



# Talkin' Trash

A Teacher's Newsletter from the Ecology Action Center

Fall 2009

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[www.ecologyactioncenter.org](http://www.ecologyactioncenter.org)  
9 a.m. to 5 p.m.  
Monday—Friday

## Crazy Crayons Come From Easy Recycling



Teachers, take advantage of the National Crayon Recycle Program! Run out of Pelican Lake, Wisconsin, the National Crayon Recycle Programs takes old, broken, and unused crayons and transforms them into newly shaped and fun crayons for everybody. According to their website the program has saved over 46,000 of crayons from being sent to landfills.

The program encourages teachers, students and families to ship their recyclable crayons. Providing drop boxes in classrooms to be combined later could cut the shipping costs for individuals looking to recycle the unwanted crayons.

The recycling process for the program is to melt multiple crayons of the same color and create new, full-size, and crazy shaped coloring utensils. The Crayon Recycle Program also operates on funds made from selling the new crazy crayons so they are available for purchase at the program's website.

An alternative way to save on shipping costs is to create your own crazy crayons. Get a small electric hot plate and add a small pan with water. Create a water bath by placing a bi-metal can (such as a veggie can with the label removed) in the hot water and fill with crayons of the same color (without wrappers). Wait until all the crayons melt, then use tongs and oven mitts to pour the melted crayons into many different plastic candy molds. Note: be careful of the hot steam and hot wax. Let the crayons cool and become solid. Pop them out and let your students color with different shaped crayons.

For more information on the National Crayon Recycle Program visit their website at: [http://www.crazycrayons.com/recycle\\_program.html](http://www.crazycrayons.com/recycle_program.html)

## Free Posters available at the EAC!

Teachers, the Ecology Action Center (EAC) has fantastic, colorful posters for you to have in your classrooms. The EAC has acquired beautiful posters of prairie flowers, insects, animals, fish, frogs, butterflies, waterways, maps, habitats, recycling posters, and more. The posters are available at the EAC, located next to the Normal Public Library at 202 West College in Normal during regular hours, Monday through Friday 9:00 am to 5:00 pm. Come in and select your posters. While you're here, explore the free classroom teaching materials the EAC has to check out: a Bug Box, a Bird Box, a Rain Forrest Box, a Tree Box, and the "Garbage Dilemma." Any questions or for more information please contact Michele Bell at [mbell@ecologyactioncenter.org](mailto:mbell@ecologyactioncenter.org) or (309) 454-3169.





# Programs by the EAC

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Assistant Director

Michele Bell  
Environmental Educator

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## The Traveling Globe Recycling Contest

The Ecology Action Center announces The Traveling Globe Recycling Contest. The beautiful world globe trophy stays all year with the school that recycles the most paper items by weight or volume. This year the schools' enrollment numbers will be used to guarantee the contest is now on a level playing field.



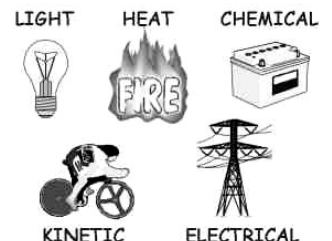
### RULES:

1. All schools may participate
2. Schools that have Town of Normal roll-offs will be counted for paper only.
3. Other schools - if you have parents or teachers taking your recyclables to a recycling center please keep an accurate measure of your paper recyclables and submit your weight or volume to [mbell@ecologyactioncenter.org](mailto:mbell@ecologyactioncenter.org) each week.
4. The contest runs through the month of October 2009.
5. The final number of all paper recyclables for the whole month of October will be divided by the school's enrollment to figure which school has the most recycled items per capita (student.)
6. The winning school will be announced at 12:00 p.m., at the America Recycles Day Event, at the Children Discovery Museum on November 14, 2009.

To begin your quest for the Traveling Globe, e-mail Michele Bell at [mbell@ecologyactioncenter.org](mailto:mbell@ecologyactioncenter.org) with your schools name and present enrollment. Good luck to all. Remember whatever you recycle— it is a win for all of McLean County. Thank you!

