

In this issue: Apply for a PLT GreenWorks! grant, learn about PLT summer programs for educators, and join a new series of PLT GreenSchools! webinars. Read about the five 2013 National PLT Outstanding Educators, plus middle school students in California and high school students in Washington, D.C. who are making a difference in their communities.

FEATURE ARTICLE



2013 National Project Learning Tree Outstanding Educators

By Vanessa Bullwinkle

These five outstanding educators show how integrating PLT and EE across the curriculum engages students in learning science and other core subjects, and inspires them to make a difference in their communities.

Page 3

News & Updates



Apply for a PLT GreenWorks! Grant

By Jaclyn Stallard

Do you have an idea for a school or community garden, a forest improvement project, a streamside restoration plan, a recycling program, or an energy conservation project? Need funds to implement it? Apply for a PLT GreenWorks! grant today!

Page 4

PLT Summer Programs for Educators

By Vanessa Bullwinkle

Interested in touring your state's forests and wood product mills? Want to learn more about sustainable forestry and how to connect what you learn in the field to the classroom? This summer, immerse yourself in a multi-day teachers' tour that includes training in curriculum materials with links to all the current academic standards.

Page 5

On the Ground



Garbology 101

By Kathleen Weber

Thanks to students and a PLT GreenWorks! grant, in just one year St. Michael School in California reduced its garbage bill by \$1,200 and is diverting 40% of its waste from the landfill to composting and recycling centers.

Page 8



High School Students Apply Their Skills to Real-World Green Projects with Real Results

By Kathy Westra

A STEM-focused curriculum fosters student-led green innovation at McKinley Tech, a public high school in Washington, D.C., that last year won a coveted designation as a U.S. Department of Education “Blue Ribbon School.”

Page 10

Educator Tips



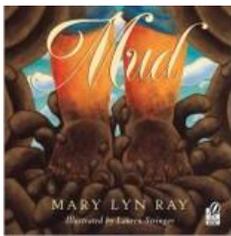
ELM: Environmental Learning Multiplied, in Denver

By Mary Heuwinkel

In universities across the country, college students training to become teachers are introduced to PLT as part of their methods courses. An education professor in Denver shares the lessons she learned after 20 of her preservice teachers practiced their teaching with elementary students using PLT activities in a nearby park.

Page 12

Tools



Literature Connection - MUD!

By Jaclyn Stallard

This children’s book offers an ode to muddy feet, brown earth, and new grass... perfect for exploring the wonders spring brings! Learn more about this resource and its PLT activity parings.

Page 15



EE Resources - Spring 2013

By Jaclyn Stallard

Apply to receive a GreenWorks! grant from Project Learning Tree and learn about other environmental education opportunities, resources, tools, grants, contests, conferences, webinars, and more!

Page 16

New Series of PLT GreenSchools! Webinars

By Vanessa Bullwinkle

PLT is proud to be a part of the U.S. Department of Education 2013 Green Strides Webinar Series to help schools reduce their environmental impact and costs; improve health and wellness; and teach effective environmental education.

The first PLT webinar is April 10.

Page 17



2013 National Project Learning Tree Outstanding Educators

By Vanessa Bullwinkle

Five educators who use environmental education as a tool to improve student learning and foster environmental stewardship were named the 2013 National Project Learning Tree Outstanding Educators. Since 1994, PLT's Outstanding Educators have been honored for their commitment to environmental education, their exemplary use of PLT, and their exceptional teaching skills.

The 2013 National PLT Outstanding Educators and their home states are -



- **Connecticut:** Lynn Kochiss, Grade 3 Teacher, Woodside Elementary School, Cromwell
- **Maine:** Cameron Kay Sutton, Grades 7-8 Science Teacher, Auburn Middle School, Auburn
- **Michigan:** Maureen Stine, Conservation Educator, U.S. Department of Agriculture Natural Resources Conservation Service, Onaway
- **Ohio:** Cheri Goggin, Grades 9-12 Physical and Environmental Science Teacher,

Berkshire Junior/Senior High School, Burton

- **Virginia:** Allison Hall Kiesler, a lifetime environmental educator in school and community settings in Richmond.

They will be honored at a special luncheon on April 30 during PLT's 27th International Coordinators' Conference that will be held this year in Point Clear, Alabama. They are also invited to attend the World Forestry Center's International Educators' Institute, July 7-13, in Portland, Oregon.

In nominating the 2013 PLT Outstanding Educators, their colleagues pointed to their commitment, creativity, and energy in working with students of all ages and abilities. Their diverse experiences illustrate how PLT can be used effectively with all age groups (both in the classroom or outdoors) and across the curriculum, especially in STEM subjects (science, technology, engineering, and math.)

When students asked questions about recycling, **Lynn Kochiss** helped them create and organize an after-school environmental club that is an active part of their Connecticut community. Similarly, **Cheri Goggin** empowered her high school students in Ohio to write grant proposals to fund school service-learning projects, and **Cameron Sutton** provides students in Maine with meaningful and relevant outdoor learning experiences. **Maureen Stine** is known throughout northern Michigan for connecting many different educational programs and opportunities to benefit children of all ages, as was **Allison Kiesler** in the Richmond, VA, area who provided access to green areas and outdoor experiences in an urban setting.

