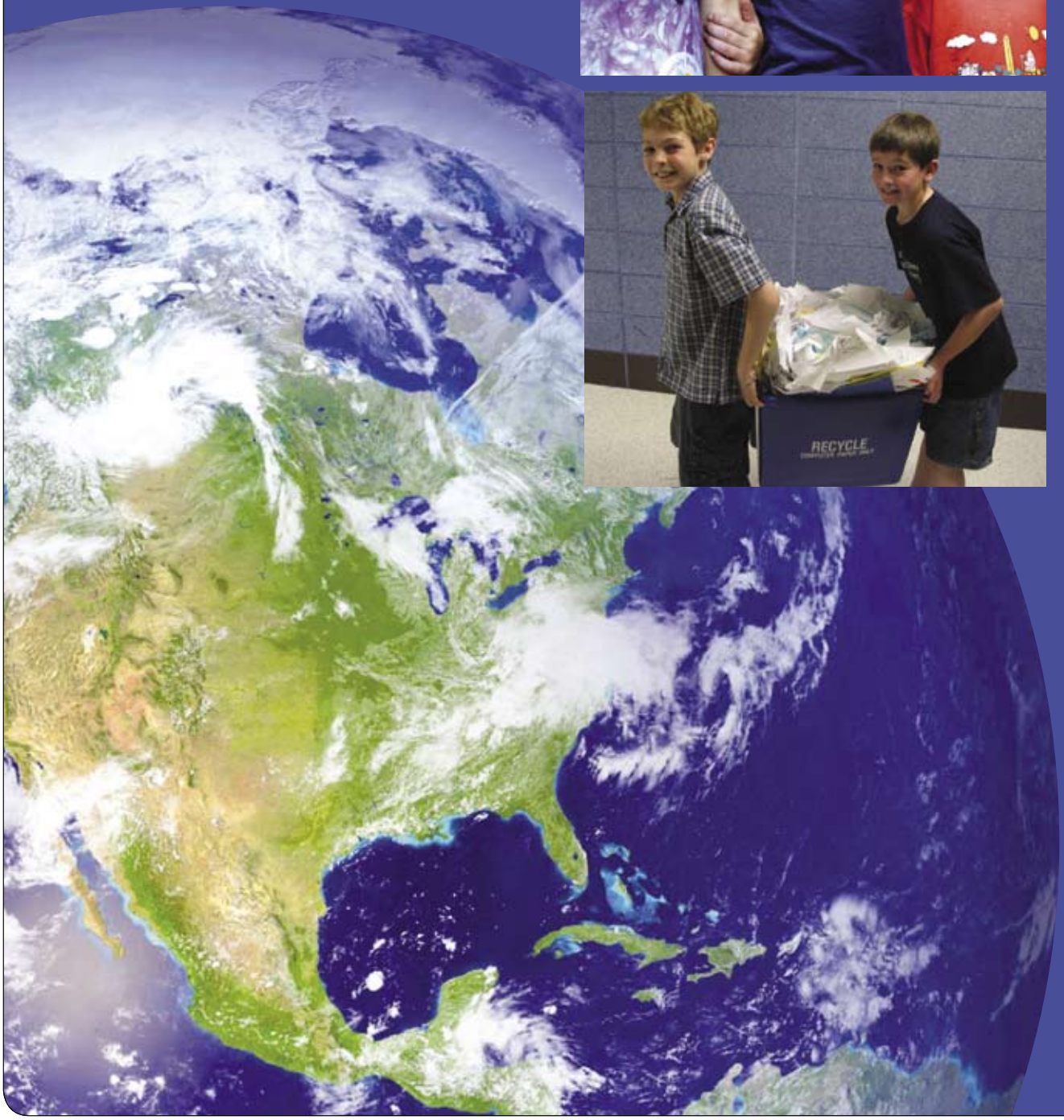
Healthy Sustainable Schools

Assessment Tool for Change



Authors
Linda Countryman and Emily Moore, Minnesota Pollution Control Agency (MPCA)

Marilyn Frauenkron Bayer, Connie Minowa, and Janelle Sorensen, Sustainable School Site Coordinators

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Contributors
The school staff and communities of Houston, Ponsford, and Hutchinson, for working with the MPCA as official pilot sites for the Minnesota Sustainable, Healthy School project.

Phil Allmon, Minnesota Department of Education

Jeanne Ciborowski, Minnesota Department of Agriculture

Andrew Kimball, University of Minnesota

Robert Mugaas, Minnesota Extension Service

Bruce Nelson, Minnesota Department of Commerce

Maryann Suero and the U.S. EPA

Dan Tranter, Minnesota Department of Health

MPCA contributors
Angie Bourdaghs

Anne Gelbmann

Teresa Gilbertson

Colleen Hetzel

Carol Hubbard

Fran Kurk

Jeff Ledermann

Mary Wenck

Editing and layout
Theresa Gaffey, Jessica Johnson, Marjorie Mattacola, Peter Vegell

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This Assessment Tool for Change is also available online at www.healthyschools.state.mn.us.

Topic experts and resources

These experts are available to consult with free of charge. In addition, each chapter includes a list of online and other resources selected as the best available at this time.

Building assessments: The Minnesota Retired Engineers Technical Assistance Program (Minnesota RETAP) provides free, confidential, nonregulatory assistance and other services to Minnesota businesses, industries, and institutions to reduce pollution, waste, energy use, and operating costs. 612-624-1300, toll free: 800-247-0015. www.pca.state.mn.us/retap

Composting: Ginny Black is the Organics Recycling Specialist for the state and assists the private, public, and nonprofit sectors in reusing and recycling food residuals and non-recyclable paper. She develops markets for finished compost and has been working to increase compost markets for the use of compost as a best management practice for storm water management. 651-215-0284, ginny.black@state.mn.us

Energy efficiency: Bruce Nelson is an energy specialist for the Minnesota Department of Commerce and a generalist in the area of building energy efficiency and indoor air quality. 651-297-2313, Bruce.Nelson@state.mn.us

Green building: Erin Barnes-Driscoll is a green building specialist at the MPCA, working on high performance schools and other green building issues. 651-215-0211, erin.driscoll@state.mn.us. Laura Millberg is with MPCA's Sustainable Development Unit, working on green building. 651-215-0219, Laura.Millberg@state.mn.us. www.pca.state.mn.us/greenbuilding

Green cleaning and environmentally preferable purchasing: Angie Bourdaghs is the MPCA specialist in green cleaning products and environmentally preferable purchasing for schools. 651-215-0261, Angela.Bourdaghs@state.mn.us. www.pca.state.mn.us/epp

Indoor air quality: Dan Tranter is a research scientist with the Department of Health, Indoor Air Unit. He established a way of measuring schools before and after implementation of healthy and sustainable practices. 651-201-4618, Daniel.Tranter@state.mn.us

Inegrated pest management (IPM): Jeanne Ciborowski, Minnesota Department of Agriculture, has information for schools on integrated pest management strategies and landscaping. 651-201-6217, Jeanne.Ciborowski@state.mn.us

Mercury: Carol Hubbard, MPCA's mercury education coordinator, works to remove mercury from Minnesota schools. She gives free, non-mercury equipment to schools that pledge to rid their buildings of mercury and mercury-containing items. Call to schedule a free assessment with Carol and her mercury-detecting dog, Clancy. 651-282-2604, carol.hubbard@pca.state.mn.us

Paper reduction: Madalyn Cioci, MPCA, offers to give school presentations on paper use reduction as well as conduct an evaluation of paper use and consumption. 651-297-3955, 800-657-3864, Madalyn.Cioci@pca.state.mn.us

Recycling: Mark Rust is the MPCA contact on recycling for government and institutions. He works closely with county and city solid waste and environmental services staff to assist schools with local recycling arrangements. 651-215-0198, mark.rust@state.mn.us

School building health and safety requirements: Phil Allmon is a management analyst for the Minnesota Department of Education, Program Finance Division. Phil provided guidance to the Healthy Sustainable Schools pilot projects. 651-582-8748, phil.allmon@state.mn.us

Other resources

SEE Program, Schools for Energy Efficiency, Hallberg Engineering; Christie L. Rosckes, SEE Program Consultant/Marketing Coordinator, 651-748-4354. www.seeprograms.com

Energy Star Program: Online benchmarking tool can measure the energy efficiency of your school compared to others across the United States. EPA offers a proven strategy for superior energy management with no cost resources to help each step of the way. Free Energy Star tools and resources: 1-888-STAR-YES, www.energystar.gov/schools

Getting started

Schools across the country are making changes, saving money, and creating tangible improvements in health and performance—by becoming sustainable, healthy schools. This assessment tool offers practical actions that almost any district can take to improve school environments.

You can go through it step by step, or just use the pieces that you find most helpful. Even if you don't follow all of the recommendations in this assessment tool, we still encourage you to review it in its entirety. Having a basic understanding of the issues and successful methods of implementation can save you a lot of frustration. Something that may not seem useful today, might be the solution to a problem that may arise tomorrow.

The companion guide to this assessment tool offers more in-depth information and resources for further help in addressing school environmental issues. We also encourage your school's administration to begin using the U.S. Environmental Protection Agency's HealthySEAT software program to keep track of the school's progress. www.epa.gov/schools/healthyseat

There are many more resources available on these topics at www.healthyschools.state.mn.us. This website will be updated regularly with the latest resources. Minnesota regulations that pertain to schools are cited where applicable, but they do change. Use the local government offices listed as resources in this assessment tool and the companion guide to find out if the regulations have changed. Thank you for starting (or continuing!) the journey to improve your schools.

Information about your school

Name of school district: _____

Name of school: _____

School address: _____

City: _____ State: _____ Zipcode: _____

Phone: _____ Fax: _____

E-mail address: _____

Website: _____

Is there a building or facility manager at your school? ❑ yes ❑ no

What is his/her name and title? _____

Approximately how many students attend your school? _____

Approximately how many staff are employed at your school? _____

Notes

Establish a team

The team is the core of the Healthy Sustainable Schools process—it organizes and directs school activities. Team members should consist of the stakeholders of the school environment—students, teachers, custodians, parents, and administrators. Be sure to garner support from top officials first (e.g. principal, superintendent, etc.) to ensure that you are supported all the way. This is also key to ensuring changes become part of ongoing operations and that they are sustainable.

- ➤ Schedule a meeting so that you have about two weeks to plan and publicize it.
- ➤ Publicity: Be sure to let school staff, parents, and students know about the meeting. Make posters (practice what you preach by printing the flyers on recycled paper or on the blank side of scratch paper), put a note in the school newspaper, announce the meeting over the PA system, put a table out at a school event with information about healthy sustainable school issues and tell everyone who stops by about the meeting.
- ➤ The meeting itself: It is important to kick off your first meeting with as many people and ideas as possible. By working with others, you can accomplish a lot more with less hassle. A major point of doing the work is to get more people involved.

Develop your plan of action

Some actions work better than others in terms of effectiveness, involving others, and practicality. Every school will have its own obstacles to face, and you will have to work as a group to figure out what will work best for you. When it makes sense, try to involve as many people as possible in various levels of responsibility. Generally, the more people are involved, the more successful you will be.

Planning is the next step in achieving your goals. It is the primary focus of your time and attention. There are eight essential steps to make planning flow smoothly.

- **Define the purpose:** What is the reason for doing this?
- **Determine the goals:** What are the concrete objectives?
- **Set a deadline:** What is the completion date?
- **List key activities:** What are the necessary steps?
- **Prioritize steps:** What comes first? Next? When?
- **Delegate:** Who does what?
- **Monitor progress:** How are things going?
- **Evaluate results:** How did it go? How did it feel?
- **Celebrate** all milestones!

