

## Friday Short Courses

Friday, October 6, 2017

***Cert 101: How to become a Texas Certified Environmental Educator*** - This presentation will provide an overview of how you can be recognized as a Texas Certified Environmental Educator and will include the goals of the program, application and review process, and required outcomes. The Texas Certified Environmental Educator (TCEE) Program encourages professional development in EE, acknowledges educators committed to environmental stewardship of Texas's natural resources, and establishes standards for of knowledge, skills, and experience that highly qualified Environmental Educators in Texas should be able to demonstrate. The following question will be addressed: What is certification? What are the goals of the program? What are the benefits of certification? Who should apply? What are the costs of certification? and How are the portfolios reviewed?

**Christine Moseley, UTSA Emeritus Professor; Lisa Brown, Sam Houston State, Associate Professor**

***Interested in Becoming a Texas Certified Environmental Educator Application Reviewer for TAEE?*** -

Do you have skills in teacher preparation in EE, assessment, and/or the NAAEE Guidelines for the Preparation and Professional Development of Environmental Educators? Learn the benefits and expectations to become a peer reviewer and how reviewers will be selected and prepared. Members of the TAEE TCEE Advisory Committee will deliver training in the EE standards and the TCEE portfolio review process for those TAEE members who would like to serve on a peer review team when applicants submit their portfolios for review.

**Christine Moseley, UTSA, Emeritus Professor; Marti Copeland, Dallas Zoo**

***Using Transects to Measure Biodiversity*** - Participants will use one-meter-square transects to sample diverse flora on the campus of Camp Young Judea. Using the Shannon-Weiner Index, the biodiversity of competing transects will be calculated and compared. Learning outcomes from this activity include: constructing one-meter transects from pvc material; selecting areas of study for biodiversity; choosing methods of counting forbs; calculating a biodiversity index using the Shannon Weiner method; investigating reasons for changes or differences in biodiversity; applications to a high school setting; and recommendations for alternatives to the lesson to accommodate different campus needs. This activity is relevant to environmental science and environmental systems.

**Meredith Fox, Oliver Wendell Holmes High School, Northside ISD**

***Investigate Carbon and Climate with Project Learning Tree's New E-Unit for Grades 6-8*** - Perhaps more than any other environmental issue, the topic of climate change challenges educators to accurately convey data, reveal assumptions, and engage critical-thinking skills. Project Learning Tree's Carbon & Climate E-Unit provides activities and resources to help educators meet these challenges, by introducing students to some of the complex issues involved in climate change. Participate in hands-on activities and leave with online resources to help you introduce students to the challenging and complex issue of climate change. At the conclusion of the workshop, funded by the EPA/NAAEE ee360 grant, participants will receive free access to the online unit. Laptop recommended.

**Misty Bowie, Texas Project Learning Tree**

**Saturday, October 7, 2017**

***The Great Garbage Patch in a Bottle*** - A new trend in education is flooding many elementary classrooms...including mine! The trend is STREAM (Science, Technology, Reading & Writing, Engineering, Art, and Math). Come “float” with us for an hour of fun to create an easy-to-implement Science ocean model, and gain an idea incorporating Engineering, Art, and plastic bags in a project. Session participants will learn how they can use STREAM while teaching students about man-made pollution in the ocean ecosystem with a focus on the Great Garbage Patch. This session will be fun, informative, interactive, and include some make and take activities that use recycled items most people have in their homes.

**Amy Kamata, North East ISD, San Antonio Water System-CORE**

***Activities for the Anthropocene*** - Scientists are now referring to our current geological age as “The Anthropocene” to emphasize the impact that humans have had on the land, seas, climate and wildlife over the past 200 years. In this hands-on session, discover classroom activities and interactive online resources to help students explore different aspects of the Anthropocene including human population growth, climate change, changes in biodiversity and land use. Combine history and environmental science in this hands-on session exploring how humans have shaped the earth and atmosphere since the Industrial Revolution.

**Christine Moseley, Ph.D., UTSA, Emeritus Professor**

***Use of Research for Program Improvement*** – The purpose of this presentation is to share how research that evaluated the impact of student participation in an outdoor educational field trip experience on academic achievement, beliefs, and personal connections to the environment is being used for program improvement. Research methodology included staff and teacher interviews, observations of teaching, review of lesson materials and STARR standardized test data, and pre/post surveys. . Results from a one year study and changes to the curriculum based on the research results will be shared.