"Schools must prepare our next generation with the skills necessary to address complex environmental issues," said Kathy McGlaflin, Director of Project Learning Tree. "These five outstanding educators show how integrating environmental education and PLT across the curriculum engages students in learning science

and all core subjects, and inspires them to make a difference in their communities.”

Read more about each of the five [2013 National PLT Outstanding Educators](#), and check out the [Honorees](#) (from Arkansas, California, Washington, DC, Florida, Georgia, Mississippi, Nevada and Wyoming), who were selected as their state’s 2012 PLT outstanding educators.

News & Updates

Apply for a PLT GreenWorks! Grant

By Jaclyn Stallard

Project Learning Tree has [GreenWorks! grants](#) of up to \$3,000 available to schools and youth organizations for environmental service-learning projects. The application form is now online; the deadline to apply is September 30, 2013.



PLT’s GreenWorks! program is open to any PLT-trained educator in all 50 states and the District of Columbia. The grants help students actively improve their local environments, which include both their schools and their communities. Possible project ideas might include implementing recycling programs, conserving water and energy, improving air quality, or establishing school gardens and outdoor classrooms and integrating these projects into the curriculum. PLT also provides grants for youth to plant trees, conserve forests, restore habitats, improve streams, construct nature trails, and more.

PLT GreenWorks! projects combine academics with service projects using the service-learning model. In this way, students “learn by doing” through an action project they both design and implement to improve an aspect of their school or community’s environment. The projects encourage students to partner with school decision-makers, local businesses, and community

organizations to provide opportunities for student leadership.

Teachers and students can visit www.greenworks.org to download an application and apply today. Successful applicants can expect grant funds to be awarded in December 2013; all projects must be completed by December 2014.

To help guide students in recommending an action project they would like to implement at their school, PLT’s GreenSchools! investigations provide tools and resources for students to investigate their school site, energy use, water, waste and recycling practices, and design an action project to create a more sustainable learning environment. To access these materials, available for free online, visit www.greenschools.org.

Since 1992, PLT has helped fund more than 1,000 environmental service-learning projects across the country. If you missed it, check out the slide show in the [Winter 2013 issue](#) of *The Branch* - a celebration of 20 years of students taking action to improve their environment.

Application Requirements

To qualify for a grant up to \$1,000, applicants must meet the following requirements:

1. Applicant must have attended a PLT workshop
2. The proposed project must involve service-learning
3. The proposed project must exemplify student voice
4. The proposed project must involve at least one community partner
5. The proposed project must secure at least 50% matching funds (in-kind acceptable)

To qualify for a grant up to \$3,000, in addition to the above grant requirements, applicants must meet the following criteria:

1. Applicant must be a teacher at a school (public or private)
2. Applicant must be registered on the PLT GreenSchools! website, www.greenschools.org. (It's free!)
3. Applicant must have established a student Green Team
4. Applicant must have completed one or more of the PLT GreenSchools! Investigations
5. The proposed project must be based on the findings of one or more of the PLT GreenSchools! Investigations

Get Started Today

Download PLT's 2013 [GreenWorks! grant application](#) and involve your students in making their schools and communities better places to live and learn. Don't forget, **applications are due September 30!**

PLT Summer Programs for Educators

By Vanessa Bullwinkle



Every summer, around the country, PLT state programs offer educators the opportunity to tour their state's forests and learn about forest management practices from a balanced perspective. These multi-day teachers' tours and week-long forestry institutes immerse educators in the social, economic, and ecological aspects of sustainable forestry.

"This is not your typical classroom workshop," stresses Rob Beadel, Arkansas PLT Coordinator with the Arkansas Forestry Association Education Foundation. "Our days are long and packed full of field activities keeping the participants engaged throughout the week."



Participants receive continuing education credits, lesson plans and resource materials to use in their classroom, along with environmental education training on how to use the environment and forests to teach curriculum standards across many subject areas, including science, social studies, language arts, and math.

Many of these tours are **free** (including all meals, transportation and lodging) thanks to the various sponsors in each state who cover the costs. Some states charge a nominal fee, around \$100. Participation is limited, usually between 25 to 35 participants and staff.

Applications are currently being accepted for PLT programs this summer. To find a tour in your state, check PLT's Professional Development Calendar. Choose [Teachers' Tour / Forestry Institute](#) from the drop down menu, and select the summer months of June, July and August.

A Balanced Approach

Spend a few days this summer touring the forests of your state, examining forest practices and the forest industry. Learn about the impact forests have on your state's environment, economy, and quality of life. The goal of these tours is to provide K-12 teachers with knowledge, skills, and tools to effectively teach their students about

forest ecology and forest resource management practices. They provide balanced, science-based education vital to the understanding of how decisions are made about management of forests and the natural resources upon which we depend.