Never underestimate the power of good planning! Paying attention to each of the steps listed here will make your efforts pay off!

Select a coordinator

Select a coordinator or hire one if at all possible. She or he will facilitate meetings, oversee all activities, and ensure your goals are met.

Please consider using a pre-existing committee to take up this challenge. For example, schools often have a Health and Safety Committee, Indoor Air Quality Team with a coordinator, or an SEE (Schools for Energy Efficiency) team working with a school ecology club. These groups are already made up of some of the same stakeholders.

Your team coordinator will need to play many roles, including leader, coach, and facilitator. The following is an outline of effective meeting concepts.

Essentials of team meetings

➤ **Facilitating:** As facilitator you should:

- Be fair, considerate, respected by others, and assertive.
- Present the meeting agenda on a chalkboard or large drawing pad and mark how much time should be spent discussing each item.
- Call on people in the order of raised hands and allow for as much input as time allows.
- Keep discussion brief and focused.
- Make sure each section ends with a plan of action and assignment of tasks: Who, what, when? ***Delegation is key.***

➤ **Circle sharing:** Sit in a circle so everyone can see each other. The facilitator should introduce him/herself and explain the agenda. For the first meeting, have others introduce themselves and explain why they came to the meeting and what they hope to accomplish. Subsequent meetings should include introductions if new people are present.

➤ **Communication:** For the first meeting, tell people some ideas you have for the group. Describe some of the steps included in this assessment tool, and then invite others to make suggestions for the group. For future meetings, this could be a time for updates and sharing information.

➤ **Brainstorming** allows people to stretch their imaginations and offer ideas freely. All ideas should be written on a blackboard or large pad without discussion and especially without criticism. After all the ideas are written down, then decide which one(s) to pursue.

➤ **Decision making:** We recommend trying to make all decisions through the process of consensus. Consensus involves discussing all the possibilities until everyone agrees on the final decision. If consensus proves impossible to achieve, then decide by taking a vote and following the majority's wishes.

➤ **Delegation** is the key to accomplishment. No one person can do everything, so it is very important to assign different tasks to each person in the group. Ten people can do ten times as much as one—and everyone will feel more involved if they are included in implementing the plans.

Information about your team

Your team may be very small, or you may find many people are interested in participating. If you have a large group, identify a steering committee of people who will be consistently committed to being actively involved. These people should sign the Healthy Sustainable School Commitment form to formally accept their role in the steering committee. List other interested participants in the Volunteers section.

Steering committee members

Name: Title:

Phone: E-mail:

Address:

City: State: Zipcode:

Name: Title:

Phone: E-mail:

Address:

City: State: Zipcode:

Name: Title:

Phone: E-mail:

Address:

City: State: Zipcode:

Name: Title:

Phone: E-mail:

Address:

City: State: Zipcode:

Name: Title:

Phone: E-mail:

Address:

City: State: Zipcode:

Name: Title:

Phone: E-mail:

Address:

City: State: Zipcode:

Please use an additional sheet of paper if you have additional steering committee members.

Volunteer information

Name:

Phone: E-mail:

Name:

Phone: E-mail:

Name:

Phone: E-mail:

Name:

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Phone: E-mail:

Please use an additional sheet of paper if you have additional volunteers.

Healthy Sustainable School Commitment Form

We believe that:

- ➤ Every child has a right to an environmentally safe and healthy learning environment.
- ➤ Every child, parent, and school employee has a right to know about environmental health issues in their school environment.
- ➤ Schools should serve as role models for environmentally responsible behavior.

Healthy sustainable schools benefit our children, our schools, our community, and our planet. We commit to doing our best to make our school healthy and sustainable. We will meet regularly, address the issues laid out in the *Healthy Sustainable Schools Assessment Tool* and take action to improve our school.

Signature: _____ Date: _____

Signature: _____ Date: _____

Signature: _____ Date: _____

Signature: _____ Date: _____

Signature: _____ Date: _____

Signature: _____ Date: _____

Signature: _____ Date: _____

Notes

Build awareness and support

Move forward with support of school boards and health and safety committees. After the team has been established, be sure to keep the school board and top management informed about the team's concerns and intentions.

Build additional awareness throughout the school by creating an eco-code, Earth pledge, or an environmental vision statement, setting out what the school is striving to achieve. Display the vision statement in various places within the school for students and staff to read.

Create support by adopting an environmental policy statement for the school or district.

A simple statement could be: Anyville Public Schools commits to doing its best to protect the Earth and the health of its children.

A more comprehensive policy statement could be the following sample school board resolution (see next page).

Blueprint for Healthy Sustainable Schools

Source: "The Little Green Schoolhouse: Thinking Big About Ecological Sustainability, Children's Environmental Health and K-12 Education in the United States." www.greenschools.net

Whereas—Schools have the potential to make positive, tangible environmental change in the world while teaching students to be stewards of their communities, the earth, and its resources.

Whereas—Our current school systems often suffer from inadequate facilities that frequently use energy, water, and other resources unsustainably; use pesticides, cleaning agents, and other chemicals that pose health risks; and can result in "sick building syndrome" from indoor air pollution and poor ventilation.

Whereas—Schools are important consumers of natural resources, including energy, water, food, and paper, and generators of waste materials, including garbage, runoff, and air emissions, which contribute to the world's larger environmental problems like global warming, water and air pollution, and habitat destruction.

Whereas—Children, teachers, and staff wish to reduce exposure to toxic chemicals at school, and offer more nutritious food choices, and use and manage resources more sustainably.

Whereas—This district expends considerable financial resources on chemical pest control, cleaning supplies, energy, water, office and school supplies, and educational activities (*resolution could include specific statistics from the district on funds spent on specific resources*).

Whereas—This district has a considerable opportunity through its purchasing power to improve both the environment and its financial bottom line.

Whereas—Many options and choices exist for schools to use natural resources more efficiently; to reduce, reuse, and recycle; to follow healthy, high-performance school guidelines for construction; to ban junk food and soda and produce healthy lunches through local farm-to-school partnerships; to eliminate toxic chemicals; and to purchase (or produce) clean energy and recycled paper to protect our global environment.

Whereas—There is a tremendous opportunity to teach children about sustainability, environmental health, and nutrition; to meet math, science, and social studies standards; to integrate environmental education into curricula; and to support students to become leaders in making their own school a healthier and more environmentally friendly place.

Whereas—The precautionary principle has been adopted by a growing number of cities as a proactive approach to promote the safest, lowest risk way to protect people's health, the environment, and property.

Recognizing all the excellent work already underway in the district in X, Y, and Z, undertaken by parents, teachers, administrators, janitors, nurses, and others.

Recognizing that this framework creates a long-term, inspiring vision that integrates and strengthens many efforts in our district.

Further recognizing that fully implementing this resolution will take time and must be achieved in stages.

Be it resolved that to promote healthier, more environmentally sustainable schools and teach environmental leadership, the School Board hereby:

- Calls on the district to develop a plan to implement a proactive environmental policy that includes the following to be prioritized and implemented step by step.
- Develops and adopts an integrated pest management program and other policies to minimize or eliminate the use of hazardous pesticides and herbicides in schools.
- Conducts an audit of cleaning materials used in district schools and develops a plan to use the least toxic substances.
- Puts in mechanisms to ensure that new schools are not sited near or on environmental health hazards.
- Creates a program to ensure that new schools are built and existing schools refurbished following healthy, high-performance school building criteria that mandate the use of environmentally sound building material; efficient use of energy, water, and other resources; and the creation of a healthy learning environment for children.
- Creates a district-wide plan to improve the energy efficiency of schools; to increasingly rely on clean, renewable energy sources to power the district's facilities; and to invest in clean, renewable technologies such as solar and wind.
- Creates district-wide recycling and composting programs, and procures recycled office and classroom supplies.
- Follows and builds upon the examples of New York City, Chicago, Nashville, San Francisco, and others to ban soda, candy, junk food, and fast food from all school grounds.
- Evaluates the district's school lunch program to ensure good nutrition and considers developing a farm-to-school program.
- Encourages the development of school gardens and green schoolyards as hands-on learning tools that promote good nutrition, stewardship of the land, and that teach to standards.
- Adopts frameworks to meet state standards and integrate environmental education and student participation into school-wide environmental initiatives, using partnerships with environmental education providers (nonprofit and public agencies).

Assess your school

The next step is to assess the school by conducting a "walk-through" or self-evaluation to identify current conditions and identify areas for improvement. Use the following basic checklist in its entirety and do one large "walk-through" or address each area individually and do several smaller "walk-throughs."

This is an informal assessment tool. The checklists are intended to help identify what the school is already doing and to find areas for improvement. A more formal assessment, the U.S. EPA's HealthySEAT program is available at www.epa.gov/schools/healthyseat/. The U.S. EPA has developed this unique software tool to help school districts evaluate and manage school facilities for key environmental, safety, and health issues. The new Healthy School Environments Assessment Tool (HealthySEAT) is designed to be customized and used by district-level staff to conduct completely voluntary self-assessments of their school (and other) facilities and to track and manage information on environmental conditions school by school.

You may also receive a free pollution prevention and waste/energy reduction assessment by contacting the Minnesota Retired Engineer Technical Assistance Program (RETAP) at 612-624-1300 or 800-247-0015 (ask for the retired engineers program). For more details, go to www.pca.state.mn.us/retap.

Basic school environmental review checklist

Use this as a preliminary guide to get a basic idea of the most common environmental problems in schools and what can be done to prevent or remediate them at the school. Resources for each review item is listed below.

❑ **Is the school clean? Are carpets, floors, ceilings, and air intakes free of water stains and mold?**

Check for unclean areas and mold and water stains on walls, floors, and ceilings. Damp areas that do not dry within 24 hours may grow mold.

Minnesota Department of Health, 651-215-0700, www.health.state.mn.us/divs/eh/schools
United States Environmental Protection Agency, www.epa.gov/mold/moldresources/html
National Heart Lung and Blood Institute, How Asthma-Friendly Is Your School? www.nhlbi.nih.gov/health/public/lung/asthma/friendhi.htm
Community Action to Fight Asthma, 510-622-4444, www.calasthma.org

❑ **Do classroom windows open? Are heating, air conditioning, and ventilation systems in order?**

Open and close classroom windows, and ask teachers if heat and airflow are satisfactory. Check for airflow in or out of vents by holding a piece of tissue in front of them.

For school ventilation standards, contact your state education agency.
U.S. Environmental Protection Agency: Tools For Schools, www.epa.gov/toolsforschools/

❑ **Do trucks, buses, and cars load or idle well away from the school?**

Can you smell exhaust inside the building? Look for the loading and idling areas—they should be far away from outdoor air intakes and windows. Ask the principal if the school district is in compliance with Minnesota state legislation calling for schools to reduce the unnecessary idling of school buses. Urge the district to take the final step and adopt a "No Idling" policy.

MPCA, www.pca.state.mn.us/oea/ee/noidle.cfm
Sierra Cub Northstar chapter, 612-659-9124, www.northstar.sierraclub.org/campaigns/air/schoolbus/
National PTA: www.pta.org/parentinvolvement/healthsafety/hs oc airpollution.asp/
U.S. Environmental Protection Agency, www.epa.gov/cleanschoolbus/

❑ **Are renovations and repairs completed?**

Including roof tarring, painting, demolition, and construction? If not, ask school administration to publicly share their plan to control dust, fumes, and noise.

