

20

the percent of America's population spends about six hours a day in a school building.

84

the cost in millions of dollars spent on energy by Chicago Public Schools per fiscal year.

9

the average age of a school bus which emits nearly twice as much pollution per mile as a tractor-trailer truck.

The number of administrators, students, and parents needed in each school to inspire change. YOU!

1

This handbook was created with the vision of helping to create schools whose operations are as sustainable as their education. The goal is to assist and inspire schools to take the next step forward. Whether you are just beginning to consider “going green” or you are well down the path, this guide offers real, tangible ways to move forward.

Within, you will find tips for administrators, teachers, parents, students, engineers and maintenance staff. We opted not to mark each tip according to each role as one key to sustainability success is working together. All of the parts must be in sync with each other, sharing the underlying values of environmental and economic sustainability.

We hope that this handbook inspires your school to take the next step along the journey, instilling Environmental Manners into your everyday practices. Together, sustainable decisions lead to long-term success and amazing educational opportunities.

The beauty of sustainability is in realizing the essence of education; knowing that together we are transcending ourselves, making a long-term difference in the lives of children and their planet.

This handbook was created in Chicago where many individuals, organizations, businesses, community leaders and government officials are committed to creating an environmentally and economically sustainable system. Though some of the details are Chicago-based, most tips and structures extend globally. This handbook was created as an extension to the Chicago Public School Environmental Scorecard and we thank the Chicago Public School System for their support.

Dan Schnitzer

We do not inherit the earth from our ancestors; we borrow it from our children. ~Native American Proverb



As a fan of the Academy for Global Citizenship (AGC), I was honored when Sarah Elizabeth Ippel asked me to write the introduction for the Sustainability Handbook.

The Handbook, which is inspired by the Chicago Climate Action Plan, aligns with the Chicago Public Schools' Environmental Action Plan and is meant to serve as a guide for parents, teachers, administrators and community members to take steps toward environmental sustainability in their schools.

Like the Chicago Climate Action Plan, this comprehensive, well-written publication features key strategies in energy efficiency, improved transportation options, waste reduction, water conservation and much more. Innovative green initiatives such as green cleaning, schoolyard gardens, the walking school bus and composting are just a few of the programs that are indicative of AGC's commitment to enhancing our environment.

Schools play a major role in shaping students' environmental consciousness and behaviors, which leads to long-term impacts that help the environment. It is a privilege to work together with our schools to help educate our next generation of leaders.

I appreciate your support of the Chicago Climate Action Plan in this important endeavor and thank you for your ongoing vision for our great city and all you do to help create a better and more sustainable Chicago.

Wishing you much success,

Suzanne Malec-McKenna
Commissioner



Catalysts,

It is with great excitement that the Academy for Global Citizenship presents the Sustainability Handbook for Schools, a roadmap for implementing a comprehensive range of both operational and academic environmental initiatives in your learning community.

Throughout Chicago, the United States and the world, environmental education is playing an increasingly important role in our responsibility as educators. In order to lead by example, we must consider how sustainable practices can be integrated throughout all spectrums of our schools, ranging from facilities management to teaching and learning. Each of these decisions impacts our children, our communities and our planet. As we strive to prepare our students for excelling in the 21st century, we must also work with them to create a healthy and sustainable world.

Efforts and stories from across the globe have impacted the development of this handbook. We extend our discoveries with the hope of inspiring you to take another step with your school community and encourage you to choose a few sections and begin there; it is never too late and no step is ever too small - the tides of change begin with a single drop.

Located in one of Chicago's most underserved communities, the Academy for Global Citizenship was founded with an ardent commitment to environmental sustainability and is internationally recognized for its model green school initiatives, including daily organic breakfast and lunch, a 5 kW solar installation, a schoolyard habitat and vegetable garden, rain barrels, composting, yoga, nutrition education, a faculty wellness program and sustainability curriculum. The most recent addition to the Academy for Global Citizenship was a green roof coop, housing three rescued chickens, next to the school's wind turbine.

Your commitment to pioneering these efforts will not only immediately impact our environment, but also will most importantly leave a lasting impression on the formative minds who will ultimately be responsible for the future of our planet.

As Illinois' own Environmental Scientist, Donella Meadows, said: We have exactly enough time ... starting now.

Fervently,

Sarah Elizabeth Ippel
Founder & Executive Director

The Academy for Global Citizenship
www.agcchicago.org

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Background & Benefits

Energy consumption is one of the greatest contributors to global warming, as well as one of a school's biggest expenses. Reduction in the use of energy and finding renewable methods of generating energy represent a win-win for the environment and your bottom line. Although it may seem overwhelming, you can start with small steps by implementing replacement policies for appliances and light bulbs and working towards on-site renewable energy generation.



