

In this issue: Welcome to our "new" e-newsletter filled with tools and resources for educators! Check out the new Literature Connection feature, and more tips from educators working on the ground with students, for example, how to engage students in greening their school, some ideas and resources for using PLT's *Forests of the World* and other curriculum guides, and what to expect from the new national science standards.

FEATURE ARTICLE



Keeping Students Engaged Through "Green Teams"

By Tanya Ackerman

Whether your school is just starting out or has had lots of experience being "green," PLT's *GreenSchools!* Investigations can help move you forward. Read what a teacher and the principal of Bicentennial Elementary School in New Hampshire have learned as they work with their fifth-grade Green Team.

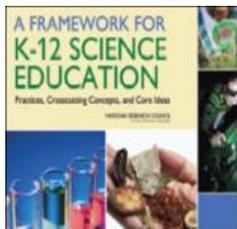
News & Updates



Spreading a New Branch!

By Vanessa Bullwinkle

Welcome to our redesigned e-newsletter! Besides our new look, we have added or expanded some features that readers told us they valued in a recent survey.



Framing Academic Standards for the Next Generation

By Jaclyn Stallard

New national science standards are expected in fall 2012, and they may affect how and what you teach your students. *The Branch* provides an update on development of the standards and the three dimensions of science on which a new framework will rest.

On the Ground



A Long-Awaited Step Forward

By Melissa Moeller

During the overhaul of the No Child Left Behind Act, a "well-rounded education" amendment was added that grants states access to funds to build curricula for previously ignored subjects—including the environment! Tell your Members of Congress to add their support for environmental education by co-sponsoring the No Child Left Inside Act.

Educator Tips



Making the Global Connection: Remarkable Trees and Forests

By Rick Zenn

From a single tree to a remarkable forest to the whole planet, you can help your students make the *Global Connection*. Internationally recognized environmental educator Rick Zenn shares some great ideas about using this PLT curriculum and other resources. And what's the story with this tree, anyhow?

Tools



The Listening Walk

By Jaclyn Stallard

Storybooks are a great way to capture children's interest in the environment. Check out this issue's suggestion for a great book—and some ways to tie it to PLT activities.



EE Resources - Fall 2011

By Jaclyn Stallard

Grants, handbooks, guidebooks, educational websites, articles, posters, fact sheets, games, videos, and more.

Keeping Students Engaged Through “Green Teams”

By Tanya Ackerman

“It feels good to be doing something to save energy.”

“I want to save money for the school.”

“I was inspired by the time I spend outside with my dad.”



Photo credit, Erin Hollingsworth

These comments from fifth-graders in Bicentennial Elementary School’s Green Team reflect why our efforts through PLT *GreenSchools!* are both popular and successful. Just like adults, children have lots of reasons why they want to learn and take action about things they think are important. PLT *GreenSchools!* helps us give them this opportunity while they learn.

Bicentennial, a school of about 670 K-5 students in Nashua, New Hampshire, first became involved with New Hampshire PLT about three years ago. We have incorporated environmental themes into science, language arts, math, art, and music. Among other achievements, our students’ science scores rose, and a focus on environmental education has had a positive impact on students, teachers, and the entire community.

In an email to the school staff in September 2009, our Principal Kyle Langille said, “It is with great excitement and pride I let you know our NECAP [New England Common Assessment Program] Science scores for grade 4 show significant improvement. Our renewed emphasis on the science GSEs, our continued partnership with Project Learning Tree and your highly motivating and engaging lessons, are all contributing factors. Congratulations! It takes a collective effort to see this kind of change.”

Audits and Action

Through PLT *GreenSchools!*, students examined the impact of the school on the environment and then designed and carried out activities related to their findings. What we like about *GreenSchools!* is that we received training and resources so students—even at this young age—can carry out rigorous, data-based audits. Our fifth graders have now formed a “Green Team” and meet weekly during recess to take action based on the findings from the audits. Here’s what they have done so far:

- **Energy Investigation:** The energy audit prompted installation of “Hit the Switch” reminders on all light switches. The students also dress up as Energy Vampires and Energy Angels—reminding offenders that they are “sucking up energy” when they leave lights on unnecessarily or are helping when they turn lights off.
- **Waste Investigation:** The waste audit inspired a plastic and aluminum recycling program, a first for Nashua’s public schools. The program is student-run, and the students collect and sort recyclables. Second and third graders are formed a “compost team” in concert with the cafeteria staff.