U.S. EPA Tools for Schools resources on renovation and repairs, www.epa.gov/iaq/schools/tools4s2.html#Renovation%20and%20Repairs

❑ **Are cleaning products and science and art supplies free of toxic substances?**

Some classroom supplies, such as dry erase markers, glues, and cleaning products, contain lead, mercury, asbestos, formaldehyde, or solvents. Ask to see Material Safety Data Sheets (MSDS), included with purchase, for product health effect. Nontoxic replacements for most supplies are available; ask the school district to adopt a nontoxic purchasing policy if one is not already in place.

Environmentally preferable purchasing, www.pca.state.mn.us/epp
Healthy Schools Network: Guide to Green Cleaning: Healthier Cleaning and Maintenance Practices and Products for Schools, 518-462-0632, www.healthyschools.org

❑ **Does the school control pests and unwanted weeds without the use of pesticides?**

Ask the facilities manager if pesticides are used and if so, when, where, and for what pests. Are students, staff, and parents aware of the 2000 Minnesota Parents' Right-to-Know Act and offered notification prior to pesticide applications? Ask to see the MSDS included with each pesticide purchase to learn about potential health effects if exposure occurs. Are they following the Minnesota Department of Agriculture's recommendation to use integrated pest management (IPM) in and around schools?

Minnesota Department of Agriculture, 651-201-6217, www.mda.state.mn.us/ipm/IPMinSchools.html
Beyond Pesticides, 202-543-5450, www.beyondpesticides.org/states

❑ **Are school grounds clean? Free of air, water, and soil contamination? Is wooden playground equipment made of non-arsenic treated wood?**

Are there trash receptacles outside of the building? Are there neighboring sources of emissions, waste, or heavy traffic, which contribute to soil, air, and water pollution. Research the property's past use, and have the soil tested for arsenic contamination, which can come from arsenic-treated (CCA) wood used in playgrounds. If equipment is made of CCA wood, ask the school to have it removed and disposed of properly.

Environmental Defense Fund, www.scorecard.org
Healthy Schools Network, www.healthyschools.org/documents/CCA_Guide.pdf

❑ **Are steps taken to reduce the presence of mercury in the school?**

Check the nurse's office and science lab for equipment containing mercury and recommend safer alternatives. Promote proper management and recycling of mercury and mercury-containing products. Check with the school administration to see how they prevent mercury spills and if they know what to do if a spill occurs. Encourage energy efficiency to prevent mercury pollution from coal-burning power plants.

Mercury-Free Zone Program, Minnesota Pollution Control Agency, 800-657-3864, www.pca.state.mn.us/mercury-free
Mercury in Schools, www.mercuryinschools.uwex.edu

❑ **Are drinking water and building paints lead free?**

The EPA strongly recommends testing drinking water for lead contamination. Ask your principal if drinking water has been tested, and to see the results. Paint dust or flakes found in windowsills, carpets, stairwells, and soil from pre-1980 buildings are assumed to be lead-based. Lead poisoning has been proven to cause a variety of serious health problems, including mental retardation and aggressive behaviors. It has also been linked to schizophrenia.

Minnesota Department of Health, 651-201-4700, www.health.state.mn.us/divs/eh/lead/index.html
U.S. Environmental Protection Agency: Consumer Advisory, 800-426-4791, www.epa.gov/safewater/lead/schoolanddccs.htm
Lead Service Line Water Testing, 202-787-2732
Minnesota Department of Health, 651-201-4700, www.health.state.mn.us/divs/eh/water/schools/index.htm

❑ **Is the school fully accessible to all students and staff with asthma, environmental, learning, developmental, and physical disabilities?** Federal laws require schools to have accessible programs and facilities and offer appropriate educational services. School conditions that exacerbate asthma, such as poor indoor air quality, inhibit teacher and student performance and may hinder their ability to attend school. Ask about the school's absenteeism rate compared to other schools.

Healthy Kids: The Key to Basics, 617-965-9637, www.healthy-kids.info
Protecting Vulnerable Students in Sick Schools by Ellie Goldberg, Healthy Schools Network, 518-482-0632, www.healthyschools.org

Notes

Energy Use

General information

Name of school:

When was the school built?

List any additions or renovations and when they were completed:

What kinds of fuels are used for heating, cooling, water heating, lighting, etc.?

What are the total annual energy costs for the school?

What is the cost breakdown for heating, cooling, water heating, lighting, etc?

How many hours is the school in use on weekdays? Weekends?

Summers? Holidays?

Who is in charge of controlling energy use?

Who is in charge of maintaining energy-using equipment?

Is there a maintenance schedule? ❑ yes ❑ no

Does the school use a programmable thermostat? ❑ yes ❑ no

What are the settings?

List the kind of the heating system the school uses, the year it was installed, and its AFUE (annual fuel utilization efficiency).

List the kind of the cooling system the school uses, the year it was installed, and its SEER (seasonal energy-efficiency rating).

List the number of water heaters, what type of fuel they use, when they were installed, and their EERs (energy-efficiency ratings).

What temperature is/are the water heater/s set at?

Energy checklist

- ❑ Conduct an energy audit. Consider involving students in the audit as a learning project. Minnesota Buildings Benchmarks & Beyond is available at no charge to all public schools. Contact: Darin Aguilar, the Weidt Group, 952-938-1588, dka@twgi.com
- ❑ Use compact fluorescent bulbs, high-intensity discharge lights, or light-emitting diode (LED) lights instead of standard incandescent bulbs.
- ❑ Take advantage of natural light or daylighting, particularly when a school undergoes significant remodeling or when new structures are added.
- ❑ Install double pane windows and/or windows with a low-emission coating.
- ❑ Plug holes and caulk windows to stop heat loss.
- ❑ Replace damaged doors and windows to reduce heating and cooling needs in the building.
- ❑ Turn off lights when not in use—lighting accounts for nearly 50% of the electric bill in most schools. There is no reason to leave lights on if a room is empty for more than one minute. (And, yes, this also applies to the new energy-efficient fluorescent lights.)
- ❑ Form a student energy patrol to ensure lights are out when rooms are empty (check classrooms, the cafeteria, the auditorium, etc.).
- ❑ Have students make signs and stickers to remind people to turn off lights when they leave a room.
- ❑ Put light switches where people can find and operate them.
- ❑ Consider time clocks, occupancy sensors, and dimming controls to reduce lighting energy.
- ❑ Turn off the light in vending machines.
- ❑ Set thermostats at 68°F for heating and 78°F for cooling. Using fans can make people feel degrees cooler, at much less cost than air conditioning.
- ❑ Where classrooms or other areas are uncomfortably cold or drafty, find out why and fix the problem. Custodians, teachers, and students should work together to increase building comfort.
- ❑ Do not block the airflow around vents.
- ❑ Install programmable thermostats in areas like the cafeteria to minimize operating hours of the heating and cooling systems during low-occupancy periods.
- ❑ Turn down heat in the hallways, and keep classroom doors closed. Otherwise, the heat runs down the hall and outside where it is wasted to the outdoors.
- ❑ If school computers have power-management features, make sure controls are set so they will go into the sleep mode when not in active use.
- ❑ Save 50% on energy costs by using Energy Star appliances, computers, monitors, printers, fax machines, copiers, and other equipment. (Visit www.energystar.gov for more information.) If your school purchases the equipment, make sure the Energy Star features are enabled.
- ❑ Get the entire school involved. Energy savings add up when the entire school joins together in conservation efforts. Schools with effective conservation programs have reported reductions of as much as 25 percent in utility bills.
- ❑ Publicize energy costs and savings. When people know how much it costs to power their school, they can see why it is worth some extra effort to avoid waste.
- ❑ See if district administrators would be willing to return a percentage of the dollars saved from the school's no-cost energy-efficiency changes.

Energy resources

Minnesota Department of Commerce State Energy Office, Mr. Bruce Nelson, State Energy Office Partnership Customer Service Representative, Minnesota Public Schools Rebuild Partnership, 85 7th Place E, Suite 500, St. Paul, MN 55101-2198, 651-297-2313, fax: 651-297-7891, Bruce.Nelson@state.mn.us

Energy Star for K-12 School Districts. The U.S. Environmental Protection Agency's website to aide schools with energy issues. EnergyStar hotline: 888-782-7937
www.energystar.gov

Energy Smart Schools, U.S. Department of Energy Rebuild America Program, Rebuild America Clearinghouse: 252-459-4664, e-mail: rebuildorders@rebuild.org
www.modernschools.org/resources

Schools for Energy Efficiency, SEE is a self-implemented program in which each district works at its own pace initiating the SEE systemized plan of operational and behavioral energy-efficient strategies. SEE is currently active in 250 schools of 14 Minnesota school districts. Schools for Energy Efficiency, Hallberg Engineering, Inc., 1750 Commerce Court, White Bear Lake, MN 55110, SEE Program Manager, Sheri Rosenthal, 651-748-1100, fax: 651-748-9370
www.seeprograms.com

Notes

Water use

General information

What is the source of the school's water supply?

If water comes from a municipal supply, what is its source?

If water comes from a municipal supply, what did the school pay last year for water?

Using water bills or water meters, figure out how much water the school used last year

_____ cubic feet

_____ gallons (1 cubic foot = 7.48 gallons)

How many water-using devices does the school have? Count faucets, toilets, water fountains, showers, etc.

Are any leaking? ❑ yes ❑ no

Please list:

How many are automatic (manually turned on, but timed to go off)?

How many are manual?

How many use sensors (turns on and off based on movement of person using the equipment)?

On average, how much water do the school's toilets use per flush?

How many water faucets are located outside the building?

Are any leaking? ❑ yes ❑ no

Are they secured so that only staff can turn them on and off? Do school staff use hoses to wash sidewalks and parking areas? ❑ yes ❑ no

Does the school have gutters and/or down spouts? ❑ yes ❑ no

Where does water that runs off the school's roof and parking lots go?
❑ storm drain
❑ recessed grassy areas
❑ rain garden
❑ retention pond
❑ drainage ditch
❑ natural pond/stream/wetland
❑ other

Water checklist

- ❑ Ask an employee to monitor water use, or have students conduct a water use audit as part of a learning project.
- ❑ Install submeters to major building water users to monitor efficiency and identify leaks.
- ❑ Encourage students and teachers to report water leaks to the maintenance staff.
- ❑ Make signs or posters to put near faucets to remind people to turn them off. Change them periodically, so people will keep reading them—and remembering the message.
- ❑ Fix leaks in toilets, faucets, and pipes right away.
- ❑ Only run the dishwasher when it is full.
- ❑ Pre-soak utensils and dishes instead of running the water to rinse them.
- ❑ Install low-flow faucet aerators and showerheads.
- ❑ Keep hot water pipes insulated.
- ❑ Use dry methods (scraping, sweeping, and shoveling) to clean equipment and areas whenever possible.
- ❑ When washing, use high-pressure, low-volume washing equipment with minimal or no detergents.
- ❑ Plant hardy, native vegetation adapted to the local climate and rainfall.
- ❑ Use mulch around plants and trees to retain moisture.
- ❑ Keep sprinklers and hoses directed at grassy areas and not the pavement when watering.
- ❑ Water during cooler parts of the day (before 10 a.m. and after 5 p.m.) to minimize evaporation loss.
- ❑ Do not water on windy days.
- ❑ Use drip and other high-efficiency irrigation devices in lieu of sprinklers.
- ❑ Collect rainwater for irrigating or other non-potable uses.
- ❑ When mowing lawn areas and playing fields, set the mower blades to 2 to 3 inches high to help shade the soil and improve moisture retention.

Water resources

Water Efficiency, U.S. EPA's website on water efficiency with a plethora of resources, tips, and tools, including free WAVE Water Management software.
www.epa.gov/owm/water-efficiency/

Water Conservation in Schools Resource List. National Clearinghouse for Educational Facilities' complete list of water conservation resources.
www.edfacilities.org/rl/water.cfm#9674

Green cleaning

General information

Keeping your school clean doesn't simply mean buying the least toxic products. It involves a comprehensive plan for preventing dirt and spills in the first place.