## Introducing A Hands-On Energy Program for Fifth Graders: The E-5 Energy School Program!

The program is a hands-on lab class for 5th grade students where students perform several experiments to better understand the sources and forms of energy. We will explore heat energy through our happy/sad ball experiment, create electrical generation from both mechanic and chemical sources, observe light energy and how solar panels work, and calculate electrical usage and costs using both compact fluorescent and incandescent light bulbs. This fifty minute presentation is brought (with all lab materials) to your classroom. Costs are \$50 for one class and \$30 for each additional class scheduled to follow back-to-back . A \$30 travel fee is added to schools outside Bloomington/Normal.





# Programs by the EAC

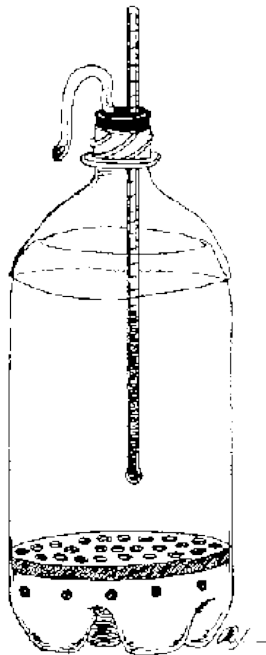
*Encourage  
your class to  
recycle!*

*The more  
everybody  
recycles the  
more McLean  
County Wins!*

## Experiment Composting with Bioreactors Instead of Worms!

Last year's newsletter shared an experiment that had students bury banana peels to demonstrate composting. Many of your classrooms also had an opportunity to learn about vermicomposting and observed how the worms will eat the garbage and produce nutrients for the soil.

While they are wonderful little critters, and do a fabulous job of disposing of waste, they are not necessary for successful composting. Here is an experiment that removes the worms from the equation. Thus a project developed at Cornell University can offer students the opportunity to observe individual bioreactors and the decomposition of organic matter.



This project can be conducted in the classroom as an alternative to vermicomposting. A variety of lessons can be learned. By placing a mixture of both nitrogen (green compost items – food scraps and cut grass) and carbon (brown compost– dead leaves, shredded paper, and pencil shavings) material in the bioreactor. Observations can be made, and data can be recorded and compared with regard to how quickly, or slowly, a variety of materials will decompose. Students can observe the actual decomposition of organic material, record the temperature, and measure the volume. Wouldn't it be interesting to experiment with biodegradable plastics, and determine if they do indeed biodegrade and how quickly?

The Ecology Action Center has several bioreactors which may be checked out, or you can create your own.

To borrow one of the EAC's units, contact DeAnna Belz at (309) 454-3169 or [dbelz@ecologyactioncenter.org](mailto:dbelz@ecologyactioncenter.org). Detailed instructions for the experiment can be found at <http://compost.css.cornell.edu/soda.html>.

## Introducing A Hands-On Energy Program for Middle School Students: The E-Bike School Program!



*The E-Bike program* is a group presentation appropriate for middle-school students. This interactive presentation demonstrates how electricity is created, as well as, how to use it efficiently. We begin the program with a brief "play" using students to illustrate the process of producing electricity through non-renewable coal-fired power plants. Then we engage students in demonstrating the use of renewable energy, bike and wind power, for example, to symbolize a more efficient system. We then ask several students to ride the energy bike to clarify just how much energy is needed to heat things up. This fifty to sixty minute presentation is brought to your school. Note that while small groups are accepted, it is most appropriate for larger groups in an auditorium/cafeteria setting. Cost is \$50 for a one hour presentation with a \$30 travel fee for schools outside Bloomington/Normal.



# Engaging Students in...

## An Experimental Model for Water Pollution & Contamination

The city of Bloomington receives its drinking water from Lakes Bloomington and Evergreen, which are surface water supplies; while the town of Normal has wells that tap into the Mahomet Aquifer, a ground water source. The following activity will demonstrate to your students the importance of protecting our ground water and surface water supplies.

