

Litzsinger Road Ecology Center

Community Newsletter

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Interesting Research

By Bob Coulter

All of our work with students—whether we’re teachers, volunteers, or LREC staff—is based on the hope that early experiences build kids’ commitment to preserving and protecting the environment. As they mature, we hope that their career and lifestyle choices will reflect the sensitivity we try so hard to nurture. Given that premise, are we successful? Can we even know? We’ve all heard the stories from famous people who “owe it all to their fourth grade teacher who sparked their interest...” Beyond these occasional vignettes, is there any evidence to support what we do?

A few weeks ago I attended a meeting of the project directors for the programs like LIONS (Local Investigations of Natural Science), our after-school project I wrote about back in the fall. One of the presentations at that meeting was by Robert Tai, who analyzed data that tracked students’ interests from when they were in eighth grade through the next 12 years of their lives. The striking result of that analysis was that students’ expressed interest in pursuing a science career at age 13 was the strongest predictor of who would go on to have a degree in science—even more so than “obvious” factors such as students’ math ability. Students with this interest were almost twice as likely as the rest of their peer group to have a life science degree, and more than three times as likely to have a physical sciences or engineering degree.

Of course, our targeted outcomes—building commitment to preserving and protecting the environment—can’t be captured quite as narrowly as the specific degrees students earn. Even so, the study is a powerful statement both of the durability of students’ interests, and the importance of our work in nurturing their development. As Tai notes, “Much effort has been focused on raising test scores and promoting advanced courses...however, we should not overlook the likelihood that life experiences before eighth grade...may have an important impact on future career plans.” Amen.

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Upcoming LREC Events:

LREC Stream Team

February 8, 9–11am. Monitor water chemistry. Call Jennifer at (314)961-4410 if you plan to attend.

LREC Ecology School

February 15, 1–3pm. At Glass House. Topic: Missouri streams. Call Eddie at (314)256-9418 to participate.

Upcoming Opportunities:

The Art of Orchids

January 27 through March 11, 2007 at the Garden. View hundreds of exotic fragrant orchids and tropical plants in scenes from a classic conservatory inspired by a watercolor painting at the annual orchid show. For more information call (314)577-9400 or go to www.mobot.org.



Backyard Birding Festival

February 4, 2007, 7:30am–2pm at the Garden. Join expert birders for bird walks, classes, and slide shows. For more information or to register call (314)577-9506 or go to www.mobot.org/education/birding.

George Washington Carver Days

February 17–18, 2007 at the Garden. Activities for the entire family highlight the life and legacy of the 20th century’s greatest agricultural scientist. For more information call (314)577-9400 or go to www.mobot.org.

Hudson Fifth Grade Grows the Classroom Curriculum

By Heather Wells-Sweeney

Donna Kehres, fifth grade teacher at Hudson Elementary, is an exemplary model for growing the classroom curriculum to include connections to the schoolyard and the larger community. When I first worked with Mrs. Kehres's classes several years ago, the lesson plan included an activity that was developed for much older students. It wasn't a good match, and the students had trouble understanding the lesson. Last year, we tried conducting plot studies to better tie with the Webster Grove District's theme of "In the Woods." The match was better, but Mrs. Kehres felt the connection to the classroom still needed work. This year, Mrs. Kehres took a leap of faith to try something completely new.

In the fall, students headed out their school's back door, armed with field guides and magnifying lenses to take advantage of Hudson's resource of a beautifully tree-filled schoolyard. When I visited the classes, I was immensely impressed that students could recall the names AND fine characteristics of two dozen trees, including six kinds of oaks! Even more exciting, though, is the connection the students are building with their place—their schoolyard.

Mrs. Kehres's long-range plan is to have students create an annotated map of all their schoolyard trees. Plans have been made for the spring to partner with a high school class in their district to create the map using geographic information systems (GIS).

The biggest change this year was to turn students loose to do their own investigations. In the schoolyard, students practiced a pre-designed investigation of a question that was formulated at LREC: Where do slugs live? Yes, this preliminary study helped prepare students for executing their investigations at LREC (see student questions and graph of cup plant height), but

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Questions generated and investigated by Hudson fifth graders at LREC

- What types of birds are found near the creek?
- What invertebrates can be found under the stumps in the winter?
- How tall does the cup plant grow?
- Where are mushrooms found in the winter?
- What is the rate of flow in the creek at the riffle?
- What kind of animals live by the creek?
- What kinds of birds can we find here in the winter?
- What kinds of plants grow on trees?