Attach a list of the cleaning solutions and other maintenance supplies your school uses. You can even make copies of the Material Safety Data Sheets for each one to identify potential health risks associated with them.

Where or from whom does your school purchase its cleaning supplies?

Does the school's supplier have environmentally friendly alternatives? ❑ yes ❑ no

Please list.

What is the school's cleaning schedule?

Are chemicals used when children are present? ❑ yes ❑ no

Green cleaning checklist

❑ Work from a written plan.
- Practice pollution prevention/source control.
- Establish cleaning days, cleaning zones, cleaning stewardship, and communications.

❑ Use entryway systems at all entrances.
- High-quality mats inside and out, 10 to 12 feet.
- Erect barriers to reduce walking on turf and encourage use of sidewalks.
- Sweep walkways near outside doors.

❑ Use environmentally preferable products.
- Cleaning products that are Green Seal GS-37, low VOC (volatile organic compounds), or bio-based.
- Non-antimicrobial hand soaps.
- Concentrate/bulk to reduce packaging waste.

❑ Use dispensing equipment.
- Improves product performance and safety.
- Reduces consumption by 35 to 65%.
- Reduces costs.

❑ Use environmentally preferable supplies.
- Recycled-content toilet paper and paper towels (large rolls and touch-free dispensers).
- Recycled-content and chlorine-free bleaching.
- Recycled-content plastic bags and disposables.

❑ Ventilate during and after cleaning.
- Keep a log of cleaning.
- Write replacement dates on filters.

❑ Practice stewardship and shared responsibility.
- Keeping things clean is everyone's responsibility.

❑ Initiate a green cleaning program that promotes the analysis of current products and practices, includes and trains staff how to use the cleaning products, and has full support and input from all levels of custodial personnel.

❑ Provide mixing stations in several locations to reduce product waste and encourage proper dilution.

❑ Eliminate combined cleaner/disinfectant products, and use disinfectants only when and where necessary.
- Know what organisms the school is really trying to reduce/disinfect against. (Disinfectants are formulated to target certain organisms or combination of organisms. It is important to use the right product for the right place.)
- Know what surfaces do (or do not) need to be disinfected, and how often.
- Clean surfaces thoroughly before disinfecting. (Disinfectants can only be effective through contact. A layer of surface grime is likely to prevent sufficient contact.)
- Use proper disinfectant mixing and cleaning procedures. *This includes leaving disinfectants in place for the correct amount of time before wiping surfaces clean.*

❑ Follow and set good examples. Provide public education signs so visitors are aware of the important things the school is doing.

❑ Monitor how the program is going, address concerns, and make adjustments or updates.

❑ Continuously search for ways to improve health, safety, effectiveness, and environmental responsibility.

Green cleaning resources

Environmentally Preferable Purchasing of Cleaners, Minnesota Pollution Control Agency. Includes local success stories and information about the state purchasing contract.
www.pca.state.mn.us/oea/epp/cleaners.cfm
Also check out MPCA's *Procuring Green Cleaners*.
www.pca.state.mn.us/oea/epp/cleaners-mn.cfm

Green Seal. Founded in 1989, Green Seal provides science-based environmental certification standards that are credible, transparent, and essential in an increasingly educated and competitive marketplace. Find information on Green Seal certified cleaners.
www.greenseal.org/findaproduct/index.cfm.

Environmentally preferable purchasing

General information

List the contact information for any vendors the school uses.

Does the school have any purchasing policies? If so, attach them here. ❑ yes ❑ no

Attach purchasing records from the school's last fiscal year.

Environmentally preferable purchasing checklist

- ❑ Contact local vendors and support vendors who stock recycled paper, recycled toner cartridges, and other environmentally preferred products when purchasing for the school.
- ❑ Involve those who purchase products in the audit and decision-making process to get "buy-in" for long-term success of an environmentally preferable purchasing (EPP) program.
- ❑ Regularly get feedback from users about product performance.
- ❑ Order print jobs on post-consumer recycled paper and specify such jobs be double-sided whenever possible.
- ❑ Use vegetable oil or water-based ink for printing.
- ❑ Purchase supplies and equipment made with recycled-content materials (e.g., paper products, engine oil, paints, office products, carpeting, building materials, and outdoor benches/tables).
- ❑ Buy products with less packaging or in returnable containers.
- ❑ Avoid buying products not easily recycled in your area.
- ❑ Consider remanufactured items, such as recharged toner cartridges, re-formatted computer disks, and returnable office equipment.
- ❑ Instead of paper, switch to cloth roll towels and/or air dryers in the restrooms, or switch to a dispenser that is not so generous with paper towels.
- ❑ Use water-based paints, and use nontoxic or less-toxic floor cleaners and desk cleaners.
- ❑ Use products with toxic ingredients as infrequently as possible. Choose the least toxic product available for each task.
- ❑ Arrange for expert training by vendors for new, complex equipment.
- ❑ Consider renting or leasing infrequently used equipment.

EPP resources

Minnesota Pollution Control Agency. To reduce the quantity and toxicity of waste in Minnesota, state law requires state agencies and other public entities to purchase recycled, repairable, and durable goods. Purchasers can use these tools and resources to incorporate environmental considerations into standard purchasing practices.
www.pca.state.mn.us/epp

The Solid Waste Management Coordinating Board's Environmentally Preferable Purchasing Guide is an incredibly useful tool for schools wanting to begin an EPP program.
www.swmcb.org/EPPG

Minnesota Recycled Products Directory is a searchable directory of recycled-content products made in Minnesota. Find everything from absorbents, bags, and chemicals to printing paper, recycling containers, and signage.
www.pca.state.mn.us/rpdir

Reduce, reuse, recycle

General information

What is the total amount of waste generated by the school annually?

Of the tonnage, how much is disposed of as trash?

How much is recycled?

Which materials does the school recycle?

Does the school have a composting program? ❑ yes ❑ no

How many dumpsters does the school have?

What is the capacity of each one?

How often are they emptied?

On average, how full are they when they are emptied?

How many recycling bins and recycling dumpsters do you have?

Who picks up your trash?

Who picks up your recycling?

What does the school pay for trash disposal services?

What does the school pay for recycling services?

Does the school receive any income from recyclables? ❑ yes ❑ no

Where does the trash end up?

Where does the recycling end up?

Reduce, reuse, recycle checklist

❑ Obtain top-level support from the school administration, involve the custodial staff from the beginning, and educate all participants in the program.

➤ **Reduce**

- ❑ Buy concentrates, returnables, economy-sized containers, or products in bulk.
- ❑ Select products with the least-wasteful packaging.
- ❑ Buy, maintain, and repair durable products.
- ❑ Encourage practices that reduce waste paper (e.g., proofing documents on the computer screen before printing; storing final documents on disk rather than making final printed copies; making two-sided copies; printing letters and reports on both sides of the page; and reusing paper that is clean on one side for in-house drafts and message pads).
- ❑ Minimize packaging waste by specifying returnable or reduced packaging in supply agreements, particularly for items purchased in large quantities.
- ❑ Use electronic mail to send messages instead of written memos, whenever possible. Encourage employees to save e-mail documents electronically.
- ❑ Avoid using cover sheets to send fax transmittals.
- ❑ Consider a printer that can print on both sides of the paper at once. (Ask your vendor to train all staff on this feature.)
- ❑ Post minutes or other handouts on an Intranet site, or circulate them electronically after the meeting.
- ❑ Save on paper by using chalkboards and overhead projectors for student worksheets, quizzes, etc.
- ❑ Distribute handouts on disk to eliminate paper waste.
- ❑ Save used manila envelopes and file folders for in-house reuse.
- ❑ Reduce junk mail by taking your school's name off unwanted mailing lists.

➤ **Reuse**

- ❑ Buy reusable products and avoid single-use items.
- ❑ Reuse bags, containers, paper, boxes, and other items. Keep a supply of extra mugs and glasses in common areas.
- ❑ Share periodicals with associates instead of receiving multiple copies.
- ❑ Donate old or outdated equipment, books, or furniture to local community organizations.
- ❑ Use rechargeable batteries and solar calculators.
- ❑ Save and reuse boxes for shipping and other uses.
- ❑ Have students answer questions on scrap paper.
- ❑ Encourage students to bring their lunch in reusable containers.
- ❑ Set up "swap" areas in classrooms to share reusable materials.
- ❑ Work with janitorial staff to practice resource efficiency, such as reusing plastic garbage can liners in rooms that generate only dry waste, buying bulk cleaning supplies, and using plastic refillable spray bottles.

➤ **Recycle**

- ❑ Find a local market, drop-off center, recycling service company, or a waste hauler that offers recycling services.
- ❑ Evaluate which recyclables are generated in different locations of the school in order to determine the best recycling bin locations.
  - **Administrative offices:** office/computer paper, cardboard, toner cartridges
  - **Classrooms:** mixed paper and in some schools bottles and cans
  - **Cafeteria:** cardboard, steel cans, aluminum cans, bottles, and plastics
  - **Library:** paper, magazines, books, and newspaper
  - **Vending areas:** aluminum, glass, and plastic containers
- ❑ Make sure recycling bins are well marked to ensure they will receive the intended recyclable material.
- ❑ Work with your custodial staff to develop a collection system that they can effectively manage.
- ❑ Educate and re-educate on your recycling program using the school newspaper, posters, web page, e-mail, school handbook, and student orientation. Update students and staff on the progress of the recycling program in order to involve them in the program and to demonstrate their contribution to improving the environment.
- ❑ Buy recycled products. Close the recycling loop!

Reduce, reuse, recycle resources

Reduce, Reuse, Recycle, Minnesota Pollution Control Agency. This site provides information about recycling and waste in Minnesota, a recycled products directory, a waste reduction handbook, and more. Follow the "Reduce Waste: If not you, who?" link to great fact sheets on office waste reduction, school waste reduction, and the paper-less office.
www.pca.state.mn.us/oea/reduce/index.cfm

WasteWise. The U.S. EPA's program that offers free technical assistance to help you design and implement waste reduction practices. 1-800-EPA-WISE (372-9473)
www.epa.gov/wastewise

U.S. EPA's general reduce, reuse, recycle website also has helpful information and resources.
www.epa.gov/epaoswer/non-hw/muncpl/reduce.htm

Recycling Association of Minnesota.
Site provides information about why to recycle, what can be recycled in Minnesota, where to recycle, and educational materials. Ellen Telander, Executive Director, 651-641-4560, P.O. Box 14497, St. Paul, MN 55114, ramrecycle@comcast.net
www.recycleminnesota.org

School Recycling Guide, Saint Paul, Ramsey County Department of Public Health Environmental Health Section.
www.ci.roseville.mn.us/info/recycle/school_recycling_guide.pdf

Notes

Paper reduction

General information

Where does the school purchase printing supplies?

Does the school's supplier have environmentally friendly alternatives? ❑ yes ❑ no

Please list:

Does the school have the capability to go paperless? ❑ yes ❑ no

Explain why or why not:

Paper reduction checklist

The following is a checklist of low- or no-cost techniques to reduce paper use in schools.

❑ Print on both sides.

❑ Use e-mail instead of faxes.

❑ Switch to electronic publication.

❑ Eliminate duplicates on mailing lists.

❑ Adjust fonts, margins, and spacing to fit more on page.

❑ Reuse paper printed on one side.

❑ Request printing, writing, and xerographic papers with a minimum of 30 percent post-consumer material.