**Christine Moseley, Ph.D.; UTSA, Emeritus Professor, Haily Summerford, Audubon Texas; Melissa Paschke, Dogwood Canyon Audubon Center; Traci Kelley, UTSA; Caroline Parks, UTSA**

***Starting Out Wild Training***- Starting Out Wild (SOW) is a nature-based curriculum for all educators, parents, informal teachers, and organizations who work with toddlers 1-3 years old. Started in San Antonio in 2013, SOW follows a framework of best practices for infant and toddler growth and development. Upon attending this session, participants will receive access to over 20 SOW lessons and resources online and a list of excellent toddler books and art activity ideas and hands-on activities that emphasize concepts covered in the SOW curriculum.

**Susan Campbell, Nicole McLeod, City of San Antonio, Parks and Recreation Natural Area**

***Something about Soil*** - What’s the difference between sand and humus, or permeability and porosity? What do rocks have to do with soil composition? How do those N, P, K and pH kits work? Intimidated by the soil and ag content? Want new data collection labs? If you answered “yes” to any of those questions, you need to come get dirty with a pedologist. We will discuss basic soil, geology and agriculture vocabulary and concepts for applicable Earth & Space, Environmental Science and 8th grade TEKS. We will model various data collection labs, including: a common fertilizer/soil test kit for nitrogen, phosphorus, potassium and pH; a test for permeability and porosity with limestone and marble; a soil-building & bean growing activity with sand, silt, clay and humus. Activities are student-centered and educators will gain a fresh perspective on different ways to incorporate new ideas in their content.

**Jody Gibson and Alicia Mein-Johnson, Energy Institute High School**

***Colorado River Alliance Evolving Bilingual Programming for Our Water Future*** – Bilingual environmental education programming in the Texas Colorado River watershed is imperative to its long-term vitality. The Colorado River Alliance provides students environmental education programs that engender awareness about the Texas Colorado River. To overcome language barriers towards learning for Hispanic students, the Alliance took progressive steps to evolve a STEM-based field trip program to support native Spanish speakers. We'll explore steps taken and lessons learned to evolve our Elementary program into a bilingual one. We'll discuss planning, curriculum translation, plus volunteer and client recruiting.

**Daniela Pennycook, Colorado River Alliance**

***Trade Nature to Build Connections*** - Children's pockets seem to magically attract nature items of all types. Pebbles, seeds, leaves, twigs, acorns, and untold numbers of odds and ends fill those pockets daily. Nature Trade programs use those items to reinforce natural curiosity through memorable and meaningful interactions. For 8 years The Austin Nature & Science Center has been home to the Trade Counter in the Naturalist Workshop. This interactive program builds on children's natural curiosity to introduce the study of natural sciences. . In this workshop we will discuss examples of Trade Counter programs, the basic requirements to have a successful Trade Counter, and the benefits of Trade Counters at your site. We will also collect our own nature items and model the trade experience.

**Jennifer Chapman, City of Austin Parks - Austin Nature & Science Center**

***Goin' Buggy in the Classroom*** – Join the Caldwell Zoo for a fun hands-on presentation using live insects in a classroom setting. Reinforce TEKS as you and students enjoy hands-on "experiments" with live insects (not harming the insects, of course). Using Madagascar hissing cockroaches, meal worms and crickets, children can learn basic insect characteristics, become acquainted with larval responses, discover habitat preferences and understand the scientific method while having an up-close experience with harmless hexapods.

**Linda Kunze, Caldwell Zoo**

***Inside Out & Outside In: Making Connections in Place Based Education*** – Come play with us! As we play outside participants will experience and understand the work of a playful nature-based learning program. We will engage in hands-on outdoor activities and make connections to indoor extensions as we build a model of our space and unpack the learning and teaching of the activities. In conclusion, we will lead a discussion of the experiences using educational theories and examples from a nature-based preschool. The session will be of interest to all who work with nature-based learning for children.