The Green Team also wanted to continue to minimize waste by having a “It’s Easy Being Green Yard Sale” in the spring near Earth Day. Staff, parents, and community members benefit from

this event! By cleaning out closets we fill our entire cafeteria with donated items that are recycled back to our community. The Green Team also constructed a little golf course out of recycled materials for kids while their parents shopped. We sell compost bins, rain barrels, and aluminum water bottles at this event, as well as demonstrate how worms break down material in some compost bins. This past year the Green Team picked herbs from our outdoor classroom, let them dry, and made scented bags to sell at the yard sale. Last year, the yard sale made about \$700 to support our outdoor classroom.

- **Water Investigation:** When students realized the impact of purchasing bottled water, they created a “Back2Tap” campaign. The Green Team now sells re-fillable aluminum water bottles to students and staff.

The water investigation also concerned the fifth-graders because they realized our school had all 3-gallon flush toilets. They quickly found out this was a waste of water and wanted to find a way to change all of our toilets to 1-gallon flush toilets. We applied for a grant and were selected as a finalist for the Green Prize in Public Education from the National Environmental Education Foundation. As one of ten finalists, we received a \$500 “Go Greener” grant that will help us to install six low-flow toilets. This year we will write another grant in hopes of changing out all of our toilets, but six is better than none!

Tips for Teachers

Keeping a program going beyond the initial excitement is always a challenge. A few things that have worked at Bicentennial include the following:

Make connections: From an educational perspective, of course we need to connect to the curriculum. But it’s also important to motivate kids by connecting to the things they value. The comment above from a student about associating nature with her father is a great example.

Let students lead: It is tempting for us to want to save time and tell students what they should do. Sometimes we need to sit back and let them figure it out for themselves (as long as they remain safe). They have more ownership and they have learned valuable lessons.

Get buy-in: When we first decided to integrate environmental education throughout the school, the faculty took a vote—and it was very close. Since then, teachers have seen the benefits for themselves and their students, and the school leadership, up to and including the superintendent, has been very supportive. This is a great boost to what we are trying to accomplish at Bicentennial.

Have a committed coordinator: A coordinator promotes teamwork and decision-making. This person shows leadership by coordinating the Green Team, encouraging a sense of shared responsibility, providing the team with information, and overseeing implementation of programs.

To Learn More

- [Bicentennial Elementary School Green Team](#)
- [New Hampshire PLT](#)
- [PLT GreenSchools!](#)

Tanya Ackerman is a fifth-grade teacher at Bicentennial School in Nashua, New Hampshire, and is the facilitator of the school’s Green Team. She was first introduced to PLT in 2008.

News & Updates

Spreading a New Branch!

By Vanessa Bullwinkle

Welcome to our redesigned e-newsletter!

Besides our new look, we have added or expanded some features that readers told us they valued in a recent survey—including more articles by

educators, practical ways to use PLT materials, recommendations for teaching resources, grant opportunities, and a connection with quality children's literature.

We send out *The Branch* four times a year to you and more than 50,000 educators and PLT supporters. We welcome your ideas so we can make *The Branch* useful and rewarding. Use the new comment feature, or [email](#) us with suggestions and your feedback.

In conjunction with this re-design, we will soon be switching our distribution service. **If you are already a subscriber, you will need to [re-subscribe](#) to continue receiving PLT's quarterly e-newsletter in the future.**

Project Learning Tree advances environmental literacy and promotes stewardship through excellence in environmental education, professional development, and curriculum materials that use trees and forests as windows on the world. PLT and its state programs work on the ground with teachers and other educators, giving you the tools and resources you need to help children value the natural world and prepare them for the future they will inherit.

PLT's *The Branch* newsletter is one resource we provide educators to help students learn how to think, not what to think, about complex environmental issues, and acquire the skills they need to make sound choices about forests and the broader environment.

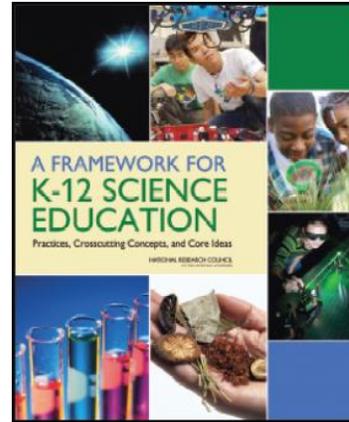
We hope you enjoy our "new" newsletter--and find it a useful resource for your teaching! Please [sign up to receive *The Branch*](#). Thank you!

Framing Academic Standards for the Next Generation

By Jaclyn Stallard

A joint effort between the National Research Council, the National Science Teachers Association (NSTA), the American Association for the

Advancement of Science, and Achieve is underway to create the foundations for all students to have a solid K-12 science education.



