

## Join the Clean School Bus USA Program

Fall 2003

Serving Educators in  
Butler, Clermont, Hamilton  
and Warren Counties

*This unique program brings together businesses, educators, and others to work towards healthy school buses.*

School buses are the safest way for students to travel to and from school, but they are not the healthiest. The Environmental Protection Agency (EPA) has developed a new program, Clean School Bus USA, with hopes of tackling pollution from public school buses by making them not only safe, but healthy, too.

The program brings together partners from education, business, transportation, and public health organizations to work towards three main goals:

- Eliminating unnecessary idling of school buses (as mentioned in the Spring Edition of the *School Breeze*)
- Upgrading buses (retrofitting) with better emission control technologies and/or fueling them with cleaner fuels
- Replacing the oldest buses with new, cleaner buses

The Hamilton County Department of Environmental Services (HCDOES) has applied for grant money in accordance



with these goals in an effort to introduce biodiesel (an alternative fuel often made with soybean oil or the grease from fast food restaurants) to school buses.

Biodiesel is a cleaner burning alternative to regular diesel and is also renewable. Biodiesel can be used in different forms, from straight 100% biodiesel (B100) to mixtures such as B20, which is a mix of 20% biodiesel and 80% regular diesel. Even the mixes are cleaner burning than regular diesel, and are therefore healthier.

At this point, HCDOES is awaiting news on whether or not their grant application was successful. Visit our website at [www.hcdoes.org](http://www.hcdoes.org) to see if we received the grant. To learn more on the Clean School Bus USA program, visit [www.epa.gov/otaq/schoolbus/](http://www.epa.gov/otaq/schoolbus/).

## Make This School Year an Air Quality Year!

Welcome to the 2003-2004 school year! The 2002-2003 school year was the first year the HCDOES offered free classroom programs on air quality to schools in Butler, Clermont, Hamilton, and Warren counties.

During the year, more than 8,500 students benefited from over 160 programs and thousands of resources. Programs are available for grades K-12 on a variety of air quality topics. Each program lasts for approximately 45 minutes, and is available for one class at a time. Multiple presentations can be provided in one visit. To learn about available programs, contact Lynn White (see back). I look forward to working with you this school year!

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*Take a Walk! October 8, 2003 is  
National Walk to School Day!*

## St. John the Evangelist School Dedicated to Reducing Vehicle Idling

At the Environmental Fair at Glendale Elementary in June, two teachers from St. John the Evangelist School in Cincinnati applied for a \$300 mini-grant to reduce idling at their school.

Starting this Fall, these dedicated teachers and their students will be working

with the Hamilton County Air Quality Management Division to start a campaign to reduce car and bus idling at the school, making the air healthier for everyone in and around their school.

One of the goals of this project is to help students realize the importance of

air quality. The students will help to create and design the anti-idling information given to parents and bus drivers.

To find out how this project develops, please visit our website [www.hcdoes.org](http://www.hcdoes.org) in early 2004. Or to start a similar project, contact Lynn White (see back).

# Lesson

## Acid Rain and Plants Experiment

**Purpose:** To demonstrate to students the effects of acid rain on plant life.

**Materials:** 6 plants, 3 cups vinegar, measuring cup, 6 empty 2 liter bottles, pH paper.

**Procedure:** Before class, number the bottles with labels 1 through 6. Fill bottles 1 & 2 with water, bottles 3 & 4 with 1/2 cup vinegar and filled with water, and bottles 5 & 6 with 1 cup vinegar and filled with water.

**In class:** Divide students into 6 teams and tell them each team will be given a plant to care for. Have them number the plant according to the bottle you give them. Ask students what all plants need to survive (water, sunlight, and nutrients). Tell them they will get their nutrients from the soil. Ask where we should place the plants (near a window, all in the same location). They will water the plant and watch carefully it as it grows. Each day, they check on the plant's growth, noting any brown spots or any other problems. On every second or third day, each team will water their plant with the water in the bottle provided. After caring for the plants for a few weeks, have a class discussion about the plants, what happened to them? Do they know why? What will happen to the trees if acid rain keeps falling on them, and what will happen to plants in ponds effected by acid rain? Background information can be found at [www.epa.gov/airmarkets/acidrain/](http://www.epa.gov/airmarkets/acidrain/).

For more Air Quality lessons and information, visit [www.hcdoes.org](http://www.hcdoes.org), click on Air Quality and follow the education links!

## Free Videos!

HCDOES offers free videos on air quality issues for schools to borrow for a two week period. Schools are responsible for returning videos (mail or drop-off).

*Asthma In The Air* - Kids with asthma speak out about air pollution. All grades, 10 minutes.

*Small Town Saves World* - This video features small town citizens telling us about a serious air pollutant, fine particulate matter (PM2.5). Learn about its sources and what. Grades 9-12, 7:40 minutes.

*Easy Breathers* - Imagine that your girl/boyfriend suggest you are a planet wrecker and your new SUV doesn't impress anyone! Students learn about choices and clean transportation technologies. Grades 9-12, 16 minutes.

*Ozone Double Trouble* - Learn about one of the biggest air pollution problems in the tri-state, ozone. This video displays the difference between harmful ground-level ozone and the ozone layer. Grades 7-12, 15 minutes.

## Free Stuff

### For Students

Coloring Books & Activity Sheets!  
K-2 *Friends for Clean Air*  
3-6 *Kids Cloud Express*  
3-6 *Air Quality Activity Book* (Fall 2003)

### For Teachers

Transportation and Air Quality Reports  
*Air Quality Data Report* for Butler, Clermont, Hamilton, and Warren counties

[See below to request free materials.](#)

## Free Outreach

Call to schedule air quality lessons focusing on health, the environment, plants and energy.

[See below to request outreach materials.](#)

## Professional Development

### Air Quality Workshop

Friday, October 24, 8:30-3:30  
Hamilton County Department of Environmental Services

Come and learn about air quality and your health, transportation, economic, and social issues. Participants will be taken on a tour of the air quality lab to learn how local air quality is monitored and how the pollen and mold count is conducted.

Workshop will include breakfast, lunch, a grade-level appropriate air quality curriculum, classroom resources, and a \$75 stipend. A \$15 deposit is required, and will be refunded at the workshop. To find out more, or to register, contact Lynn White (see Need More Information box).

## Websites

[www.greenteacher.com](http://www.greenteacher.com)

This site is part of the *Green Teacher Magazine* resources. Links to lesson plans for all grade levels on environmental topics including renewable energy and rights and responsibilities.

[www.hmi.org/coolscience/](http://www.hmi.org/coolscience/)

*Cool Site for Curious Kids* from the Howard Hughes Medical Institute- *they weren't lying!*

[www.epa.gov/globalwarming/kids/index.html](http://www.epa.gov/globalwarming/kids/index.html)

This site includes information for your students on global warming, student quizzes, games, and a teacher resource area. It also includes fun games and activities.

[www.monsterisland.org/tinashumor/humor/kidsci.html](http://www.monsterisland.org/tinashumor/humor/kidsci.html)

*Kid Science* - Not quite as educational, as the others but a good read for *Stress relief* - how well are your students grasping science?

## Need More Information?

If you would like to receive The Breeze by email, please email [lynn.white@hamilton-co.org](mailto:lynn.white@hamilton-co.org), with the subject box stating "add to The School Breeze list."

For Free Outreach or Resources, contact Lynn White at 513-946-7754 or [lynn.white@hamilton-co.org](mailto:lynn.white@hamilton-co.org). Visit our website: [www.hcdoes.org](http://www.hcdoes.org).