The programs bring together natural resource specialists and teachers from rural and urban settings, working side by side over the course of several days to gain a deeper understanding of the intricate interrelationship of forest ecosystems and people’s use of natural resources. During a tour, you’ll engage in discussions on the varying perspectives regarding forestry issues with forest industry professionals, environmentalists, and members of local communities. You’ll be introduced to a variety of exemplary lessons and activities that foster conceptual learning, critical thinking and decision-making skills in your classroom.

What Educators Can Expect

The focus of these teachers’ tours is on the environmental, social, and economic benefits provided by the forests in your state. Several state PLT programs offer two one-week tours in different parts of the state. For example North Carolina has a “coastal” and a “mountain” forest tour; Tennessee offers one in the eastern part of the state and one in the west; Mississippi (celebrating their 50th anniversary this year) hosts one in the north and one in the south. Alabama typically provides one tour for high school educators and one for elementary teachers. One premiere program--the World Forestry Center’s International Educators Institute based in Portland, Oregon--provides opportunities

to meet and hear from world-wide participants and think about things on a more global level.

Whichever program you participate in, there’s a lot of time spent in the woods, meeting and learning from natural resource professionals in the field and seeing first-hand the work they conduct on a daily basis. For example,

- You’ll tour forest product manufacturing facilities, view wildlife conservation efforts, and harvesting and replanting operations.
- You’ll interact with foresters, biologists, loggers, technology specialists, and mill workers who care for forests and make products you use every day.
- You may see firefighters suit up in protective gear and watch a firefighting or prescribed burn demonstration.
- You’ll explore differing points of view on a range of forest issues—from water, to wildlife, recreation, biological diversity, habitat protection, fire ecology, and green buildings.



“I went on a Teachers’ Tour last year and it was a brilliant combination of learning, working, having fun, and meeting colleagues. We went deep into the woods to meet with loggers, forestry scientists, conservationists, energy specialists and pulp mill operators,” said one educator from Maine.



"One of the many new learnings for me as we toured these forested roads was how much attention is being paid to the importance of creating culverts under the logging roads that will allow the passage of salmon, brook trout and other water dwellers," said Cathy Wolinsky who attended a Forests of Maine Teachers' Tour last year. "Some of the culverts are taller than a person and cost over \$20,000 to build. The engineers talked about the efforts being made to develop designs and materials that will make culverts easier to build and more affordable. As teachers we started talking about how we could use this real issue as a design challenge in the classroom setting."

Presenters and staff include science and environmental education curriculum specialists.

- You'll receive extensive classroom and curriculum materials that are correlated with state academic subject area standards, and curriculum frameworks.
- You'll receive training in PLT's activity-based multi-disciplinary environmental education curriculum designed to teach critical and creative thinking.
- You'll have plenty of opportunity for networking and grade-level appropriate discussions on how to transfer what you learn back to the classroom.
- You'll leave with abundant information and resources to explore sustainable forestry and related careers with your students.

Both formal and non-formal educators may apply for a tour, although preference is sometimes given

to full-time classroom teachers. In most cases, teachers can earn continuing education credits, college credits, or professional development credits from your school district.

What Educators Are Saying

"One of the most enjoyable workshops I have ever attended and one of the most educational. I will use what I have learned and my students will benefit!" - Loretta Hargroder, Louisiana teacher

"The Teachers' Tour was outstanding. The outdoor experiences, guest speakers, lodging, meals, every aspect was more than I expected. The woods industry, culture, people and personal experiences will all be carried back into the classrooms in many different ways. Thank you again for a top notch experience and all the resources. All professional development should be as well designed as these tours." - Maine educator



"I feel FIT [California's Forestry Institute for Teachers] is a wonderful program. I can tell that a lot of time, thought and consideration has gone into how the program is structured. My knowledge and understanding of issues surrounding our forests has increased dramatically. I appreciated hearing from people in the field (loggers, forest service, researchers, environmentalists, park service, foresters, industry people, etc.) I feel better prepared to share what I know and to bring forestry to my students." - California educator

"The visits into the woods and mills were a wonderful experience that gave me a whole new

perspective on forestry, and the dedication to stewardship by those working in and managing the forests.” - Martha Borden, Maine middle school teacher

Preparing the Decision-Makers of Tomorrow



Using a forest ecosystem theme, you can help your students learn essential concepts and practice critical-thinking skills, for example by exploring the complex issues involved in managing the natural resources found in public and private forests while meeting consumer demands for forest products.

Many ideas for hands-on learning experiences and action-oriented student and class projects are discussed during a teachers’ tour. Some tours even allow time for educators to develop their own forest-related classroom curriculum project.

America’s forests face a daunting array of threats that will require a new generation of leaders with top science, technology, engineering and mathematics (STEM) skills—and an awareness and appreciation for the natural world. From curriculum materials, to professional development, to service-learning opportunities, PLT is helping educators prepare our next generation with the skills necessary to address complex environmental issues.

