****Students Working as Scientists in GLOBE Mission EARTH Project (6-12, REA)****Janet Struble, The University of Toledo** **Kevin Czajkowski, The University of Toledo****Sara Mierzwiak, The University of Toledo**Learn how your students can be scientists using the GLOBE Cloud Observer App and contribute to ground-truthing NASA satellites. Resources presented are aligned to the Next Generation Science Standards (NGSS)/Weather and Climate.  |
| **ballrooms 3 & 4****The Revised Ohio Learning Standards for Science, GrADES K-5 (PK-5, RE)** **Cathy Holmes, Ohio Department of Education****Lydia Hunter, Ohio Department of Education****David Schklar, Ohio Department of Education**Learn about the Revised Ohio Learning Standards for Science and what it means for your classroom. What has changed and what remains the same will be highlighted as well as implications for assessment.  |
| **#25 - birch 2****KidWind and Junior Solar Sprint (DRE)****Kurt Thonnings, Westlake City Schools**This session provides an overview of two STEM activities at the middle school level, focusing on alternative/renewable energy. Students design, build and test model wind turbines and model solar cars. Learn about the Northeast Ohio regional competition and how you can participate. |
| **#26 - cypress 1****Ooeey Gooeey Globs of Green Goo (6-12, RE)****Jane Hunt, GrowNextGen and Ohio Soybean Council****Heather Bryan, GrowNextGen and Ohio Soybean Council** Pollutants can enter water to change water quality through various routes. Both point source and non-point source pollutants cause problems. Come test water using a lesson from grownextgen.org which explores water quality and helps to explain biological oxygen demand and harmful algal blooms. Teachers will receive nitrogen test strips and a phosphate test kit. (Sponsored by GrowNextGen.org and the Ohio Soybean Council)  |
| **#27 - dogwood 1****Charge Up Your Middle School Classroom with electricity (6-8, DRE)****Belinda Clark, Science Education Consultant**Not sure how to teach electricity to middle school students?  This session will give you an opportunity to engage in a middle school lesson on electricity using readily available materials.  The lesson will weave together electricity content with science and engineering practices while emphasizing big ideas in science.  Learn what electricity topics are included in Ohio’s Learning Standards for middle school science and how this fits with content learned in elementary school and content that will be addressed in high school.   |
| **#28 - dogwood 4****Coding Integration in High School STEM Courses (9-12, RM)** **Dr. Chris Orban, Ohio State University****Dr. Richelle Teeling-Smith, University of Mount Union**Despite the success of code.org and the Hour of CodeTM, very little content currently exists to integrate coding into high school STEM courses even though computer science is now designated as a “core subject.” This session will focus on coding exercises developed by the STEMcoding Project which in some ways resemble web interactives like PhET (phet.colorado.edu) but include a coding component. Participants will get an opportunity to work on some of these exercises during the session. Please bring a laptop or a Chromebook. (Sorry, iPads and android tablets probably will not work). |
| **#29 - hickory 1****Using Dramatic Inquiry to Promote Literacy in STEM Teaching and Learning (PK-12, REA)****Chris Hardy, Whitehall City Schools** **Christina Schwaiger, Whitehall City Schools****Jamie Snodgrass, Whitehall City Schools****Nicole Croft, Whitehall City Schools** **Vinta Tiarani, The Ohio State University** **Dr. Karen Irving, The Ohio State University**Utilizing dramatic inquiry is an engaging way to involve students with literacy. It is even more powerful when literacy is integrated across content areas. Come and engage in dramatic inquiry activities to learn how the arts, literacy and science can easily be connected. |
| **#30 - hickory 2****Today’s Inventors + Real Life STEAM Investigations = Tomorrow’s Innovators (PK-12, DRE)****Lori Byrne, National Inventors Hall of Fame**Experience how today’s inventors and hands-on STEAM learning brings science to life for all children. Engage in inventor-based explorations. Learn how to inspire and motivate children to use creative and critical problem solving while immersed in real-life science investigations.  |