❑ Use a print shop with the Great Printer designation for environmentally responsible printing.

❑ Offer direct deposit for your employees.

❑ Reuse student handouts whenever possible.

❑ For articles and reading materials for students, print two pages per sheet and double side the copies.

❑ Use overheads and boards whenever possible.

❑ Have students take quizzes on scrap paper, or do them electronically.

❑ Preview documents before printing.

❑ Print only the pages you need. Most software programs provide this option under the print function.

❑ Use revision features in computer processing software and teach students how to use these features as well.

❑ Keep copiers and printers in good repair. Let your copier maintenance person know when a copier is performing poorly (toner is low, jams frequently, etc.).

❑ Eliminate unnecessary forms, or make them available electronically.

❑ Decrease amount of junk mail. Tear off mailing labels from unsolicited mail, return to sender with note requesting to be taken off mailing list, or call the toll free-number of the sender.

❑ Print short notices or permission slips two to a sheet and cut them.

Paper reduction resources

Paper Reduction Toolkit: The kit is a free CD/DVD set offered by the Minnesota Pollution Control Agency. To order please call: 651-297-3955 or e-mail: madalyn.cioci@pca.state.mn.us

Food waste reduction

General information

Who does the school purchase food from for its school lunch program?

Does the school purchase food items in bulk? ❑ yes ❑ no

Does the school purchase food items with the least amount of packaging possible? ❑ yes ❑ no

Does the school have dishwashers? ❑ yes ❑ no

Does the school have adequate storage space for items purchased in bulk? (Milk, grains, salt, pepper, sugar, pasta, etc.) ❑ yes ❑ no

What policies (if any) are in place to reduce food waste?

Checklist for food waste reduction in schools

➤ Multiple-use tableware

- ❑ Use washable dining trays, mugs, utensils, plastic glasses.
- ❑ Offer incentives to students who bring lunch packed in reusable containers.
- ❑ Use cloth napkins.
- ❑ If cloth napkins are not an option, put paper napkins in dispensers.

➤ Packaging and purchasing

- ❑ Establish a baseline of purchasing, materials use, and waste generation patterns to identify waste prevention strategies. Implement new strategies and measure progress.
- ❑ Use reusable shipping containers, especially for frequent deliveries.
- ❑ Have items delivered in bulk when possible.
- ❑ Purchase condiments, sweeteners, salt, and pepper in bulk and use dispensers versus individually packaged servings.
- ❑ Work with vendors to find opportunities for waste prevention.
- ❑ Incorporate waste prevention stipulations into purchasing contracts.

➤ Education and coordination

- ❑ Form an environmental committee composed of food service staff, school administration, educators, students, and a maintenance/recycling manager.
- ❑ Meet with students to educate them on food waste reduction.
- ❑ Educate food service staff to avoid overproduction.
- ❑ Encourage students to take only what they will eat in the cafeteria.
- ❑ Require new or renovated kitchens have facilities with dishwashers and storage for bulk goods.
- ❑ Establish a food exchange table for students to turn in untouched food.
- ❑ Publicize efforts and success of waste reduction strategies.
- ❑ Display posters and flyers on waste prevention and reduction strategies.

- ❏ Send a flyer to parents informing them of waste reduction goals.
- ❏ Provide nutrition education to encourage students to choose healthy options and eat the portions they take.

➤ Other strategies

- ❏ Schedule lunch times when students will be ready to eat.
- ❏ The U.S. Department of Agriculture offers several options that allow for increased meal flexibility so students do not over-eat and tend to finish their meals.
- ❏ Implement an "offer vs. serve" policy in cafeteria.
- ❏ Offer fewer a la carte and outside vendor options to promote school lunch program.

Food waste reduction resources

Food Wise Schools: Food Waste in School Elimination Handbook. This is a guide which provides schools information on reducing cafeteria waste, reducing student food waste, and reducing food waste needing to be landfilled. This guide is the first of its kind and offers practical examples and hands-on activities for implementing food waste reduction projects in Minnesota's schools.
www.eagle-bluff.org/FoodWISE.html

Getting an 'A' at lunch. Link to pdf version, with information for schools on preventing food waste, reducing food waste, and managing waste.
www.informinc.org/reportpdfs/wp/GettinganA.pdf

School Waste Reduction. This section of the website is designed to help school district food service providers reduce waste generation, and practice pollution prevention; conserving energy and other natural resources. Small changes to current operations lead to large savings and make the difference between long-term profit and loss.
www.ciwmb.ca.gov/Schools/WasteReduce/Food/

Composting

Composting is different from food waste reduction. It sustainably disposes of waste, rather than initially reducing consumption or reducing waste at the source. Composting food waste is an excellent method of reducing waste which would be land-filled or burned. It is also an excellent opportunity for schools to reduce their waste removal costs.

General information

How does the school currently dispose of organic waste?

How much does the school pay for waste disposal services?

Does the school's waste hauler offer a composting program? ❑ yes ❑ no

Checklist for composting in schools

It is important to check local regulations with your city or county environmental service office regarding composting before implementing a composting program.

➤ Some compostable items in schools:

- ❑ food scraps
- ❑ milk cartons
- ❑ paper bags
- ❑ grass clippings
- ❑ coffee grounds and filters
- ❑ eggshells
- ❑ house plants and leaves
- ❑ nut shells
- ❑ sawdust
- ❑ shredded newspaper
- ❑ tea bags
- ❑ wood chips,
- ❑ wool and cotton rags
- ❑ other organic solid waste

➤ Items not to be composted in schools:

- ❑ dairy products
- ❑ fats
- ❑ grease
- ❑ lard or oil
- ❑ meat or meat scraps
- ❑ yard trimmings treated with chemicals pesticides
- ❑ animal waste, disease or insect ridden plants

➤ Other strategies

- ❑ Contract out to a waste management company for composting services.
- ❑ Purchase composting equipment for school grounds.
- ❑ Educate students and staff on benefits of composting.
- ❑ Build compost/worm bins as part of an environmental education curricula.
- ❑ Have monitors in cafeteria to ensure that only compostable items are going into the compost bins.

Composting resources

Independent School District 196 final report from composting program in Dakota County, with BFI, NRG, and Waste Wise (nonprofit) pilot program during the 2002 to 2003 school year. This report includes methodology, results, recommendations, etc. This was a district-wide program funded by Dakota County, and had a large initial impact on reducing the amount of waste that was landfilled.
www.swmcb.org/files/196FinalReport.pdf

Composting information on reduce.org website.
www.reduce.org

Green guardian website for Twin Cities metro area.
www.greenguardian.com

Indoor air quality

General information

Minnesota has specific requirements for indoor air quality (IAQ). Minnesota law (§123B.57) requires public school districts to adopt a plan to monitor and improve indoor air quality, as well as to have an IAQ coordinator. In response, the Minnesota Department of Health (MDH) created an IAQ Management Plan Development kit for schools and has information on each district's coordinator and progress. www.health.state.mn.us/divs/eh/indoorair/schools/plan/index.html

Name of school's IAQ coordinator:

Phone: E-mail:

Attach a copy of your school's IAQ plan to this page.

The Minnesota Departments of Health (MDH) and Children, Family, and Learning (CFL) developed a list of 10 steps to create an effective and district-specific indoor air quality management plan. While schools should already have these things in place, it is wise to re-visit to ensure that IAQ issues are being fully addressed.

Use the *IAQ Management Plan Development Checklist* to track the progress of developing and implementing your district IAQ management plan. The checklist may also be used as a summary of work done and shared with interested parties. When all steps and requirements of this guidance are completed, the school district should have a fully developed IAQ management plan that meets the requirements of the Department of Children, Family, and Learning.

Requirements and recommendations for the completion of each step are provided below.

10-steps for developing and implementing a school district indoor air quality management plan

Step 1. Appoint a district employee to the position of IAQ coordinator.

Step 2. Form an IAQ team.

Step 3. Perform comprehensive building walk-through inspections.

Step 4. Perform building system evaluations on at least the three key building systems.

Step 5. Review the information gathered so far.

Step 6. Develop specific practices and procedures that will become policy.

Step 7. Incorporate your policies into your IAQ management plan.

Step 8. Receive school board approval for the school district's IAQ management plan.

Step 9. Notify parents, staff, and staff contracted through the Department of Children, Family, and Learning about your IAQ management plan.

Step 10. Re-evaluate your buildings and operations for IAQ issues annually.

Step 1. Appoint a district employee to the position of IAQ coordinator.

Requirements

Appoint an IAQ coordinator and write the name in the IAQ management plan.

The role and authority of the IAQ coordinator must be clearly defined and understood by district employees, and written in the IAQ management plan.

The IAQ coordinator must attend the CFL IAQ coordinator training session and receive CFL certification if the school administration would like to be eligible for health and safety funds.

Notify parents, staff, and students about the IAQ coordinator, including contact information.

Recommendations

The IAQ coordinator should have the following qualities.

- A district employee—typically, the IAQ coordinator is the chief engineer, head of building and grounds, the business manager, or the health and safety director, while in small districts, the IAQ coordinator is sometimes a principal or the superintendent.
- Appointed by the appropriate district authority, such as the principal, a committee, or the superintendent.
- Capable of communicating with district staff, students, parents, the media, and government agencies.
- Knowledgeable of and willing to learn about IAQ-related issues such as building maintenance, heating and ventilation systems, health, and safety.
- Readily available to respond to IAQ-related questions and concerns, and have access to all facilities to inspect or respond to IAQ issues.
- Given the authority to address most IAQ issues.

Step 2. Form an IAQ team (optional).

Requirements, if option selected

- Form an IAQ team with representatives from different areas of the school.
- Write the names of the IAQ team members in the plan.
- Assign roles and responsibilities to team members.

Recommendations

- The IAQ coordinator and appropriate school officials should select individuals who can effectively represent the school community. The IAQ team should consist of one member from each of the following groups: facility operators, teachers, administrative staff, health services, school board, parents, and students. If labor unions are representing school district professionals, then a representative from each labor union could be included.
- An existing committee may be used, for example, the Health and Safety Committee. However, specific time should be allotted during meetings to address IAQ issues.
- Specific duties can be assigned to IAQ team members, according to individual skill and motivation. This may include assigning roles in the:
  - distribution, collection, and evaluation of checklists.
  - design and approval process of policies for the IAQ management plan.
  - education of district staff regarding specific IAQ issues.
  - review of issues reported with the IAQ concern form.

Step 3. Perform comprehensive building walk-through inspections.

Requirements

➤ An initial walk-through inspection must be performed in each of the educational and administrative buildings used by the school district, to identify potential IAQ problems and evaluate obvious operations and maintenance problems. The walk-through inspection should be performed by the most qualified staff member(s), whether it is the IAQ coordinator, building maintenance staff, head of building and grounds, or a combination of individuals.

➤ Evidence of the following issues must be assessed during a walk-through inspection of a building.

- Water intrusion problems (such as discoloration/bulging/cracks of ceiling tiles, plaster, wall coverings, and carpeting).
- Ventilation failures (such as stuffiness, high level of odors, windows open, high temperatures, lack of air movement, excess dust levels, and humidity).
- Building/structural failures (such as roof leaks, flooding in spring, failing paint, and mold growing on exterior wall surfaces).
- Overall cleanliness of the buildings (such as clean carpets, dustiness, presence of past days garbage, and food/drink spills).

➤ The walk-through inspection must be documented using a form such as the checklist in the MDH IAQ kit or the United States Environmental Protection Agency's Indoor Air Quality Tools for Schools (TfS) "Walk-through Checklist". The IAQ coordinator or an IAQ team member needs to review the form to ensure that information has been appropriately documented. The form is filed in the IAQ management plan.