Consider joining PLT this summer on a rewarding multi-day professional development opportunity that’s outdoors and hands-on. Be prepared to

commit to an intense week of learning, hard work, and fun! You won’t regret it. Educators who’ve been on one of these tours often describe it as an enriching “once-in-a-lifetime” experience.

On the Ground

Garbology 101

By Kathleen Weber



When we formed an environmental club at St. Michael School in Livermore, CA, one of the first things students wanted to address was the issue of waste on our campus. We received a PLT GreenWorks! grant, and students in grades 6 to 8 who form the school’s Earth Team implemented a “4R” program focused on reducing consumption, reusing products, recycling, and rotting.

We have been amazed with the success of our project. In just one year, we have reduced our trash removal costs by \$1,200 and we are diverting approximately 40% of our waste from the landfill to composting and recycling centers. Students are working together to teach each other, their teachers, their parents, and community members about the importance of waste reduction, recycling and composting. The project has empowered students through leadership activities and given them a voice on campus.

Making a Difference

The Earth Team, which was a new team when we wrote our grant proposal, has flourished and grown in the past 18 months. The direction of the team's efforts has been driven by the students. We started out addressing recycling, and as the students became more aware, the project has developed and grown.

To start, Earth Team students conducted a waste audit and established a plan to recycle cans, bottles, Capri Sun containers, candy wrappers, mixed-use paper, and other packaging materials. The team then tackled reducing the use of consumables on the school campus, reusing items, and composting yard clippings and food scraps.

The team kicked off our project with a school-wide assembly facilitated by Livermore Sanitation, our local waste collection company. During the assembly all students learned the basics of waste reduction.



The Earth Team set up waste collection bins in classrooms and around campus for proper sorting of waste. They decided that the bins should be color coordinated with the dumpsters to reduce confusion. They made posters to attach to the dumpsters, collection bins, and to post around the school. They also arranged for Spanish posters and fliers to engage our Hispanic community in the project.

Students organized teams of students to empty containers and to monitor and re-sort trash as needed. Reports were made at our weekly whole-school assembly about our progress and included tips on how to better sort the trash, and tips that students could take home and share with their families.

Throughout the school year as they implemented each step of their plan, the Earth Team decided when and how to educate the students, teachers, and staff at the school.

Teachers in each classroom, from kindergarten to 6th grade, conducted lessons on environmental topics, including PLT activities such as “Renewable or Not”, “The Forest of S.T. Shrew”, “Life on the Edge”, and “Pollution Search”. Community members were also brought in for various workshops. Students participated in many hands-on activities, for example, they tracked their trash for a week, conducted scientific experiments to get rid of trash (crush, burn, bury, tear, dissolve), and created a DVD skit about a family recycling. This comprehensive approach across the whole school has enhanced student learning in many ways.

Tips for Success

Our advice to anyone wishing to take on a similar project is to find out who your Public Education/Community Relations Manager is at your waste collection company. Sheila Fagliano at Livermore Sanitation has been invaluable to us and has guided us along the way. She is just an email or phone call away when we need advice, assistance, or moral support.

Involve parents and as many community members as possible. PG&E (our local gas and electric company), Zone 7 (our water district), Waste Management, and EEK (Environmental Education for Kids) are just a few of the many groups that have provided us with free educational materials and workshops. Other community organizations that use our campus now follow the students lead. For example, a community group that used to

place cooking oil in the dumpster now takes it to a facility to be processed into biofuel.

When the first wind storm blew our bins all over campus, we came up with a plan to build waste stations on wheels. These stations prevent the bins from being blown around and the wheels make it easy to move them around campus to be emptied and to be used at events held on campus by the school, the parish, and the community. The Girl Scouts took on some of the cost and all of the labor involved in painting our waste stations that show different habitats.



Our Parent Teacher Group is very supportive and helped organize a “rummage sale” as part of the reuse component of our project. It included a craft station where kids made art projects out of things that would have ended up in the landfill

Get the backing of your Principal. When the Principal publicly announced his support at a staff meeting, all the teachers in the school became committed to the project. The school administration has moved newsletters, event calendars, and even parent and student handbooks online rather than send home paper copies each week.

It is also important to ask your custodial staff to participate and educate them about your project and its goals. Be sure that your project doesn’t make their job more difficult. We did our homework and made a proposal to the site director. He is now thrilled that we have reduced the school’s garbage bill by \$1,200.

Make the most of enthusiasm. A month into our project, a group of students working lunch came

to an Earth Team member and said, “Shouldn’t we be composting the food scraps?” We hadn’t planned on implementing the 4Rs all at once, but since the interest and enthusiasm was there, we started collecting food scraps and other compostable items without delay.

Finally, start with people who care about the environment and want to make a difference. Empower those students to be stewards of the Earth, and encourage them to teach others. Just a few months into the project during a community event in our hall, one Earth Team member was appalled when the kitchen staff put all the trash into the closest dumpster. She politely explained how the whole process worked, and suggested the Earth Team put laminated strips on the tops of dumpsters, for example, “food scraps”, “no metal”, “cardboard”, etc. The students also put laminated posters in the kitchen with guidelines on how to properly sort waste.