After discussing potential sources of pollution to water, such as motor oil, lawn chemicals, and household cleaning products, allow students to work in groups and perform the following experiment. The experiment illustrates how water is stored in an aquifer, how ground and surface water can become contaminated, and how this contamination can end up in our drinking water. Upon completion, students should better understand how careless use and disposal of harmful contaminants above ground can potentially end up in the drinking water, even below ground aquifers.

Materials needed for each group:

- 1 clear plastic cup (approx 2 ½" deep x 3 ½" wide)
- 1 piece of modeling clay (that will allow a 2" flat pancake to be made by each group for their cup)
- White play sand – to fill ¼" in bottom of each group's cup
- Aquarium gravel (natural color if possible) or small pebbles (approx. ½ cup per group)
- (these may need to be rinsed ahead of time to remove any powdery residue)
- Red food coloring
- Pitcher of water

Procedure:

1. Pour ¼" of sand to completely cover the bottom of the container. Pour just enough water into the sand to wet it completely, no water should be standing. Students should observe how water is absorbed in the sand, but remains around the sand particles as it is stored in the ground forming part of the aquifer.
2. Have each group flatten the clay like a pancake and cover half of the sand, pressing the clay to one side to seal off that side). The clay represents a "confining" layer that keeps water from passing through it. Pour a small amount of water onto the clay. Let students observe how the water remains on top, only flowing in the sand below in areas not covered by clay.
3. The aquarium rocks will form the next layer. Place over the sand and clay covering the entire surface. To one side of the cup, have students slop the rocks, forming a high hill and valley (see illustration). Explain that these layers represent some of the many layers contained in the earth's surface. Pour water into each aquifer until the water in the valley is even with the hill. Students will see the water stored around the rocks. Explain that these rocks are porous, allowing storage of water within the pores and openings between them. They will also notice a "surface" supply of water (small lake) has formed. Now we can view both ground and surface supplies of drinking water.

***(Continued on Page 5)***

***Water's a  
necessity!  
Make sure  
to keep it  
clean!!***



# ...A Green Revolution



# GREEN REVOLUTION

educate  
empower  
inspire

Join us for a FREE conference for high school students that will cover Energy Conservation and Waste Reduction.

Learn how to make a sustainable and positive impact at home, school, or your community.

**WHEN** October 15th, 2009 | 8 a.m. – 3 p.m.

**WHERE** Camp Wokanda  
620 E. Boy Scout Road | Chillicothe, IL 61523  
Lunch will be provided

HOSTED BY:



Meagan Sudhoff | Conference Coordinator  
Meagan@livinglandsandwaters.org  
Cell | 260.418.4449

## ***Water Pollution Model***

***(Continued from Page 4)***

4. Place a couple drops of food coloring on top of the rock hill as close to the inside wall of the cup as possible. Explain that careless disposal of chemicals, trash, and used motor oils and other activities such as usage of synthetic fertilizers and pesticides above their aquifer can result in contamination of their drinking water. They will see the color spreads not only through the rocks, but also to the surface water and into the white sand at the bottom. This is one way pollution can spread throughout the aquifer over time.

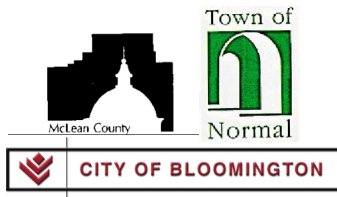
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## Calendar of Upcoming Events

**Nov 6, 9AM-1:30PM, Growing the Greenways Plan and Trail Conference.** Located at the Davis Lodge at Lake Bloomington. For more information and registration information contact Mercy Davison at (309) 454-9590 or mdavison@normal.org

**Nov 19, 10 AM- 2PM, American Recycles Day at the Children's Discovery Museum.** The event is free for all to enjoy and learn about the three R's. The Museum is located at 101 E Beaufort in Normal.

**Check our website calendar:  
[www.ecologyactioncenter.org](http://www.ecologyactioncenter.org)  
For more upcoming events!!**