Acorns collected in Hudson schoolyard

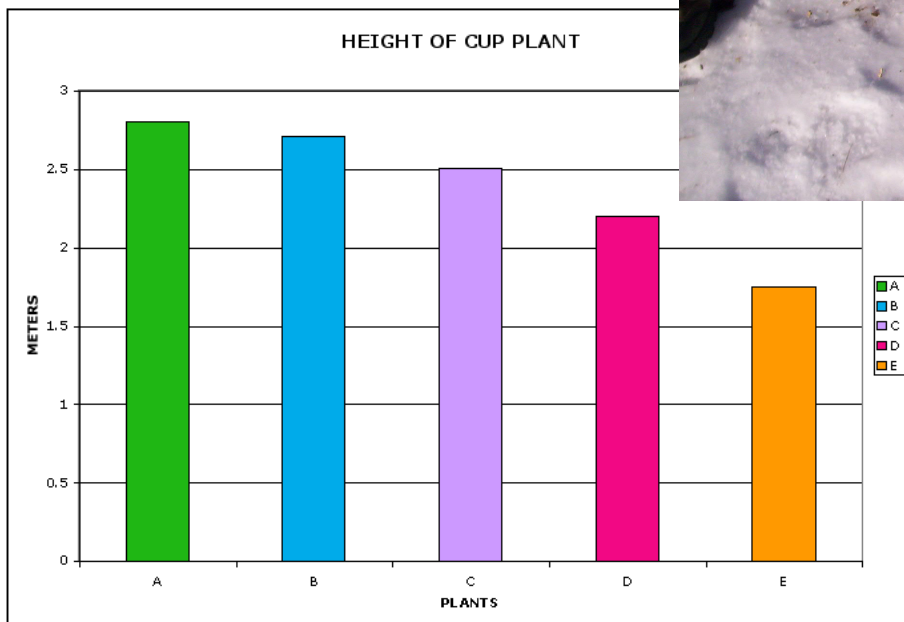
it also led students to ask more questions about Hudson's habitat available for soil invertebrates.

The students are also interested in habitat for birds. Mrs. Kehres received grant funding to install bird feeders outside her classroom and has designed experiences to help her students learn about birds. At LREC and on my visit to Hudson, students used dichotomous keys to identify common birds. Mrs. Kehres strengthened these lessons by drawing on a great community resource—the St. Louis Audubon Society. A guest speaker from the Audubon Society visited the classroom with numerous slides of birds and helped the students learn what characteristics to use to recognize birds. In the future,

Mrs. Kehres's students will apply their bird ID skills when they participate in the Great Backyard Bird Count (GBBC). (For more information about the GBBC go to <http://www.birdsource.org/gbbc>.)

Mrs. Kehres continues to develop additional tie-ins to supplement her lessons. For example, students may have the opportunity to take part in a Tree City USA celebration in a local park later this year. The changes Mrs. Kehres has made this year are amazing. Congratulations, Mrs. Kehres!

Students will be delivering slide shows of their investigations for LREC staff and volunteers at Hudson Elementary on **Tuesday, February 6, 2007 at 9:00 a.m.** Please consider attending, especially if you worked with Hudson fifth grade. Please RSVP to Martha by Monday, February 5.



Above: Hudson fifth graders investigated invertebrates living under stumps in the winter.

Left: Students graphed the heights of various cup plants.

Grants for Schoolyard Habitat Development

by Eddie Jones

Teachers, are you looking for financial assistance in developing or enhancing a schoolyard native plant habitat? Here are three possible sources:

The Missouri Department of Conservation Outdoor Classroom Grant

Program distributes up to \$1,000 to public, private or parochial schools interested in developing or enhancing an outdoor learning site, either on school grounds or at a nearby location. This program promotes interdisciplinary, hands-on instruction through conservation education in the out-of-doors. In addition, this program encourages awareness, appreciation, knowledge and active conservation of natural resources, including native vegetation, wildlife and wildlife habitat. Applications are due March 17, 2007. Awarded projects take place May 9, 2007 through May 9, 2008.

<http://mdc.mo.gov/teacher/grants/>



The Captain Planet Foundation will fund as many projects as its annual resources allow. Deadlines for submitting grant applications are March 31, June 30, September 30, and December 31. All projects must:

- Promote understanding of environmental issues
- Focus on hands-on involvement
- Involve children and young adults 6-18 (elementary through high school)
- Promote interaction and cooperation within the group
- Help young people develop planning and problem solving skills
- Include adult supervision
- Commit to follow-up communication with the Foundation (specific requirements are explained once the grant has been awarded)

<http://www.captainplanetfdn.org/grants.html>



Lowe's Charitable and Educational Foundation, International Paper and National Geographic Explorer! classroom magazine

have partnered to create an outdoor classroom grant program to provide schools with additional resources to improve their science curriculum by engaging students in hands-on experiences outside the traditional classroom. All K-12 public schools in the United States are welcome to apply.



This school year, the program will award grants up to \$2,000 to at least 100 schools.

In some cases, grants for up to \$20,000 may be awarded to schools or school districts with major outdoor classroom projects. The grants can be used to build a new outdoor classroom or to enhance a current outdoor classroom at the school. Grant applications are reviewed three times a year.

<http://www.lowes.com/lowes/lkn?action=pg&p=AboutLowes/outdoor/index.html>