Kathleen Weber is a 6th-grade teacher at St. Michael School in Livermore, CA. She was trained in PLT in 2006.

High School Students Apply Their Skills to Real-World Green Projects with Real Results

By Kathy Westra

“No Excuses, Just Solutions!” is the motto of [McKinley Technology High School](#) in Washington, D.C., the highly competitive science, technology, engineering, and math (STEM) hub school of the D.C. Public School System. Admission to McKinley Tech is by application, and each year an average of 700 applicants compete for the chance to be selected for one of 200 openings in the school, which aspires “to become the highest performing high school in the nation.”

Last year, 90% of the school’s students were minority students, and 90% were rated proficient or advanced in math and literacy. This, combined with the school’s STEM-focused academic curriculum and commitment to innovative

solutions, earned McKinley Tech a coveted designation as a U.S. Department of Education “[Blue Ribbon School](#).”

Student Innovations Address Real-World Environmental Challenges

The solutions-oriented culture of the school provides an ideal setting to address environmental challenges using [PLT’s GreenSchools! Investigations](#). From gardens, to biotechnology, to business development, the school’s Green Team has fostered the seeds of innovation at the school.



When McKinley Tech, built in 1912, underwent a complete renovation between 2002 and 2004, a large greenhouse was added to the updated school. There was just one problem: the greenhouse was unusable during much of the year because of Washington’s notoriously hot weather, which can begin in late spring and last into early autumn. The hot sun, focused through the greenhouse’s glass, spelled certain death for the plants inside, so the greenhouse remained unused until 2010.

Thanks to the vision of former teacher and Green Team leader Dr. Joseph Isaac, five creative Green Team members who wanted to be able to use the greenhouse, and a parent who worked for the U.S. Department of Energy (DOE), McKinley Tech

applied for and received a \$60,000 grant from DOE to install a temperature control system in the structure, which is located on one of the school’s upper floors just outside the plant biotechnology classroom.

A PLT GreenSchools! service-learning grant provided the funding needed for senior engineering students at McKinley Tech to design a remote watering and misting system for the greenhouse so that plants could be watered on weekends and during school vacations. The school’s Information Technology students programmed and connected the system.

Sharing the Fruits of their Labor to Help Green Other Schools

Students use the climate-controlled greenhouse both as a laboratory for biotechnology experiments, and as a place to raise seedlings to supply a growing number of PLT GreenSchools! gardens sprouting in schoolyards across Washington, D.C.



In 2011, [with the help of chef and Certified Master Gardener Mark Haskell](#), McKinley Tech students grew 12,000 vegetable seedlings to supply gardens at three other PLT GreenSchools! in Washington: [Stokes](#) and [Barnard](#) Elementary Schools and [Paul Public Charter School](#), a middle school serving students in grades 6 through 9. Each school has thriving outdoor gardens that not only supply healthy, pesticide-free produce for students and

their families, but also provide abundant learning opportunities.

Students studying the business models used to develop new biotechnology products for the marketplace have used the McKinley Tech greenhouse to grow experimental plants. “They’ve taken lab skills that they have learned, and applied them to real-world projects,” said Dr. Isaac.

PLT GreenSchools! Investigations Stimulate Student-Led Green Initiatives

McKinley Tech students have used PLT’s GreenSchools! program to conduct investigations of their school’s campus, water, and energy use. For example, students used their findings from PLT’s [Energy Investigation](#) to devise experiments comparing plant growth using different types and levels of indoor lighting with that of plants grown in natural light, and to compare growth of plants in the school’s indoor and outdoor gardens. PLT’s [School Site Investigation](#) led to a student-devised plan to plant trees and other vegetation to make McKinley Tech’s urban campus greener.

In all that they do, the students at McKinley Tech are committed to finding innovative solutions to address real-world challenges—and their skill sets and STEM literacy will pay off in the future for job opportunities and choice of careers. No wonder this urban public school, a Title 1 Magnet school, continues to be recognized on the national stage for its use of STEM and hands-on, project-based approaches to learning to lower the achievement gap between low-income and high-income students.

Photos courtesy of Kathy Westra.

[Kathy Westra](#) is a writer and environmental communications consultant based in suburban Washington, D.C.

Educator Tips

ELM: Environmental Learning Multiplied, in Denver

By Mary Heuwinkle



Multiplication often results in ending up with more than you had at the start. That’s what happened with Environmental Learning Multiplied, or ELM, a program that took place at Sloan’s Lake Park in Denver on October 19 and 22, 2012.

ELM is a collaboration of Colfax Elementary School, Denver Parks and Recreation, Colorado PLT, the Colorado State Forest Service, and the education department at Metropolitan State University (MSU) of Denver, where I am an education professor. About 20 preservice teachers in MSU Denver science methods classes who attended a PLT workshop in September 2012 had the opportunity to plan and deliver PLT activities at Sloan’s Lake Park a month later. Fourth and fifth graders from Colfax Elementary walked to the park, only two blocks from their school, on a Friday afternoon; second and third graders participated the following Monday.