Starting in fall 2009, the National Research Council convened an expert panel to lay the groundwork for the development of new national science standards. In July 2011, the National Academies released *A Framework for K-12 Science Standards: Practices,*

Crosscutting Concepts, and Core Ideas. This volume is intended to lay the groundwork for the new Next Generation Science Standards, to be released in the fall of 2012.

The creation of the framework and the Next Generation Science Standards are two separate tasks. The framework provides a vision "to organize and direct the standards," commented NSTA Past President Harold Pratt.

This effort is following a different developmental pathway than the recent Common Core State Standards Initiative to develop common standards for K-12 Mathematics and English Language Arts. The process for developing science standards takes into account the importance of having the scientific and educational research communities identify core ideas in science and articulate them across grade bands. That is why the first step, constructing a Framework for K-12 Science Education, was needed—to ensure scientific validity and accuracy, as it has been fifteen years since the last revision of science education standards at the national level.

Resting on feedback from educators, education researchers, policymakers, scientists, and the public, the framework identifies three dimensions

of science necessary for students to understand how science works:

- Scientific and engineering practices;
- Crosscutting concepts that unify the study of science and engineering through their common application across fields; and
- Core ideas in four disciplinary areas-- physical sciences; life sciences; earth and space sciences; and engineering, technology, and the applications of science.

The existing framework does not, however, articulate how these three dimensions come together or outline specific learning performances. These items will be outlined in the upcoming Next Generation Science Standards.

Along with the 36-person writing team, 20 partner states have been identified to assist in the development of the Next Generation Science Standards. These states have agreed to convene broad-based committees to provide feedback on the standards and any potential implementation issues. This group will be used not only to direct the writing of the standards, but also to problem-solve with the writing team. The 20 lead state partners include Arizona, California, Georgia, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, Ohio, Rhode Island, South Dakota, Tennessee, Vermont, Washington and West Virginia. In order to be considered, states had to submit a letter with the signature of the Chief State School Officer and the chair of the State Board of Education.

The [Next Generation Science Standards website](#) outlines the 18-month development process. Two drafts are expected to be released for public comment during two different web-based feedback periods in winter and spring 2012.

Once the Next Generation Standards are finalized, “then states and school districts have to decide what to do with them,” Pratt said. The 20 partner

states will lead the state-level adoption and implementation.

Project Learning Tree will remain on the pulse of the national science standards development and implementation discussion throughout the coming months. PLT state partners and trained educators will be alerted to the public commenting periods as appropriate. At the national level, PLT is participating in standards-based conversations and meetings held by the National Science Teachers Association, Association of Fish & Wildlife Agencies, National Environmental Education Foundation, U.S. Fish and Wildlife Service, Ecological Society of America, Education Week, and more. Stay tuned!

You can download a free PDF of the framework from the [National Academies website](#).

Other helpful websites include:

- Achieve (<http://www.achieve.org>)
- The Common Core State Standards Initiative (<http://www.corestandards.org/>)
- Next Generation Science standards (<http://www.nextgenscience.org/>)
- National Science Teachers Association (<http://www.nsta.org>)

On the Ground

A Long-Awaited Step Forward

By Melissa Moeller

Environmental education was handed a “**big win**” last month when the [Senate Health, Education, Labor and Pensions \(HELP\) Committee](#) reported the *Elementary and Secondary Education Act* (ESEA) out of committee with a bi-partisan vote of 15-7.

Prior to the vote, Senator Bob Casey (D-PA) offered his “well-rounded education” amendment which grants states access to funds that would help build curricula for previously ignored

subjects—subjects including arts, civics and government, economics, financial literacy, foreign languages, geography, history, physical education, social studies, and ***the environment***. This amendment provides a huge boost for getting **Project Learning Tree** into more schools.

ESEA is an overhaul of the 2001 *No Child Left Behind Act*—an act that focused on core subjects and testing, often leaving teachers little time for the previously listed subjects. We have been looking for ways to include environmental education into larger federal legislation, and yesterday’s amendment was a huge step forward for Project Learning Tree.

If your Senator, like Mr. Casey, sits on the HELP Committee—[send them a note to thank](#) them for their support of environmental education. We are proud to have such strong champions for environmental education in Congress.

But the fight is still not over. **PLEASE** [urge your Members of Congress](#) to support the *No Child Left Inside Act* (NCLI) and co-sponsor the Bill for the health of our students, the health of our schools and the health of our valuable natural resources.

Over the past few years, we have been following the progress of NCLI through Congress. NCLI would offer great incentives and resources for environmental education, encouraging more teachers to use programs like PLT with their students. In 2010, PLT educators and environmental education advocates sent more than 1000 emails to their members of Congress, urging them to co-sponsor the NCLI. In 2011, 11 PLT educators and coordinators visited to Washington, D.C. to meet with their members of Congress—urging them to support policies, like NCLI, that help get PLT into more schools.