Recommendations

➤ Review the TfS "Walk-through Checklist" for specific guidance on a proper walk-through inspection.

➤ The walk-through inspection should be performed during normal occupancy and operational times—while classrooms are occupied and the ventilation equipment running. The inspection should cover classrooms, hallways, offices, building entrances, the roof, mechanical rooms, and air intakes. The walk-through inspector(s) should ask questions of building occupants and write comments in order to clarify the nature and history of known or potential IAQ issues.

➤ Some districts may choose to contract with a service provider to perform the walk-through inspections. Although walk-through inspections performed by a contracted service provider meets CFL requirements, it is strongly recommended that school staff perform a walk-through inspection prior to the service provider's walk-through inspection. A separate walk-through inspection completed by a staff member(s) should:

- ensure school staff are familiar with the IAQ situation in their buildings.
- provide school staff information that can be recommended to the professional.
- help in the recognition of IAQ issues that aren't apparent at the time of the professional's inspection.

Step 4. Perform building system evaluations on at least the three key building systems.

Requirements

➤ The IAQ team or coordinator must decide whether the building system evaluations will be completed using the TfS checklists or an equivalent evaluation. If the TfS checklists are used, *Teacher's*, *Ventilation*, and *Building Maintenance* checklists must be distributed, collected, and evaluated. If a contracted service provider or a survey different from the TfS checklists is used, this is considered an equivalent evaluation. The district must ensure that the evaluation is equivalent to the three key TfS checklists. See the MDH IAQ kit, Attachment 3, to learn what equivalent building systems evaluations involve.

➤ An evaluation of the three key building systems (classrooms, ventilation systems, and building maintenance) must be performed in order to assess issues not easily identifiable during the walk-through inspections.

➤ The IAQ management plan must describe the building systems evaluation in the relevant section.

➤ Retain copies of the checklists or professional reports.

Recommendations

➤ Encourage staff to participate in the building systems evaluation. If the IAQ coordinator uses the TfS checklists, include a cover letter stating the checklists are used to assist the district in evaluating their facilities to develop an IAQ management plan. Specific complaints should be filed through the IAQ concern reporting process.

Step 5. Review the information gathered so far.

Requirements

➤ Evaluate the information gathered from the walk-through inspections, building systems evaluations, and other efforts, looking for patterns or obvious causes for specific IAQ problems, incidents, or concerns requiring action.

Recommendations

➤ Be mindful of the following patterns when drawing conclusions:

- Do reported symptoms persist when occupant(s) are located in a specific area of the building?
- Are problems connected to each other by location within a building, through shared ventilation systems, or similarities in construction or activities in the rooms?

➤ There is a large number of checklists to evaluate, prioritize the evaluation of the checklists in the following order:

- problems that appear widespread, reported in multiple locations.
- checklists from problem areas identified during the walk-through.
- minor issues specific to one room or staff member.

➤ Use the TfS Problem Solving Wheel, TfS Problem Solving Checklist, and the TfS IAQ Coordinator's Guide (Ch. 10-13) to aid your investigation of IAQ issues. Consult the Minnesota Departments of Health (MDH) and Children, Family and Learning, the TfS action kit, and/or your environmental consultant if you struggle to determine or resolve specific IAQ issues.

Step 6. Develop specific practices and procedures that can become policy.

Requirements

➤ Propose specific practices and procedures to the IAQ team, and discuss how to effectively address existing or potential IAQ issues.

➤ Begin drafting policies for the IAQ management plan.

Recommendations

➤ Based on your findings, the views of the IAQ team, the design specifications of building materials, and school officials' previous experiences, begin to consider IAQ management practices and procedures to address the school district's IAQ problems or concerns. Consult the MDH model plan, appendices, and other tools to inform the IAQ team of possible policy options.

➤ Schedule a meeting with the IAQ team to review potential IAQ issues and choose practices and procedures for the plan.

Step 7. Incorporate the policies into your IAQ management plan.

This step will allow the district to address their specific issues (a major requirement of the CFL Attachment 99 Performance Criteria).

Requirements

➤ Finalize the content of the policies with the IAQ team, and write your IAQ management plan using the model plan as a template. Bolded and italicized sections of the model plan must be completed according to the instructions.

➤ IAQ management plans must:

- Identify the IAQ coordinator.
- Describe the walk-through inspections and building systems evaluations.
- Outline a communication policy, including an IAQ concern reporting process.
- Set up implementation schedules to address issues identified in the walk-through inspections, building systems evaluations, and other efforts.
- Set up an operations and maintenance schedule that describes the practices and procedures performed to maintain building systems such as the ventilation equipment and flooring.
- Outline district policies that affect IAQ, such as policies on animals, cleaning, microbial management, renovation projects, chemical use, and flooring.

Recommendations

➤ When editing the model plan, some sections can be removed entirely, but the policies and practices required by CFL must be kept in place to ensure compliance with CFL's Attachment 99, Performance Criteria. If sections are removed, provide a brief written statement justifying your actions.

➤ A well-written detailed IAQ management plan should:

- create a history of IAQ issues and ensure institutional memory.
- incorporate specific policies or practices and procedures to improve and maintain good air quality.
- assist in the prevention of future problems, thereby ensuring that the walk-through inspections, building systems evaluations, and other efforts were a good use of staff time.

Step 8. Receive school board approval for the school district's IAQ management plan.

Requirements

➤ Present the IAQ management plan to the school board for their comments and approval.

➤ School board approval will:

- legitimize your efforts and establish accountability at the district level.
- ensure compliance with a CFL requirement.
- ensure the IAQ policies are consistent with other policies governed by the school board.
- support the implementation of the policies and procedures.

Step 9. Notify all parents, staff, and your CFL management assistant of your IAQ management plan.

Requirements

➤ Parents must be informed about the following:

- Which school official, typically the IAQ coordinator, to contact to find answers to their IAQ concerns.
- The availability of an IAQ concern reporting form.
- The existence and availability of the district's IAQ management plan.
- How they can find resources to help them evaluate IAQ in the home.

Step 10. Evaluate your buildings and operations for IAQ problems/issues annually.

Requirements

➤ Perform comprehensive walk-through inspections and building systems evaluations once a year.

➤ Revise the plan according to new information gathered and changes in operations and building structures.

Recommendations

➤ Consider additional new information and issues brought to the attention of school officials since the last revision of the IAQ management plan.

➤ Meet with the IAQ team to review new IAQ-related information.

➤ Update your plan to address the new information and describe any new practices or procedures.

➤ Remove obsolete or unused sections from the plan.

➤ Streamline or modify checklists and policies to reflect the reality of your district's IAQ policies and attitudes.

➤ The annual review is similar to Steps 3 to 9. It should be streamlined and focused toward amending the IAQ management plan. This creates institutional memory to help prevent future repetition of unsuccessful polices and procedures.

Indoor air quality resources

Minnesota Department of Health, Indoor Air Quality in Schools. Includes comprehensive management plans. Every public school district in Minnesota is required to have an IAQ coordinator. They are listed at the MDH website along with information about the progress schools are making. Parents can obtain checklists or self-help information to properly evaluate their home or other out-of-school situation. Parents can obtain information about school facility construction, maintenance, and housekeeping practices; chemicals used; mold and HVAC related information; chemical-producing academic subjects; pesticides and herbicides; etc. to determine the extent to which school activities contribute to a child's symptoms.
www.health.state.mn.us/divs/eh/indoorair/schools/progress.htm

Minnesota Department of Health, Indoor Air Unit. For more information, contact Dan Tranter, Indoor Air Unit, Minnesota Department of Health, 625 N. Robert Street, St. Paul MN, 55155-2518, Mailing address: P.O. Box 64975, St. Paul, MN 55164-0975, 651-201-4618, e-mail: daniel.tranter@health.state.mn.us
www.health.state.mn.us/divs/eh/indoorair/schools/#contact

U.S. Environmental Protection Agency Tools for Schools (TfS). Comprehensive tool kit free to schools to improve indoor air quality, download at the website or order a free kit by faxing a request on school letterhead to IAQ INFO at 703-356-5386. For more information, call 800-438-4318.
www.epa.gov/iaq/schools

Notes

Integrated Pest Management

General information

In 2000, the Minnesota Legislature passed the Parents' Right to Know Act. This law requires schools to notify parents when pesticides of a certain toxicity are intended to be used and recommends that schools implement IPM programs. Go to www.revisor.leg.state.mn.us/stats/121A/30.html for the full language of the law.

The Minnesota Department of Health and the Minnesota Department of Agriculture have information about implementing the law and IPM. Refer to the resource list following this section to get website addresses and contact information.

Does the school have a pest management policy? If so, attach it here. ❑ yes ❑ no

Does the school use pesticides? ❑ yes ❑ no

If so, attach last year's application records (when, what, and how much was used).

Does the school send parents information about pesticide use? ❑ yes ❑ no

Does the school post notice of pesticide applications immediately after using them?
❑ yes ❑ no

Does the school have employees apply pesticides or do they contract with a licensed pesticide applicator? ❑ yes ❑ no

List who applies pesticides.

Do the people in charge of pest management understand the risks pesticides pose and the concepts of IPM? ❑ yes ❑ no

Integrated pest management checklist

❑ Practice good sanitation and proper maintenance of structures and grounds.

❑ Vegetation, shrubs, and wood mulch should be kept at least one foot away from structures.

❑ Caulk and seal structural cracks where pests can enter.

❑ Keep lockers, desks, and the building clean and dry.

❑ Keep food out of lockers, desks, and classrooms.

❑ Fix plumbing leaks and other moisture problems.

❑ Clean food-contaminated dishes, utensils, and surfaces by the end of each day.

❑ Clean garbage cans and dumpsters regularly.

❑ Collect and dispose of litter at least once a week.

❑ Apply fertilizers (if needed) several times (e.g.,spring, summer, fall) during the year, rather than one heavy application.

❑ If pesticides are necessary, use spot treatments rather than area-wide applications and only do so when children are not present.

❑ Monitor frequently for signs of pests and keep records of pest populations.

- ❏ Identify injury and action levels for each pest species.
- ❏ Identify the problem or pest before taking action.
- ❏ Use non-chemical pest control methods (trapping, swatting, hand removal, barriers, attractants, etc.).
- ❏ Specify criteria for use of pest management methods, including use of natural or low-toxicity pesticides.
- ❏ Regularly evaluate your program's performance. Remember, be flexible! The key to a good IPM program is adaptability and allowing for continuous fine-tuning. Keeping other school personnel informed and involved will help make them aware of the school's IPM program and its advantages.

IPM resources

IPM in Schools, Minnesota Department of Agriculture. In response to the 2000 Minnesota Right-to-Know Act which encourages schools to use IPM, the MDA developed this site and a variety of resources for schools. It includes fact sheets about IPM in general, specific insects, specific weeds, specific plant diseases, and rodents, as well as presentations and resources for kids. Contact Jeanne Ciborowski, Coordinator, IPM Program, Jeanne.ciborowski@state.mn.us or 651-201-6217 for more information.
www.mda.state.mn.us/ipm/IPMinSchools.html

Pesticides in Schools, Minnesota Department of Health. This site relies heavily upon external links, but also provides information about the Minnesota Parent's Right-to-Know Act, model pesticide notices, and contacts for evaluating pesticide risks and safety. 651-201-4899, e-mail: hra@health.state.mn.us.
www.health.state.mn.us/divs/eh/pesticide/schools.html

Integrated Pest Management in Schools, U.S. Environmental Protection Agency. This site provides general information about integrated pest management, how to know if your school is really using IPM, how to get started and common pests in school settings. Regional resources are also included.
www.epa.gov/pesticides/ipm/

Integrated Pest Management for Schools: A How-to Manual and IPM in School Nationwide Directory, U.S. Environmental Protection Agency, contact Don Baumgartner, 312-886-7835, baumgartner.donald@epa.gov
www.epa.gov/pesticides/ipm/schoolipm

School buses

General information

In May 2002, Minnesota adopted legislation to protect the health and safety of children from harmful diesel bus emissions. This law calls for schools to reduce the unnecessary idling of school buses in front of schools, reroute bus parking zones away from schools' air-intake vents, and if necessary, relocate air-intake vents.