| **MONDAY, JANUARY 29TH****1:45 p.m. - 2:00 p.m.****AFTERNOON SNACKS AND BREAK** |
| **MONDAY, JANUARY 29TH****2:00 p.m. - 3:00 p.m.****CONCURRENT SESSIONS** |
| **#31 - sycamore 1****A Science Classroom on UDL** **(PK-12, A)****Suzette Jackson, Mahoning County Educational Service Center****Paula Roberts, Mahoning County Educational Service Center**Get your students involved, in control of their own learning and ready to increase their achievement level. Discover what it means to be proactive rather than reactive in your lesson delivery. Experience Universal Design for Learning (UDL) to understand what it can look like in your classroom and how you can begin to make it happen. |
| **#32 - sycamore 2****Exploring What Science Is Like with Secondary Students (6-12, REA)****Fatma Kaya, Kent State University** **Kelly Calvelage, Kent State University and Parma City Schools****Tanzimul Ferdous, Kent State University****Dr. Bridget Mulvey, Kent State University**Learn how to broaden secondary students’ access to science! Learn simple, fun ways to teach about what science is like using texts that also support language development of English Language Learners. We’ll recommend strategies and provide easy ways to facilitate powerful discussions about the nature of science. |
| **#33 - ballroom 1****Ohio’s Learning Standards for Technology Introduction (PK-12, DRM)****Tracy Cindric, Ohio Department of Education**Have you read the revised standards but aren’t sure what to do next?  Do you need ideas of what these standards could look like for the grade level or subject(s) you teach? Join us for an introduction to the skills and knowledge that make up the revised technology standards. See the connections between the tech standards and other content areas and begin planning ways to integrate the standards in your instruction. |
| **#34 - ballroom 2****Critical Connections: Using the Outdoors to Link Formal and Non-Formal Educators (PK-12, RE)****Jen Dennison, Ohio Department of Natural Resources - Division of Wildlife**Science education tends to take a back seat in many schools today for a variety of reasons, especially in early elementary.  Testing requirements force more focus on ELA and Math. Lack of high quality materials makes it difficult for teachers to present quality lessons.  A perception of fun over quality limits access to outdoor educational opportunities.  Most teachers only receive one science methods class in college and, unless they have an inherent interest in the outdoors, do not feel comfortable teaching about science-related topics, let alone outdoors.  Non-formal educators can be a tremendous asset to today’s teachers.  Come learn how to access those non-formal education resources that exist right in your community and step up your science and environmental education opportunities.   |
| **#35 - ballrooms 3 & 4****Bats of the World (PK-12, RE)****Amanda Bevan, Organization for Bat Conservation****Aja Marcato, Organization for Bat Conservation** Discover the roles bats play in global ecosystems. Meet live bats and understand how environmental changes impact bat populations and learn how to protect them. Bat biology and conservation can easily be brought into your classrooms.  |
| **#36 - birch****Coding with PK-2? The Smithsonian Says YES! (PK-2, DRAM)****Peggy Eickhoff, Carolina Biological Supply Company**Join us for an engaging, hands-on workshop with several investigations for teaching coding to young children. From the new Smithsonian Science for the Classroom, “How Can We Send a Message Using Sound?”, this unit is designed to use Next Generation Science Standards (NGSS) practices to make the standards come alive. Rigorous science, literacy skills, mathematics and engineering are taught using the riches of the Smithsonian resources.  |