Here's how the benefits multiplied:



- MSU Denver preservice teachers planned and delivered hands-on science lessons to children;
- Colfax Elementary students, many of whom are English language learners (ELL), learned about ecosystems and became more familiar with a neighborhood green space;
- Colfax Elementary teachers were able to a) observe how their students behaved and learned in an outdoor environment, and b) to see how Project Learning Tree activities engaged the students with hands-on science activities involving collaboration, critical thinking, observing, and investigating.
- Denver Parks and Recreation fulfilled their objective to promote local parks to the community for recreation and education;
- Colorado PLT discovered how well the program worked and plans to repeat and possibly expand it in the future.

Adapting a Good Idea from Texas

Colorado PLT Coordinator Shawna Crocker brought back the idea for “multiplying” the learning from the 2012 PLT International Coordinators’ Conference. She attended a presentation by Cheryl Boyette, Texas PLT Steering Committee, John Boyette, Texas Forest Service and PLT Co-Coordinator, and Alan Sowards, Stephen F. Austin State University, about a program in which preservice students plan and conduct PLT lessons at the university arboretum during an annual Bugs, Bees, Butterflies and Blossoms festival. ([Learn more about the Texas program.](#))

In our case, we took advantage of MSU Denver’s existing relationship with Colfax Elementary through our Center for Urban Education, as well as the close proximity of Sloane’s Lake Park to the school.

In fall 2012, MSU Denver offered five sections of methods classes—three undergraduate, one master’s, and one in early childhood—as one of the last courses taken before student teaching begins. One of the course requirements is to teach a science and a math lesson in the field, observed by a methods professor.



Finding time to teach a science lesson in the field experience classroom can be challenging, given the amount of time devoted to literacy and math in the elementary curriculum. But PLT activities are a great way to incorporate teaching science with math and language arts. Thus, ELM provided a way for MSU students to fulfill a class

assignment, and the opportunity to partner with a local elementary school and engage students in learning outside.

I contacted Joanna Martinez, Colfax Elementary principal, about the possibility. Always interested in finding new experiences for her students, she jumped at the idea. She asked us to involve second through fifth graders. I set up a general agenda for two field days for two hours each day, from 12:30 to 2:30 pm.

The Role for Preservice Teachers

The 20 preservice teachers who attended the September 2012 PLT workshop signed on for ELM. Their assignment: work in pairs to plan and deliver a PLT lesson to students in a given grade level.

MSU Denver students had three weeks to plan their lessons. They visited the site beforehand in order to become familiar with its location, layout, and resources. They were given the following broad guidelines, after which they told me which PLT activities they planned to teach (see ELM Choices below):

- Each lesson would last about 50 minutes, and they would teach the lesson twice in the two hours;
- Both of their classes would be the same grade;
- They would need to supply their own materials;
- Colfax Elementary students would have clipboards, but there would be no tables or seating available.

ELM Days

In addition to myself, other preservice faculty, and Parks and Recreation employees, Colorado PLT staff were on hand to assist with both field days. The preservice teachers attended only for the day they were assigned to teach. On Friday, the preservice teachers met the fourth and fifth grade classes at the edge of the park, but Colfax Elementary asked the preservice teachers to meet the younger children at the school on Monday and

escort them to the field site. This allowed for a small orientation beforehand, and the children settled in more quickly once they got to the site.



We were fortunate that the beautiful autumn weather was warm and the golden leaves remained on the trees. Students rotated from station to station with excitement and purpose.

The preservice teachers found the experience positive but also challenging, mainly because they received little background information about the students or content connections to what they were learning in the classroom. Several of my fellow methods professors came to observe their students teach, but concluded that the experience did not necessarily reflect their students' teaching abilities. In this scenario, the preservice teachers' role was more of a guest speaker than of a familiar teacher. This is a limitation of the program design, and we relied on the Colfax elementary teachers to help tie the experience to prior knowledge learned in the classroom.

Some of the Colfax Elementary teachers, especially the ELL teachers, became quite involved in the lessons. We are hoping that they will all become more comfortable with PLT and outdoor learning as we repeat the program in the future. Similarly, if we continue to offer a multi-grade program, students will have multiple exposures from year to year.

All of our experience, of course, feeds into our Lessons Learned to keep in mind for our next ELM.

Lessons Learned

While all partners were pleased with ELM, I have thought about ways to improve it:

- Set up the assignment sooner. This spring, I will talk to the other professors who will teach methods courses in fall 2013 so they can include the assignment in their syllabi.
- Work more closely with Colfax Elementary teachers. Ideally, the preservice teachers will be able to correlate the PLT lessons more closely with what the elementary students are learning at that time. It would be great if the teachers could provide some information beforehand, as well as extend the PLT learning afterwards.
- Understand the limitations of the assignment. Some professors came to observe their students at the park. While this is a great experience for the preservice teachers, it is not necessarily an accurate reflection of their teaching ability.