Strategies to reduce idling and wait times among buses are very effective in reducing particulates. Use a dismissal practice that avoids traditional head-to-tail lining up of buses. With this approach, bus exhaust is not near the intake for other buses or the school heating system. It also offers a safety advantage as children walk in front (and not behind) the buses while loading and unloading.

Approximately how many school buses stop at the school each day?

Before school: _____

Mid-day: _____

After school: _____

Total: _____

Do school buses idle their engines for longer than three minutes? ❑ yes ❑ no

Use the space below to sketch your school building and grounds. Indicate where school bus pick-up and drop-off points are. Sketch in buses as well, and how they park. (This is to identify where exhaust pipes are located in relation to the school, the school grounds, and other buses.)

Using a different color, note where air intake vents are in the sketch above.

School bus checklist

- ❑ Adopt a "no-idling" policy. Require school buses to turn off their engines when waiting for students. Your school can go even further by implementing a no-vehicle-idling policy for cars, delivery trucks, and buses.
- ❑ When school bus drivers arrive at loading or unloading areas to drop off or pick up passengers, they should turn off their buses as soon as possible to eliminate idling time. Letting an engine idle does more damage to the engine than starting and stopping and produces unnecessary emissions. Running an engine at low speed (idling) causes twice as much wear on internal parts as driving at regular speeds does. The school bus should not be restarted until it is ready to depart.
- ❑ At school bus depots, limit the idling time during early morning warm-up to what is recommended by the manufacturer and/or permitted by state anti-idling laws (generally 3 to 5 minutes). In colder climates, block heaters that plug into electrical outlets can help warm up the engine to avoid starting difficulties and shorten warm-up time.
- ❑ In the winter, schools can provide a space inside the school where bus drivers who arrive early can wait.
- ❑ Stagger arrival and drop-offs (queuing strategies). Queued idling buses tend to have the highest levels of particulates and black carbon.
- ❑ Avoid caravanning for field trips and events. For schools with more than one bus transporting children to and from school, instituting a policy of staggered departure times of buses would significantly reduce children's exposure to diesel-related pollutants.
- ❑ Seat children near the front of bus. If conventional diesel buses are not full, children should be encouraged to sit near the front of the bus. Studies conducted in California indicate that the front of the bus compartment receives less exhaust intake than the rear.
- ❑ Tailor length of bus route to buses of different ages. The length of bus routes affects the magnitude of children's exposure to air pollutants in the interior compartment. Consider using new buses on longer routes to minimize overall emissions.
- ❑ Ensure school buses are regularly maintained.
- ❑ Reinforce smart driving practices such as following at least three car lengths behind any vehicle with visible exhaust or a noticeable odor.
- ❑ Make sure everyone understands the importance of the new guidelines. Post reminders on bus dashboards.
- ❑ Inform drivers of the potential risk to their health from breathing diesel exhaust and the benefits of not idling.
- ❑ Establish a program to recognize drivers. For example, create buttons for drivers who pledge to follow the guidelines.

School bus resources

Minnesota Pollution Control Agency
www.pca.state.mn.us/oea/ee/noidle.cfm

Project Green Fleet will help school districts and other school bus operators reduce diesel emissions by installing pollution-control equipment on Minnesota school buses to make them cleaner and safer for our children and our communities. Bill Droessler, Director, Clean Air Minnesota, 612-334-3388 x103, e-mail: bdroessler@mn-ei.org
www.projectgreenfleet.org

Clean School Bus USA Program, U.S. Environmental Protection Agency, 734-214-4780, e-mail: cleanschoolbusUSA@epa.gov
www.epa.gov/cleanschoolbus/

Nutrition

General information

How many students are served daily?

Does the school prepare food on-site? ❑ yes ❑ no

Are trays and utensils washed? ❑ yes ❑ no

Are organic options offered? ❑ yes ❑ no

List:

Is any food purchased from local farms? ❑ yes ❑ no

List:

Does the school have vending machines? ❑ yes ❑ no

List how many, what is sold in them, and where they are located.

What types of a la carte offerings does the school have?

Attach your school's Health and Wellness Policy (all schools were federally required to adopt such a policy by September 2006).

Nutrition checklist

- ❑ Transform vending machines and a la carte items by offering more health-promoting foods and beverages such as fruit, bagels, string cheese, yogurt, and salad, as well as milk, water, and 100% juice drinks.
- ❑ Explore healthy fundraisers, including the sale of non-food items such as candles, sunscreen, wrapping paper, and T-shirts.
- ❑ Select foods containing little or no corn syrup.
- ❑ Select breads and pastas with whole grains.
- ❑ Provide low-fat dairy and meat options.
- ❑ Provide plenty of fresh produce.
- ❑ Involve students and parents in developing menus.

Nutrition resources

School Foods Tool Kit: A Guide to Improving School Foods and Beverages. (3 pdfs), Center for Science in the Public Interest.
www.cspinet.org/schoolfoodkit

Rethinking School Lunch, Center for Ecoliteracy. Rethinking School Lunch (RSL), includes an online 175-page RSL guide, an ongoing essay series "Thinking outside the Lunchbox", a downloadable model wellness policy guide, and more. Rethinking School Lunch builds on the premise that hands-on experience growing and preparing food is a powerful way for children to discover that healthy food tastes good, and to learn about the cycles, seasons, other processes of nature, and the relationship between the health of natural and social systems.
www.ecoliteracy.org/programs/rsl.html

Action for Healthy Kids is the only nonprofit organization formed specifically to address the epidemic of overweight, undernourished, and sedentary youth by focusing on changes at school. They work in all 50 states and the District of Columbia to improve children's nutrition and increase physical activity, which will in turn improve their readiness to learn.
www.actionforhealthykids.org

How to Get Organic Milk Into Your Kids' School. A Parents' Toolkit for Change
www.organicvalley.coop/pdf/parents_toolkit.pdf

National Farm-to-School Program. Initiated in 2000, the national program has spearheaded the development of the farm-to-school movement across the country, successfully assisting organizations in starting up and sustaining farm-to-school efforts, fundraising, and providing informational resources, education, and training for farm-to-school stakeholders.
www.farmtoschool.org

Farm-to-School Program. The major goals of the Farm-to-School Program are to partner local farmers with nearby schools, so that 1) children can enjoy tasty fruits and vegetables, while connecting with farms, the source of their food; and 2) farmers can develop an additional source of income. Toward that end, the program provides training and technical assistance to catalyze farm-to-school projects in numerous communities throughout the nation.
www.foodsecurity.org/farm_to_school.html

Mercury

General information

Walk through the school and look for the following list of items containing mercury. Check each item you have and indicate how many there are and the estimated total weight.

Science, chemistry, physics, biology, home economics rooms

Elemental mercury (Hg)

❑ Mercury lab thermometers (_____ - _____º F)

❑ Mercury lab thermometers (_____ - _____º F)

❑ Mercury lab thermometers (_____ - _____º F)

❑ Mercury lab thermometers (_____ - _____ º F)

❑ Mercury lab thermometers (_____ - _____º F)

❑ Mercury lab thermometers (_____ - _____º F)

❑ Mercury soil thermometers (_____ - _____º F)

❑ Mercury barometers (indicate wall or desk model)

❑ Mercury vacuum gauges (manometers)

❑ Mercury spectral tubes

❑ Mercury molecular motion devices

❑ Mercury hygrometers (e.g,. sling psychrometers)

❑ Mercury compounds

❑ Mercury oxide

❑ Mercury (II) chloride

❑ Mercury (II) sulfate

❑ Mercury nitrate

❑ Mercury iodine

❑ Zenker's solution

❑ Mercury spill kit, contaminated

❑ Millon's solution

❑ Mercury cooking thermometers (_____ - _____º F)

Nurse's office/medical

❑ Mercury fever thermometers (_____ - _____ º F)

❑ Sphygmomanometers (blood pressure devices) with silver liquid

❑ Nasal spray (with mercury preservative thimerosal)

❑ Contact lens solution (with mercury preservative thimerosal)

Facilities

❑ Fluorescent lamps

❑ Mercury thermostats

❑ Mercury vapor lamps, metal halide lamps,

❑ High-pressure sodium vapor lamps

❑ Mercury gauges

❑ "Silent" light switches

❑ Mercury float control switches (e.g., on sump pumps)

❑ Flow meters with mercury switches

❑ Other equipment with mercury switches (e.g., flame sensors, fire alarms, safety valves)

❑ Polyurethane floor finish (may contain mercury)

❑ Tartan flooring (may contain mercury)

❑ Older fungicides and pesticides (prior to 1991)

Other

❑ True vermillion paint (contains mercuric sulfide)

❑ Cadmium vermillion red paint

❑ Mercury oxide/mercury zinc batteries (old alkaline type, prior to 1996, and current button batteries)

❑ Other (list):

All checked items should be removed and disposed of properly.

Exchange equipment

List desired replacement equipment, including temperature ranges for thermometers.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Mercury checklist

- ❑ Sign-up for the Mercury-Free Zone program with the Minnesota Pollution Control Agency. This program, which is free for schools, includes educational tools and a visit from Carol Hubbard and Clancy, the mercury-detecting dog.
- ❑ Turn in your school's mercury and mercury-bearing items for recycling. Recycling mercury-containing items is the only safe way to dispose of them properly. In fact, it is illegal to do otherwise in Minnesota.
- ❑ Purchase non-mercury alternatives. Mercury-free substitutes exist for just about everything: alcohol and digital thermometers, electronic thermostats and switches, aneroid blood-pressure units, and digital barometers and other gauges.
- ❑ Implement a phase-out plan.
- ❑ Commit to an educational program for students, facility, and staff about mercury and other persistent bioaccumulative toxins.

Mercury resources

Healthy Schools: Mercury in Schools. The Minnesota Department of Health (MDH) staff toxicologists are available to provide consultation to schools about mercury exposures and health risks. MDH also works closely with the Minnesota Pollution Control Agency to provide information to the public about preventing mercury exposures. For additional information about mercury health risks, contact 651-215-0880 (or toll free 800-657-3908, press "4")
e-mail: sacweb@health.state.mn.us.
www.health.state.mn.us/divs/eh/schools/mercury.html

Schools and Mercury, U.S. Environmental Protection Agency
www.epa.gov/mercury/schools.htm

Mercury-Free Zone Program, **Minnesota Pollution Control Agency.** This program, which is free for schools, includes a school audit, a school pledge, educational tools, and a visit from Carol Hubbard and Clancy, the mercury-detecting dog. To arrange an inspection, contact Carol Hubbard at 651-282-2604, e-mail: carol.hubbard@pca.state.mn.us. You will be asked details about your facility, such as its size, address, number of employees, and whether you have reason to be concerned about mercury on the premises.
www.pca.state.mn.us/mercuryfree

Notes

Lead

General information

When was the school built?

Has the interior and exterior paint, soil, and/or water ever been tested for lead? ❑ yes ❑ no

If so, when and what were the results?

Walk through the school: Is there any crumbling, peeling, or deteriorating paint? ❑ yes ❑ no

Please list:

These areas may need immediate action. Pay close attention to windowsills and doorjambs where friction can cause higher releases of lead dust.