Over the years, more than 2000 organizations and businesses have joined the NCLI Coalition. Well over 100 Representatives and Senators have signed onto the bill, and a modified version of NCLI passed the House of Representatives in 2009. In

2010, the House Education and Workforce Committee listed NCLI as one of its top priorities.

In spite of the overwhelming support, NCLI has failed to pass Congress and become law.

One of the largest roadblocks for NCLI has been the slow-moving ESEA Reauthorization. Congress rarely takes up stand-alone bills like NCLI. Often these bills pass as an attachment of a larger piece of legislation. ESEA is a huge piece of legislation to move, but now that the bill has momentum, we hope to see more good news for NCLI and environmental education.

Educator Tips

Making the Global Connection: Remarkable Trees and Forests

By Rick Zenn



In October, I found the oldest tree in Paris.

The giant black locust tree was hidden in plain sight, surrounded by a small fence in the Viviani Square across the river from the Notre Dame cathedral, just steps from Sylvia Beach’s famous Shakespeare and Company

bookshop.

Millions of people in Paris walk, drive, bike, and boat right by this massive tree planted in the year 1602. Known as the “*Robinier tree*” to honor the men who planted it more than 400 years ago, a small green sign attached to the tree trunk declares this to be one of France’s great natural treasures, “*les arbres remarquables.*” *

Remarkable trees!

Once you start looking, remarkable trees and forests are everywhere.

- Your armchair journey might begin by paging through the wonderful book *Remarkable Trees of the World* by Thomas Pakenham.
- For something closer to home, you might visit the *Remarkable Trees of Virginia* by Nancy Ross Hugo and Jeffrey Kirwan. (Dr. Kirwan is a well known PLT workshop facilitator in Virginia.)
- Today, many states and communities have identified their remarkable trees with special designations such as “champion trees” or “heritage trees.” You can usually get a list and map from your local or state park, forestry, or natural resources department.

Maintaining the list of remarkable trees is usually a labor of love and in many cases “new” trees are nominated by citizens and honored every year. Maybe you and your students can get involved? Is there a remarkable tree near you?

Or a remarkable forest?

To discover the remarkable forests, a good place to start is with the Project Learning Tree [Global Connections: Forests of the World](#) activity guide.

Maps, background information, case studies, and nine student activities are included in the guide to help teachers navigate their way around what the guide calls “the forest planet.”

Global Connections and Remarkable Forests

Activity # 9 "Researching Forests Around the World" provides an excellent path for students to zoom into a country they select, design an investigation, and report out on the “State of the Forest,” including critical environmental, economic, and social issues they discover. This activity works very well with environmental studies, international studies, social studies, and even foreign language classes (e.g., “les arbres remarquables”).

Activity # 7 "Exploring the World Marketplace" allows students to create their own country, establish priorities, and manage their own natural resources in a global context.

Activity # 6 "Seeking Sustainability: A Global Response" helps students clarify the meaning of “sustainability” and shows how countries can monitor and respond to changes in their forest resources. This activity also includes a critical study of the international *Montreal Process* where 12 countries, including the United States and Canada, are working together to promote forest protection and sustainable use of forest resources.

Global Connections: Forests of the World features 50 countries and provides teachers and students with a real-world collection of topics and case studies based on research and projects conducted by the nonprofit World Forestry Center in Portland, Oregon.

The popular *World Forest Tour* cards included in the guide (pp. 22-30) can be used for a variety of stand-alone activities to engage students and connect the dots between people and forests. A series of slides to support each of the activities and copies of the student pages, including the *World Forest Tour* cards, are available at <http://www.plt.org/forests-of-the-world>.



Project Learning Tree *Global Connections: Forests of the World* workshops are offered in many states. Contact your [PLT state coordinator](#) for the schedule or to propose to a host workshop for you and your colleagues.

Ages 3-6. ISBN: 0399214577.

Try this book in conjunction with the following PLT activities:

- [Environmental Experiences for Early Childhood, Activity 2: Sounds Around](#)
- [PreK-8 Environmental Education Activity Guide, Activity 4: Sounds Around](#)

EE Resources - Fall 2011

By Jaclyn Stallard

PLT GreenSchools! Grants

Deadline extended to Oct. 28

PLT is providing [GreenSchools! grants up to \\$1,000](#) to schools and youth organizations for environmental service-learning projects at their school. *To qualify, schools must be registered on the PLT GreenSchools! website, www.greenschools.org, and must have completed at least one of the five PLT GreenSchools! Investigations.* Grant funds may be used to complete additional GreenSchools! Investigations.