| **#37 - cypress 1****Engineering and Energy (PK-8, DRE)****Jane Hunt - Ohio Oil and Gas Energy Education Program****Jeanne Gogolski - Ohio Oil and Gas Energy Education Program**Explore activities connected to Ohio’s oil and gas industry beginning with formation, to migration and trapping, exploration, drilling and well stimulation, producing, refining and the use of petrochemicals and products. Use engineering design to build a pipeline, get oil from a well and create a weight-bearing derrick. There is no one right answer to these tasks, encouraging students to use different approaches and attempt various designs to test engineering principles as well as efficiency and creativity. (Sponsored by OOGEEP, Ohio Oil and Gas Energy Education Program) |
| **#38 - dogwood 1****Matter and Its Interactions: How Do We Transform Instruction? (6-8, RE)****Dr. Missi Zender-Sakach, Summit Educational Service Center**Keeping drinks cool, warming up hands in the cold, curing headaches and making salad dressing! Chemistry is such a part of our lives that we often forget it’s there all the time! This thought-provoking, hands-on workshop will demonstrate 3-dimensional learning using a phenomenon at its core. Participants will engage in a lesson from the Smithsonian’s New STC Middle School “Matter and Its Interactions” kit and receive a handy “Science Practices and Crosscutting Concepts” checklist to help enhance and transform instruction in the science classroom.  |
| **#39 - dogwood 4****Play Mendel: Demonstrating Mendelian Genetics with Arabidopsis Plants (6-12, RE)****Julie Miller, Arabidopsis Biological Resource Center****Courtney Price, Arabidopsis Biological Resource Center** In this session, participants will learn how to use Arabidopsis plants to provide students with a hands-on demonstration of Mendelian genetics. |
| **#40 - hickory 1****A Model for Elementary STEM Teaching, Learning, and Professional Development Using EiE (PK-5, DREAM)****Chris Hardy, Whitehall City Schools** **Christina Schwaiger, Whitehall City Schools****Jamie Snodgrass, Whitehall City Schools****Nicole Croft, Whitehall City Schools** **Vinta Tiarani, The Ohio State University** **Dr. Karen Irving, The Ohio State University**Interested in integrating STEAM into your elementary school? Come learn about a STEAM professional development and implementation model utilizing Engineering is Elementary (EiE) resources developed in partnership between two urban school districts and a university.  |
| **#41 - hickory 2****BLASTT: Blending Literacy and Science Together with Technology (PK-5, REAM)****Stephanie Nowak, Mentor City Schools** Science is the hook and technology the bait for a balanced literacy experience designed to meet the needs of diverse learners.  Literature and science combine to engage, excite and drive instruction.  Technology will bring learning to life both in and out of the classroom. Learn how to use Nearpod, Google Classroom and many other tools to blend learning across the curriculum.  |
| **MONDAY, JANUARY 29TH****3:10 p.m. - 4:10 p.m.****CONCURRENT SESSIONS** |
| **#42 - sycamore 1****Using Available Tools to Impact the Level of My Instruction and Assessment (3-12, M)****Suzette Jackson, Mahoning County Educational Service Center**You've dug through your data, but now what? In this session, you will analyze various data reports and connect those reports to the various assessment tools available on ODE website in order to help you impact your instructional and assessment practices. |
| **#43 - SYCAMORE 2****Exploring the Development and Implementation of 5E Learning Cycles with Elementary Students (PK-5, RE)****Mila Rosa Librea-Carden, Kent State University****Jacob Dunwiddie, Kent State University****Tanzimul Ferdous, Kent State University****Dr. Bridget Mulvey, Kent State University****Abigail Recker, Kent State University**Learn simple ways to sequence learning activities to build elementary students’ science understanding. We’ll share example 5E learning cycle units including student work samples to help you get started. |
| **#44 - BALLROOM 1****Ohio’s Learning Management System (LMS) (PK-12, R)****Tracy Cindric, Ohio Department of Education**Join us for a guided tour of the Ohio Department of Education LMS. Have a device, a SAFE account and a valid Ohio credential? Login to explore over 30 online courses and 100’s of free contact hours available in the LMS. Continue learning with colleagues during and after SECO then use the ePortfolio to maintain and share evidence of your PD with your LPDC! |