Lead checklist

Until testing has been conducted, assume that the school has some degree of lead contamination. Use the following checklist to reduce children's exposure. Note: These measures should not be substituted for testing and cleanup of lead.

- ❑ Test your paint for lead if your school was built before 1979. Lead-based paint was used in most applications before it was banned in 1978. Newer coats of paint above lead-based paint layers seals in the lead. But if there are cracks, the paint is peeling, or lead paint was used on windowsills and doorjambs where friction causes lead dust to be released, the school could be contaminated. It is also important to test before any type of renovation involving sanding or demolition of painted surfaces.
- ❑ Check the exterior of your school for lead paint or contaminated soil, too. Paint chips and dust from deteriorating paint outdoors can contaminate the soil. Another source of lead in soil around schools is diesel exhaust—especially if the school is near a busy street or highway.
- ❑ Test the water for lead. Lead pipes were installed as public water mains until the 1920s. Many of these pipes still carry water into our schools. Lead was also used in pipe solder and brass fittings until the 1980s. The only way to determine how much lead is present in the drinking water at your school is to have the water tested for lead. Water at each tap or fixture providing water for drinking or cooking purposes should be tested for lead at least every five years.
- ❑ Damp mop and dust frequently to keep lead dust levels in the school low and to reduce the chances of children ingesting contaminated dust. (Dry mops and cloths may just push the dust around.)
- ❑ Use only cold water for drinking and food preparation. Hot water is likely to contain higher levels of lead than cold water. Only water from the cold water tap should be used for drinking, preparing juice, or cooking. Boiling the water will not remove the lead and may increase the concentration of lead in the water.
- ❑ Flush taps before use. Water fountains should be flushed twice a day (in the morning and at midday). Taps used for food and beverage preparation should be flushed prior to use. The more time water has been standing in the school's plumbing system, the more lead it may contain.
- ❑ Send lead information home, so that parents can assess their homes, as well.

Lead resources

Reducing Lead in Drinking Water: A Manual for Minnesota's Schools, (16pp). This manual was designed to assist Minnesota's schools in minimizing the consumption of lead in drinking water by students and staff. It offers step-by-step instructions for testing and reducing lead in drinking water. It includes a discussion of legal background and requirements, testing for lead in school drinking water, flushing taps, testing taps, flushing and retesting, other corrective actions, and reassessment. Contains a glossary, a list of Minnesota laboratories certified to analyze lead in drinking water, a lead-testing record form, and a list of other resources.
www.health.state.mn.us/divs/eh/water/schools/pbschoolguide.pdf

3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance, Report No: EPA 816-B-05-008, Dec. 2005, U.S. Environmental Protection Agency, Office of Water, Washington, DC
www.epa.gov/safewater/schools/pdfs/lead/toolkit_leadschools_guide_3ts_leadschools.pdf

Lead Safety in Schools, National Clearinghouse for Educational Facilities Resource List. NCEF's resource list of links, books, and journal articles on lead hazards in paint, soil, and water; managing lead in schools; and lead safety and school modernization.
www.edfacilities.org/rl/water_safety.cfm

Chemicals

Source: www.dps.state.mn.us/fmarshal/Schools/SchoolInspections.html

General information

How often does the school conduct an inventory of chemicals? (Attach the latest copy to this page.)

Are all chemicals clearly labeled with their name and the date of receipt or preparation?
❑ yes ❑ no

Are stored chemicals kept for more than one year? ❑ yes ❑ no

Are all chemicals stored in a locked storage room or closet? ❑ yes ❑ no

Are Materials Safety Data Sheets (MSDS) readily available for all chemicals used? ❑ yes ❑ no

Where are the MSDS sheets located?

Does the local fire department know the location of all chemical storage areas in the building?
❑ yes ❑ no

Are chemical storage areas identified as a "storage area" using the OSHA diamond identification system?
❑ yes ❑ no

Are chemicals disposed of properly as outlined by their MSDS sheet? ❑ yes ❑ no

Are chemicals purchased in bulk? ❑ yes ❑ no Or as needed? ❑ yes ❑ no

Chemicals checklist

❑ Always buy the least toxic supplies to prevent hazardous material accidents.

❑ Store chemicals properly to avoid spills or unauthorized use.

❑ Purchase only the needed amounts of chemical supplies to avoid disposing of extra, unused materials.

❑ Keep lids on containers of liquids to reduce evaporation.

❑ Use the least amount of product to complete the job.

❑ Employ "first-in, first-out" policy for expendable materials to keep them from becoming outdated.

❑ Check that all purchases have dated, legible labels.

❑ Stack containers to minimize tipping, puncturing, or breaking.

❑ Do not mix chemical and hazardous wastes with everyday trash, pour them down the drain, or dump them on the ground.

❑ Keep storage and work areas clean and well organized.

❑ Dispense and transfer materials using spigots, pumps, and funnels.

- ❏ Store containers to allow for visual inspection of corrosion and leaks.
- ❏ Store oil cans, paint cans, and other liquid materials with like substances in drip pans or trays to catch leaks and spills.
- ❏ Conduct a chemical inventory to help eliminate over-purchasing and reduce disposal costs of unneeded, out-of-date chemicals.
- ❏ Reduce the quantity of hazardous chemicals stored in the facility to the minimum necessary for quality instruction.
- ❏ Substitute non- or less-hazardous chemicals for more hazardous ones in science experiments. If this is not possible, use micro-scale chemistry techniques to reduce scale of experiments (and associated quantities of chemicals).
- ❏ Purchase lab specimens in non-formaldehyde preservatives, whenever possible.
- ❏ Establish a safe management system for the remaining required chemicals.
- ❏ Adopt a standard labeling procedure for chemicals and waste.
- ❏ Designate a centralized place for chemical storage and another for waste storage, with spill containment.
- ❏ Return expired material to supplier.
- ❏ Install spill and leak protection in chemical storerooms.
- ❏ Use a smoke bomb to test mechanical ventilation in rooms where chemicals are used in curriculum (art, science, industrial, etc). This simple, inexpensive test can provide you with a quick and easy qualitative assessment of the function of a chemical fume hood or kiln exhaust. This approach does not replace the need to have a trained professional inspect, maintain, and calibrate these units.
- ❏ Consider chemical compatibility when storing your inventory. Store chemicals by chemical hazard classification, *not* in alphabetical order. Failure to consider chemical compatibility prior to storage could cause reactive materials to be stored together and result in a small fire becoming a catastrophic hazardous materials incident. Emergency responders will appreciate these efforts.

Chemicals resources

University of Minnesota Chemical Safety Day Program. The Chemical Safety Day Program (CSDP) is a cost-effective waste management program available to educational institutions and nonprofit organizations throughout the state of Minnesota. The CSDP works under the state hazardous waste contract and tailors the program to each customer's specific needs. Contact: Andrew A. Kimball, Chemical Safety Day Program Manager, 612-626-1553, kimba013@umn.edu.
www.dehs.umn.edu

Schools Chemical Cleanout Campaign, U.S. Environmental Protection Agency
www.epa.gov/epaoswer/osw/conserve/clusters/schools

Chemical Management and Usage, U.S. Environmental Protection Agency. This site has a detailed story of a school district's chemical inventory and follow-up actions. Scroll toward the bottom of the first page to find a great list of resources such as OSHA regulations and software, NIOSH information and toxicological registry, chemical management information, a searchable chemical database, a large MSDS database, safety auditing guidance, and much more.
www.epa.gov/region7/education_resources/teachers/ehsstudy/ehs1.htm.

Small Scale Chemistry, Colorado State University. Offers materials for chemistry education that increase student safety and reduce school's liability.
www.smallscalechemistry.colostate.edu

Final tips

➤ **Action plan—Set goals!**

Use the information you've gathered to identify priorities and create an action plan, which sets realistic targets to improve environmental performance. The action plan could involve and promote, for example, a paper recycling policy, eco-friendly cleaning materials, carpooling, turning off lights, fitting push water taps, creating a garden, purchasing environmentally preferable products, create a litter pick-up strategy, or more!

➤ **Monitor and evaluate**

Monitoring ensures that progress toward targets and any necessary changes to the action plan are made and that achievement is recognized. It also ensures that environmental education is an ongoing process in the school. Track and report your environmental progress to calculate and quantify the savings and impacts of your environmental efforts.

➤ **Curriculum work**

Classroom study of themes such as energy, water, toxics, food, and waste should be undertaken by students. The whole school should be involved in practical initiatives—for example, saving water, recycling materials, and eliminating toxics.

➤ **Inform and involve**

Schools are encouraged to make ties with external organizations in order to benefit from their experience and expertise. In some schools, environmental consultants have offered to take part in the environmental review process. Others have offered advice on school grounds and energy management. Schools are also encouraged to consider the wider community when preparing action plans—for example, schools could offer to be the local recycling point. A publicity program keeps the school and the community informed of progress through classroom displays, school assemblies, and press coverage.

➤ **Celebrate!**

Create incentives, rewards, or recognition for employees and students who take a leadership role in your school's greening efforts. Seek recognition for your environmental efforts and share your experience with other schools. Celebrate your achievements.

Educational resources

Ecological Footprint Quiz, Redefining Progress.
www.myfootprint.org
www.kidsfootprint.org

Vermont Guide to Education for Sustainability, Vermont Education for Sustainability
www.vtefs.org/resources/EFS%20GuideComplete-web.pdf

Green Squad, Natural Resources Defense Council, teaches kids about the relationship between their schools and environmental and health issues. The site is designed primarily for students in fifth through eighth grade, but also offers information for younger and older students as well as parents and teachers.
www.nrdc.org/greensquad

SEEK website offers information on curricula for the state of Minnesota, incorporating environmental education with graduation standards and that employs natural and built environments as the context for learning and within that framework.
www.seek.state.mn.us

Canadian Center for Pollution Prevention: Tools for educators. This website offers curricula on product life-cycle analysis and links to the U.S. EPA website and links to lesson plans in environmental education.
www.c2p2online.com/main.php3?section=41&doc_id=661

For teachers: Curriculum and Activities from EPA Website. Resources include project ideas, tools, games, and activities for students of all ages. Topics include:

- Air: acid rain, indoor air pollution, ozone
- Conservation: energy, environmental stewardship, natural resources, pollution prevention
- Ecosystems: ecology, endangered species, global warming, habitats, watersheds
- Human health: drinking water, fish advisories, indoor air, lead, pesticides, radon, smog
- In your neighborhood: databases, local issues, maps
- Waste and recycling: garbage, hazardous and solid waste, landfills, superfund cleanups, trash
- Water

www.epa.gov/epaoswer/education/teach_curric.htm
www.epa.gov/teachers/teachresources.htm

Hamline University's Center for Global Environmental Education links to educational resources for teachers on water quality, clean-ups, storm drain stenciling, soil testing, water quality monitoring.
http://cgee.hamline.edu/watershed/action/

"Hogbusters" interactive web-based game for K-5 dealing with energy-efficiency practices.
www.energyhog.org/childrens.htm

PBS, Newton's Apple. Teacher guides on environmental issues as well as other science related topics.
www.newtonsapple.tv/TeacherGuides_alphabet.php

Powerpoint presentation created by Minnesota Office of Environmental Assistance on strategies for students to reduce waste.
www.reduce.org/download/index.html#slideshow

North American Association for Environmental Education website with classroom resources and curricula for teachers of grades pre-K through 12 in all areas of environmental education.
http://eelink.net/pages/Classroom+Resources-Directories

Minnesota Pollution Control Agency

www.pca.state.mn.us

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