If you are looking for ways to engage preservice teachers, consider a version of ELM that works for you. You will multiply the benefits to your students and the community.

ELM Choices

During ELM, MSU preservice teachers selected these activities to use with Colfax Elementary students:

Second grade

- #78, Signs of Fall
- #22, Trees as Habitats
- #47, Are Vacant Lots Vacant

Third grade

- #61, The Closer You Look
- #64, Looking at Leaves

Fourth grade

- #22, Trees as Habitats
- #68 and #78, Name that Tree; Signs of Fall

Fifth grade

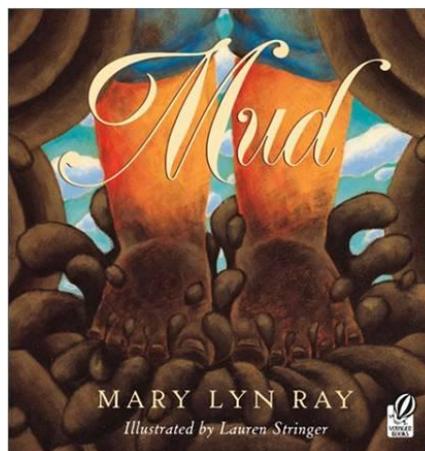
- #36, Pollution Search
- #63, Tree Factory

Mary Heuwinkel, Ed.D., is an assistant professor in the Teacher Education Department at Metropolitan State University of Denver. She is a PLT facilitator.

Tools

Literature Connection - MUD!

By Jaclyn Stallard



Ages 3 and up.

ISBN: 0152024611

Published by Sandpiper, 2001

Authored by Mary Lyn Ray

Illustrated by Lauren Stringer

What happens in spring? What happens before the fruit blossoms, before the daffodils flower, before the grass even grows? Why, mud, of course.

In this book, the earth seems to secretly thaw overnight, and in the morning a look outside finds winter receding down a muddy dirt road. Puddles of water are left everywhere, and mud quickly takes over the landscape. A child takes off her shoes. Muddy feet are happy feet.

This book's free-verse poetry evokes sounds ("squish, squk"), images ("hills remember their colors"), and action ("dig it! dance it!") for readers of all ages. After reading the book, try using the first line, "One night it happens..." as a model for children to create their own poems and stories about the wonderful world of mud.

Check out this book and get ready to enjoy a lyrical celebration of the cycling seasons.

Try it in conjunction with the following PLT activities:

[Environmental Experiences for Early Childhood](#)

- #3 - Get in Touch With Trees
- #4 - We All Need Trees
- #7 - Bursting Buds
- #8 - Adopt a Tree
- #10 - Trees as Habitats

[PreK-8 Environmental Education Activity Guide](#)

- #18 - Tale of the Sun
- #30 - Three Cheers for Trees
- #31 - Plant a Tree
- #61 - The Closer You Look
- #65 - Bursting Buds
- #70 - Soil Stories
- #87 - Earth Manners

EE Resources - Spring 2013

By Jaclyn Stallard

PLT GreenWorks! Grants

Deadline: September 30, 2013

Do you have an idea for a school or community garden, a forest improvement project, a streamside restoration plan, a recycling program, or an energy conservation project? Need funds to implement it? Application forms are now online; the deadline to apply is September 30. Apply for a [PLT GreenWorks! grant](#) today!

PLT GreenSchools! Webinars

Last year over 800 participants joined PLT's first

GreenSchools! webinar series. This year we are building on that success to explore a wider range of compelling and timely topics. Five new webinars will be anchored by dynamic PLT student Green Teams from across the nation, along with education and environmental professionals.

[Register now](#) to ensure your space in one or more of these informative and inspirational GreenSchools! professional development sessions:

- Green Jobs - April 10
- GreenSchools! and STEM - April 24
- Climate Change - May 1
- Student Voice - May 29
- Schoolyard Trees - October 16

Support Materials for PLT's Forests of the World Guide

The [Global Connections: Forests of the World](#) poster and [Ecological Zones](#) map have recently been updated and can be accessed from the PLT website. Consider projecting the electronic versions onto a wall or screen in your classroom when teaching about Forests of the World with your students. Activity 4: Analyzing Patterns of Change has been significantly updated and includes a new global climate change activity. Check out the [NEW student pages](#) that accompany it! They include:

- [Change in Forest Area by Country](#)
- [Forests, Weather, and Climate: What's the Forecast?](#)
- [Regional Trends and Projections](#)

PLT Spanish Student Pages - Now Available Online!

The student pages for PLT's Pre K-8 Guide have been translated into Spanish and can be downloaded from PLT's website. Go to the [PreK-8 resource-by-activity](#) web pages where you will find the Spanish translation for each student page posted directly below the English version.