| **#45 - BALLROOM 2****Clever Crazes for Kids Website: Always FREE, Always FUN, STEAM-Based, Academic Enrichment for PK-8 Students (PK-8, REM)****Gabriella Scacchetti, Clever Crazes for Kids**Participants will learn how Clever Crazes for Kids (CCK) integrates earth science, life science, physical science, anatomy, space and nutrition into our PK-8, STEAM-based, academic enrichment and learning games. |
| **#46 - BALLROOMS 3 & 4****Teaching Literacy and Language through Science (PK-12, RA)****Dr. Kenneth Wesson, Delta Education**How does the amazing brain learn; how does it encode, store and retrieve information? What are some “best practices” for developing language? How do we use language, oral and symbolic, as a window into student thinking? How do we get students engaged and how do we get them to “think” in the manner that a scientist does? If you are interested in delving into these questions, attend this session! |
| **#47 - BIRCH 1****A Science Practices Approach to Teach Evolution (6-12, RE)****Dr. Danielle Dani, Ohio University**In this session, participants will use scientific inquiry practices and processes to investigate the evolution of large mammals in a standards-aligned, low budget, 5E learning cycle lesson. |
| **#48 - CYPRESS 1****Hatch Chicks in Your Classroom, Virtual Farm Tours (PK-12, DREM)****Heather Bryan, GrowNextGen and Ohio Soybean Council****Jeanne Gogolski, GrowNextGen and Ohio Soybean Council**Hear about a 4-H School Enrichment Program that challenges students to use science, engineering and technology to investigate the life cycle of an embryonic chicken egg and participate in a virtual tour of a hog farm. From monitoring living eggs to observing fluffy chicks, these lively activities pique curiosity, encourage collaboration and communication, and provide young scientists with unforgettable experiences about animals. Come and see what chicks and hogs are all about! Free ChickQuest Student Logbook and Welcome to Our Farm Book. (Sponsored by GrowNextGen, the Ohio Soybean Council and the Ohio Pork Council) |
| **#49 - DOGWOOD 1****Restoring Ecological Balance to the Giant Panda Population: One Molecular Test Design at a Time! (6-12, RE)****Tamica Stubbs, Bio-Rad Laboratories**Come and put your ecology, immunology, endocrine system and animal behavior knowledge basics to the test as you model and test a hormone detection system that can be utilized to enhance Giant Panda population conservation and reintroduction efforts.  |
| **#50 - DOGWOOD 4****Water and Wildlife Training for Educators (PK-12, RE)****Lyndsey Manzo, OSU Stone Laboratory and Ohio Sea Grant**Preview lessons from Project WILD, Aquatic WILD, Science and Civics, Project WET, and Healthy Water, Healthy People.  Learn about Water and Wildlife Training for Educators, a one-week course at The Ohio State University’s Stone Lab where educators can earn certification in each curriculum. |
| **#51 - HICKORY 1****Inquiries into Energy (6-12, RE)****Holly Lavender, Ohio Department of Education****Sandra Doty, Ohio University - Lancaster Campus**Are you looking for effective ways to incorporate inquiry and student-driven experimentation into your classroom, but aren’t quite sure where to start?  In this session, we will share strategies we have found to be effective in teaching science and engineering practices, specifically applied to work and energy. |
| **#52 - HICKORY 2****Building Background in the Backyard (PK-12, RE)****Jake Amlin, Federal Hocking Local Schools****Veronica Gaier, Piqua City Schools and Wright State University**We’ll show you how our families explore science concepts at home.  You’ll leave with suggestions for helping families make connections between your instruction and their everyday lives. |
| **MONDAY, JANUARY 29TH****FRANKLIN PARK CONSERVATORY AND BOTANICAL GARDENS RECEPTION****4:45 p.m. - TRANSPORTATION DEPARTS TO FRANKLIN PARK** **8:00 p.m. - TRANSPORTATION RETURNS TO NATIONWIDE** |