
2010 E.A.R.T.H Workshop “Green Up Your Classroom” ~ Keynote Speaker ~ Tuesday June 22nd

**Elaine Lipman Barnes, AAPT, LEED® Accredited Professional
Green Schools Program Manager, Ohio School Facilities Commission**

As Green Schools Program Manager, Elaine currently fosters the development of one of the largest efforts in sustainable design in the country. On September 24th, 2007 The OSFC responded to Governor Ted Stickland's call for all state agencies to reduce the energy footprint of their facilities by 30% with their Green Schools Initiative. The goal of the program is to design and build all new schools such that they can achieve a rating of LEED-Silver and to align designed energy performance with Architecture 2030. OSFC currently has over 235 projects undergoing certification. The first school to achieve LEED Silver certification with the USGBC was Pleasant Ridge Elementary, in the Cincinnati School District.

Prior to joining OSFC early in 2008, Elaine had over a decade of professional experience in energy policy and building science. In 2001, the U.S. Department of Energy Awarded Elaine as the Champion for K-12 Schools for her work in the DOE's Rebuild America Program's EnergySmart Schools Initiative. Elaine uses her skills as a scientist, educator and leader to develop enable school design teams to improve the way we build schools for Ohio's kids. Known for her passion and personal approach to projects, Elaine is an engaging leader who enables people to work together to their full potential.

Elaine is both a LEED Accredited Professional and a Certified Usui Reiki Master/Teacher. She is also a member of the American Association of Physics Teachers. In 2009, Elaine founded a community driven wellness initiative, Three: Center for Mind Body & Earth, to empower individuals to learn how to care for themselves and their living space. Three has been developed to be a replicable effort to support individual wellness, healing and growth.

Elaine plans to leave state service at an appropriate time to pursue work in community dialogue and action to create localized health, wellness and prosperity. In addition to this work, Elaine is developing a community herb garden at her home in the historic Victorian Village area of Columbus.

2010 E.A.R.T.H Workshop “Green Up Your Classroom” ~ Session and Field Trip Descriptions ~ Tuesday June 22nd

Sessions 9:00-10:30

Acres of Adventures ~ Session A ~ PreK-5th:

Join Dr. Bob Horton for a hands-on look at an exciting 4-H curriculum entitled Acres of Adventure. This uniquely focused program is packed with over 80 science-based activities for use with child-care providers. Come and experience the difference this curriculum can make in cultivating an interest among youth in science and agriculture.

Presenter: Bob Horton, Ohio State University Extension, Acres of Adventure Creator and Co-author

Get Energized! ~ Session B ~ 6th-12th: Get new ideas on how to teach energy concepts about the sources and forms of the energy in the world around us. Participants will take home activities and ideas to add energy to their lessons.

Presenter: Gloria Gajewicz ~ High School Teacher, Bowling Green

Rain Barrels and School Gardens ~ Session C ~ K-12th: Its mathematics and science outside the classroom! By installing rain barrels at your school, you can teach students to calculate surface area and volume in an applicable situation. Rain barrels are also great teaching tools to introduce the water cycle, weather, precipitation patterns, watersheds, and water pollution reduction. Come learn what rain barrels are, how your school benefits from them, and do lots of educational activities to go along with using rain barrels at school. It's the Incredible Journey of a water drop on your school yard.

Presenter: Dona Rhea, Delaware SWCD

School Gardens ~ Learn the nuts & bolts to making it happen! How to plan, plant, grow, maintain and harvest the garden will be covered as well as tips and ideas for getting the community involved.

Presenter: David Kraft, Tiffin St. Joseph Campus

Sessions 10:45-12:15

Growing Carrots and Composting ~ Session A ~ PreK-5th: What do Ohio farmers grow? Learn about a commodity that's not usually on a list of the top ten Ohio crops! *Crop Connectors: Growing Carrots in Ohio* is an educational kit matched to fourth grade standards in science and social studies. It includes a short video, with five non sequential lessons emphasizing the life cycle of carrots, harvest and delivery to Campbell's Soup Company. Nutrition, consumer skills and Ohio geography are also covered. Order forms will be available to purchase kits at \$20.00 each.

Presenter: Judy Roush ~ Education Specialist, Ohio Farm Bureau Federation

Mastering the Art of Bench Composting - Get the dirt on composting and learn how to bring it alive in the classroom with a bench composter. Composting is a wonderful tool for teaching the life sciences at all levels. From chemistry to zoology, it's all there in one big, steamy pile. Bon appetit!

Presenter: John Makley, Kingwood Center

Benefits of Trees ~ Session B ~ 6th-12th: Hands-on and classroom-ready activities will help you learn & teach some uses and benefits of trees. Traditionally, you've heard about some of the benefits of a 'conventional forest'. In addition to those we will focus on some of the social benefits that extend beyond the rural forest into the schoolyard or city streetscape. This session will also introduce Project Learning Tree through example activities. Plan to be outside.

Presenter: Joe Puperi ~ Service Forester, ODNR Division of Forestry

Conserving Electricity ~ Session C ~ K-12th: It is hard to see how much electricity we use, therefore hard to use less. However, this session will present some ways that kids can see and feel how much electricity is being used, thus laying the foundation for conservation. You'll also hear about how power plants are greening up, current demand vs. future supply and have the opportunity to ask questions! There is more to this than turning the lights off when you leave a room!