National Environmental Education (EE) Week

Dates: April 14-20, 2013

Hosted by the National Environmental Education Foundation, [EE Week](#) is a celebration of environmental education held each year the week before Earth Day. The theme this year “Greening STEM: Taking Technology Outdoors” explores how technology can enhance environmental learning both inside and outside the K-12 classroom. [Sign up to participate](#) in this year’s EE Week, and you’ll get access to toolkits and grade-appropriate resources to plan and promote EE Week activities at school. For instance, check out their [top 10 apps](#) for taking technology outdoors! There’s also information about webinars, discounts on educational materials, and case studies of technology in action and the teachers who are using it to enhance environmental learning and achievement in core subject areas. There is no cost to register.

Endangered Species Day - May 17

(resource for PreK-8’s “Habitat Pen Pals,” “Planet Diversity,” “Charting Diversity,” “Life on the Edge,” and more)

The [Endangered Species Day website](#) now features a new [Teacher Forum](#), enabling teachers to exchange classroom instruction techniques, ask questions, and share resources about endangered species. They can also share different ways students can participate in the **8th Annual Endangered Species Day, on May 17, 2013.**

Think Garden Video Series

(resource for PreK-8’s “Plant a Tree,” “How Plants Grow,” “Sunlight and Shades of Green,” “Soil Stories,” “Tree Lifecycle” and more as well as PLT’s GreenWorks! and GreenSchools! programs)

This [Think Garden video collection](#) was produced by Kentucky Educational Television for elementary students as a teaching tool about growing food and all elements around food gardening. Consider using it to support PLT GreenWorks! or GreenSchools! projects as we enter the growing season.

A Forest Year

(resource for PreK-8’s “Tree Lifecycle,” “Adopt a Tree,” “Signs of Fall,” “Bursting Buds,” “The

Closer You Look,” and more)

Check out this video, which captures 15 months of a forest’s life. This [3-minute time lapse video](#) was created from 40,000 photographs.

Photographer Samuel Orr took pictures out of the same window in his home to create this forest montage. This forest snapshot is just outside of Bloomington, Indiana and was photographed between 2006 and 2008. You can visit [Samuel’s website](#) to learn more about the making.

TeslaTown

(resource for PreK-8’s “Renewable or Not?,” “Energy Sleuths,” and “Reduce, Reuse, Recycle,” as well as PLT’s GreenSchools! and Energy & Society programs)

Designed for upper elementary and middle school students, [a free iPad app](#) teaches about electricity generation and delivery thorough visits to a solar-powered house, a hydroelectric power plant, and a wind farm. With clickable, interactive structures and informational graphics and photos, students discover what is meant by “the power grid.”

New Series of PLT GreenSchools! Webinars

By Vanessa Bullwinkle

Project Learning Tree is proud to be a part of the U.S. Department of Education 2013 Green Strides Webinar Series in conjunction with our national partner, the U.S. Forest Service. The Green Strides Webinar Series provides school communities the tools to reduce their schools’ environmental impact and costs; improve health and wellness; and teach effective environmental education.

Last year over 800 participants joined PLT’s first GreenSchools! webinar series. This year we are building on that success to explore a wider range of compelling and timely topics. Five new webinars will be anchored by dynamic PLT student Green Teams from across the country, along with education and environmental professionals.

The Branch Spring 2013

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www.plt.org · www.forestfoundation.org

Students and/or teachers can [register now](#) to ensure your space in one or more of these informative and inspirational GreenSchools! professional development sessions. All webinars take place from 4-5pm EDT.

- **Green Careers** - April 10
- **GreenSchools! and STEM** - April 24
- **Climate Change** - May 1
- **Student Voice** - May 29
- **Schoolyard Trees** - October 16

Green jobs and clean energy careers have been growing at a phenomenal pace and analysts project the trend will continue. In the [first webinar](#), to be held on April 10, Green Team students who aspire to embrace green jobs as a career pursuit will share how greening their schools is helping prepare them for college and careers in natural resources.

In the [second webinar](#) of the series, we'll demonstrate how STEM (Science, Technology, Engineering, and Math) can be seamlessly integrated into the school curriculum using PLT's GreenSchools! Investigations and grant program as a model for schools.

[In May](#), we'll share a variety of tools and resources for students and teachers to help answer the question, "What does climate change mean to me?" At the end of the month, Green Team student leaders will share compelling and personal testimonials about the transformative power of student leadership in the Green Schools movement.

In the [last webinar](#) of the series, scheduled in October, students will discuss how they used PLT's GreenSchools! School Site Investigation to critically assess their school yards, and what they have done to improve them. The Smithsonian Museum and Casey Trees Foundation will share tools and resources, for example, how to calculate the "real" value of a tree's services, such as energy savings, clean water and air, and carbon sequestration.

Pathways to Green Ribbon Recognition

The [U.S. Department of Education's Green Strides Webinar Series](#) is designed to provide all schools access to the resources that help them move toward the Pillars of the U.S. Department of Education [Green Ribbon Schools recognition award](#). Project Learning Tree and PLT's GreenSchools! program are listed as resources for schools to meet the criteria of the award.

We were thrilled last year to learn that 13 of the 78 inaugural Green Ribbon Schools announced by the U.S. Department of Education in April were PLT GreenSchools! We hope to see more PLT GreenSchools! among the recipients to be recognized this year!