**Linda Charlton & Deepti Kharod, Cibolo Nature Center**

***Gone Fishin'....For TEKS!*** - Merge TEKS, student interests' surveys and the Texas Parks and Wildlife Department's Volunteer Angler Instructor program to develop an instructional path that includes stream mechanics, entomology/metamorphosis, organisms in their environment, data analysis, community building, and art! Teachers will learn basic knot tying skills, fishing safety, ethics, and long-lens lesson design related to integration of math and science TEKS.

**Trevor Hance, Laurel Mountain Elementary**

***Instilling Community Pride of Place Through Service Learning*** - Keep Austin Beautiful utilizes a combination of education and service to develop empowerment and deep environmental connection among its adult and youth volunteers. This presentation will help other educators better understand our model, why it is particularly effective, and provide guidelines for how they can implement similar projects in their programming. This approach includes an integration of place-based teaching and how the environment and community play into a particular service project's objectives. We will also provide logistics for service projects with adult and youth volunteers. After discussion, we will have hands-on stations where participants will have the opportunity to get outside and do service work firsthand.

**Sarah McConnon, Alecia Casper; Keep Austin Beautiful**

## **Sunday**

***Redeemer School: Nature on the Playground*** – Play is indispensable to self-regulation and growth; nature essential to physical and mental health and environmental literacy. Research will prepare participants to combat the current emphasis upon inflexible academics, high-stake testing and the abandonment of recess at our country's schools. Dana Keyburn with Redeemer Lutheran School will share the history of Dr. Joe Frost UT/Redeemer Lutheran School's longest-running study of playgrounds and their impact upon children's physical, cognitive and social growth. At the conclusion of the presentation, a review of the funding, curricula and maintenance resources available to schools that wish to initiate a similar program will be discussed.

**Danna Keyburn, Redeemer Lutheran School**

***Activities to teach about pollination in the classroom and beyond*** - In response to the recent decline in pollinator populations, Texas A&M Argilife Extension Service created activities to teach kids and adults about pollination, cross-pollination and how honeybees communicate. These activities are used in tandem with information on why pollinators are important to our ecosystem and how to help pollinators (and other insects) found in their backyard. The session will provide participants with three hands-on activities that can introduce pollinators to people.

**Wizzie Brown, Texas A&M AgriLife Extension Service**

***Celebrate Earth Day!*** - Earth Day Fiesta is a big deal at Martin Elementary School! Come learn, explore, and take away ideas on how your school can celebrate Earth Day in a fun, engaging way. Teachers will make and take examples of our activities. . Attendees will leave the session with a clear framework on how their organization can plan and execute an Earth Day celebration using recycled materials. As environmental educators, Earth Day gives us a student audience completely focused on the environment. We should use it to celebrate our Earth and to encourage our students to be good stewards of the environment.

**Rubi deHoyos, Mandy Ferrell; Jim G. Martin Elementary**

***On the Wing with Kids*** - Studies show kids who spend time in nature are healthier, happier, and smarter, with some doctors even prescribing time outdoors. Come and explore birds as the perfect way to engage and connect kids with nature and the outdoors and to get their brains and bodies moving. The first half of the session will take place indoors with attendees exploring a toolbox of activities and teaching tips as well as a chance to put these into practice for themselves. The session culminates in a friendly competition on our migration obstacle course.

**Niki Lake, Mitchell Lake Audubon Center**

***Loose Parts in Nature Play*** – Looking for an inexpensive play-based way to bring children and families into nature? Consider loose parts nature play. This activity is a fabulous introduction into Nature for “uninitiated” families, as well as confidence building unstructured play for your adventurous families. Learn the research behind why Loose Parts Nature Play is beneficial, different ways to involve guests in Loose Parts Nature Play, tips for facilitation, as well as a guide to getting started. You will also be given a chance to participate in Loose Parts Nature Play with materials brought in by the presenter.

**Jennifer Chapman; City of Austin Parks, Austin Nature & Science Center**

***STEM and Sustainability: Cultivate Eco-Literacy with STEM-Based Activities*** - Re-imagine the school building and grounds, not as a container for education, but as a learning tool and laboratory for applied STEM education! In this interactive workshop, educators will experience easy-to-implement lessons that engage students in local sustainability challenges and empower them to take action. Educators will be given free access to a number of lessons that they can begin using with their students right away. Lessons will include a hands-on introduction to sustainability, a data collection activity to calculate flow rates from a leaky faucet, and a waste eco-audit.

**Sarayu Adeni; Ecorise**