Presenter: Scott Carbary, Energy Advisor, North Central Elec. Co-Op

Field Trips 1:45-5:00

Litter Landing and Landfill:

Come join us at the Hancock County Litter Landing Recycling Center and Landfill. Learn all about the behind the scene happenings at both facilities. Hancock County Solid Waste Management District has access to many specific curriculums relating to social studies, math, science and economics, which will be shared to utilize in the classroom.

POET Ethanol: Tour the POET Biorefining Plant in Fostoria. This state-of-the art ethanol production facility will consume 22 million bushels of locally-grown corn to produce 72 million gallons of ethanol annually. Tours will start with the corn being unloaded and conclude with the finished product of 200 proof alcohol. Opened in Sept of 2008, this facility will share their story of making ethanol, livestock feed and positive local economic impacts with you during the visit.

B.G Wind Turbines and Green Line, Green Bean Processing Plant: At the Mega Wind Turbine site we'll stop to see the 250' tall turbines generating power for American Municipal Power – Ohio. Hear about the structure, economics, construction & power generation of these turbines built in 2004. Info about current wind farms in Ohio will be shared too!

Green Line, farms thousands of acres, processes hundreds of thousands of bushels, and markets millions of pounds of fresh trimmed green beans each year. They are the only vertically integrated fresh trimmed green bean producer in North America. They control everything from planting their hybrid seeds to on-time delivery to wholesalers and distributors across the country.

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Field Trips 9:30-12:15

Growing Up Wild: *Exploring Nature with Young Children* is Project WILD's early childhood education activity guide. It builds on the learning styles and interests of young children to foster an interest and appreciation of wildlife and the natural world around them. A variety of activities build positive impressions of nature while aiding children's cognitive growth and development. The curriculum is written for early childhood educators who work with children ages 3 to 7, contains 27 hands-on field-tested activities that focus on wildlife and nature, blends social, emotional, physical, language, and cognitive domains to help foster learning. Join us in trying out these great hands on activities! The guide will be included with the additional \$12.00 registration fee.

Presenters: Michelle Mattix, Marion SWCD and Diane Sand, Crawford SWCD

Wyandot Solar Fields:

Wyandot Solar is a 12 MW solar generation facility located on an 85 acre property. It is the largest solar facility in Midwest and one of the largest in the country. Wyandot Solar has a number of benefits including: revenue generation for the local community, a compensation agreement with the school system, a renewable energy curriculum prepared for local schools, and small solar generation systems installed at local high schools. The project will offset ~14,500 tons/year of greenhouse gas, and will strengthen the local power grid. The plant is scheduled for completion in the late summer of 2010.

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Sessions 1:00-2:30

Chick Quest ~ Session A ~ PreK-5th:

ChickQuest a classroom journey through the life cycle of chickens Teaching life-cycles in your elementary classroom? Take an all-time favorite science activity to new heights. Eighteen classroom activities provide standards-based, high-interest inquiry science, data collection, and engineering challenges, all while waiting for chicks to hatch. Learn to use the *Teacher Guide* and the *Student Logbook* to pique student curiosity, encourage collaboration, and provide young scientists with unforgettable STEM experiences. New student videos just developed in 2010.

Presenters: Carol Warkentien and Jeanne Gogolski, Education Designers for 4-H Youth Development, Ohio Soybean Council and Ohio Poultry Association

Biodiversity ~ Session B ~ 6th-12th: Nature is the original classroom, and biodiversity is an excellent topic to bring students back to nature. In this all hands-on session, participants will experiment with many of the common methods to examine biodiversity in the field. Additional resources and extensions will also be provided.

Presenter: Jon Darko, High School Biology Teacher, Seneca East

School Science Clubs and Timber Tools ~ Session C ~ K-12th: Learn what the Science department at Wynford High School is trying to do to make science exciting during instruction and applicable out of the classroom. This session will focus on; attempts made to get students involved with science related activities outside of the classroom, how to involve students in serving the community, allowing students opportunities for field trips and workshops, providing students opportunities in contests, fund raising and finding unique ways of rewarding students for their efforts. The presenter will be glad to answer any questions during the session and encourage a “round table” dialog with all in attendance at the workshop.

Presenter: Lee Rowlinson ~ High School Science Teacher, Wynford Schools

Then you will get an opportunity to learn how to use a tree scale stick, which will be a benefit while preparing your students for forestry and other environmental contests. Each participant in this session will receive a free tree scale stick.

Presenter: Don Fishpaw, Crawford SWCD

Sessions 2:45-4:15

Geology ~ Session A ~ PreK-5th:

Join Bob as he shares some basic information about rocks, minerals, the rock cycle and some interesting facts concerning Ohio’s geology. Bob will have several handouts and a few materials for you to look at also.

Presenter: Bob Connour, Owen’s College

Green Cars ~ Session B ~ 6th-12th: Travel to the Findlay dealership to view the latest in the Ford Motor Company's hybrid technology. On display will be some of Ford's latest green vehicles. Also learn about some of the green things Ford is doing as a company and plans for the future. This session will showcase the latest in technology from knowledgeable staff. Bring your questions; it will be more like a mini field trip.

Presenter: Doug Cole & Ian Griffin, service director Reineke Family Dealerships & field service engineer

Organic Farming ~ Session C ~ K-12th: What does it mean to You, Farmers and the Environment? Learn what the USDA Certified Organic seal really means, what the farming practices are behind it and about the food it produces. We will do some hands on evaluation of soils from conventional and organic research plots and taste testing of organic foods.

Presenter: Deb Stinner, PhD, Research Scientist, Organic Food and Farming Education and Research Program at OSU