New Resources from the Association of Fish and Wildlife Agencies

The Association of Fish and Wildlife Agencies (AFWA) has released three new products for educators to connect more people, especially youth, to the outdoors and increase our nation's understanding of how fish and wildlife and their habitats are conserved. The three products are [Benchmarks for Conservation Literacy](#), [Outdoor Skills Education Handbook](#), and [Sustainable Tomorrow-A Teachers Guidebook for Applying Systems Thinking to Environmental Education Curricula](#). Designed for teachers of grades 9-12, Sustainable Tomorrow uses lessons from Project WILD, Project WET and Project Learning Tree.

Life of the Forest Posters

(resource for PLT's PreK-8 activities "Tree Cookies," "Tree Factory," "To Be A Tree," "Looking at Leaves," and more)

Learn about tree rings, seeds, leaves, bark, and needles and how trees eat, drink, and breathe

using these colorful posters from the International Paper Learning Center. Each 16 x 20 inch poster features photos and fact about the topic (e.g., did you know that "happy" trees produce evenly space rings?) and includes an accompanying handout. K-6 teachers can [order a free poster set](#) or [download them directly](#) from the web.

30 Fascinating Facts about the Boreal Forest
(resource for PLT's Forest of the World secondary activities "What Is a Forest?" and "Mapping the World's Forests", and PLT's Focus on Forests secondary module)

The Boreal forest is the world's largest land-based biome. Spreading over continents and covering many countries, the Boreal forest plays a significant role in the planet's biodiversity and its climate. Here are [30 facts you want to know](#) about this forest domain.

Maple Sugaring Curriculum Connections

(resource for PLT's PreK-8 activities "We All Need Trees," "A Few of My Favorite Things," and "Three Cheers for Trees")

Explore a seasonal timeline of the [maple sugaring process](#), along with ideas for incorporating maple sugaring into science, math, history, art, and language arts activities. Learn ways that student can explore rations (e.g., it takes 40 parts maple sap to make 1 part maple syrup) or keep a journal of their observations during the sugaring process.

USDA Stop the Beetle Website

(resource for PLT's PreK-8 guide activities "Invasive Species," Focus on Forests' "Forest Invaders" and Biodiversity's "Global Invaders" secondary activity)

At USDA's [Stop the Beetle website](#), students ages 8-12 can learn about the Emerald Ash Borer (EAB) beetle and how to protect U.S. ash trees from this insect pest. The website also has printable activity sheets, an online fact-matching game, and a video entitled *The Nature Walk: Understanding the Life Cycle of the EAB*.

Invasive Forest Insects Cost Billions

(resource for PLT's PreK-8 guide activities

“Invasive Species,” Focus on Forests’ “Forest Invaders,” and Biodiversity’s “Global Invaders” secondary activity)

[This article from ScienceDaily](#) describes how homeowners and taxpayers are paying for damages caused by invasive tree-feeding insects that are inadvertently imported along with packing materials, live plants, and other goods.

How Nature Makes Soil, And You Can Too
(resource for PLT’s PreK-8 guide activities “The Forest of S.T. Shrew,” “Nature’s Recyclers,” “Field, Forest and Stream,” “Watch on Wetlands,” and “Soil Stories”)

Use this [Soil Creation video](#) to teach (or learn!) a thing or two about the magic of soil. The footage reveals a few choice places where nature likes to make soil (it’s not where you’d think!)—and tells viewers how to take advantage of that in your own garden.

The Global Water Experiment

(resource for PLT’s PreK-8 activities “Water Wonders” and PLT’s Forests of the World secondary module)

Participate in a global experiment: [Water: A Chemical Solution](#). Participants explore water quality issues through various exercises, then share their experiment results with the global science community.

Science News for Kids

(resource for PLT’s PreK-8 activities “Can It Be Real?,” “Habitat Pen Pals,” “Charting Diversity,” and more)

Can lizards learn? Will the Sun’s cycle stay the same? Find answers to these and other life mysteries at [Science News for Kids](#). The site presents timely science stories categorized by subject, along with suggestions for hands-on activities, books, articles, and web resources.

National Park Service - A Living Classroom

(resource for PLT’s PreK-8 guide activities “Loving It Too Much” and “I’d Like to Visit a Place Where...”)

The National Park Service has compiled the

education resources of more than [110 national parks in a single website](#). Spanning grades k-12 the resources include virtual field trips, pre- and post-visit activities, and other learning experiences that highlight each park’s unique features or special environmental programs.