Implementation Steps

1. Place "TURN OFF THE LIGHTS" signs at every light switch- especially the classrooms. You can hold a student design contest for the sign and print the winning design for each room.
2. Assign a certain wing for after-school activities and shut down the lights in the hallways and rooms in the other wings. If your HVAC is zoned, you can shut it down for the unused wing(s) after school hours
3. As your bulbs burn out, replace incandescent bulbs with CFLs (Compact Florescent Lights). An ENERGY STAR qualified compact fluorescent light bulb (CFL) will save about \$30 over its lifetime and pay for itself in about 6 months. It uses 75 percent less energy and lasts about 10 times longer than an incandescent bulb.
4. Replace T-12 Florescent Tubes with T-8 Florescent Tubes. Replacement of the lighting ballasts is necessary- contact your energy company for available funds to replace ballasts.
5. Perform regular maintenance on boilers and HVAC systems-this is one of the most important steps to energy efficient cooling and heating.
6. Install motion sensors on lighting fixtures, so that they turn off automatically when not in use.
7. Turn off all computers at the end of the school day.
8. Set copy machine to turn off when done with copies.
9. At time of replacement, buy copy machine with an All-in-One copier/printer/scanner/fax.
10. At time of replacement, buy appliances with Energy Star label.
11. Turn the heat down 2 degrees and the A/C up 2 degrees- it will hardly be noticed, but you will save on your bills!
12. Look for grant opportunities for Solar and Wind energy generation (see resource section).

Growing Involvement and Excitement

- Track your energy efficiency progress on the Chicago Public Schools Environmental Score Card
- Create competitions for "lights out" signs and to see who can have the least number of minutes with their lights on (and classroom empty).

Success Story

GENESEO -- Let there be light -- energy efficient light.

St. Malachy's Catholic School in Geneseo recently installed new lighting fixtures thanks to some grant money and loads of volunteer labor by parishioners.

The school received a \$7,866 grant from the Illinois Clean Energy Community Foundation to replace bulbs and magnetic ballasts in 246 fluorescent fixtures throughout the school.



The new electronic ballasts and bulbs were installed late last year by church volunteers spending nights and weekends to update the obsolete fixtures, according to grant writer Leo Castelein, school administrative director. Volunteers put in about 150 hours working in the project, he said.

"The school was built 18 years ago, and it is time to look for areas in which we can become more cost efficient and more environmentally responsible," he said.

"The new fluorescent lighting is more efficient, quieter and provides higher light output in every room," he said. "It also duplicates a more natural light. The longer-lasting electronic ballasts and smaller fluorescent light bulbs also provide a higher quality of light in the classrooms."

New lamps in the four-foot fixtures should create savings of more than \$10,000 per year, by consuming 13.1 fewer kilowatts, Mr. Castelein said.

Additional Resources/Ideas:

- ENERGY STAR: http://www.energystar.gov/index.cfm?c=cfls.pr_cfls
- CPS Environmental Score Card http://www.cps.edu/Schools/Find_a_school/Pages/findaschool.aspx
- Success Story by Claudia Loucks, "They've seen the light at St. Malachy's"

{transportation and air

— Walking School Bus —

Background and Benefits

Walking and biking to school programs, such as the Walking School Bus at the Academy for Global Citizenship, have far reaching benefits for a school and its community. Organized walking and biking to school programs encourage healthy lifestyles and choices, community building, parental involvement, safe transportation and environmentally responsible options.

Walking and biking to school programs can reduce your buying costs and vehicle emissions associated with increased traffic and vehicle idling. Encouraging walking and biking can make your school safer as students and staff enter and exit the building by eliminating dangerous and frustrating back-ups due to parked cars.

Overall, walking and biking to school enables parents to become part of the school community and gives students the opportunity to exercise and socialize before the school day begins.



Implementation Steps

1. Contact the Active Transportation Alliance (info@activetrans.org or (312) 427-3325) to get insight on state-sponsored programs and grants.
2. Use <http://www.multiplottr.com/> or another online tool to plot out the locations of your students relative to your school.
3. Find highly concentrated areas of student populations within walking distance (suggested radius of 1 mile from school).
4. Draw routes from population centers to school. The number of routes will depend on the number of population centers. Some routes may intersect and/or meet up with other routes.
5. Try to find convenient meeting points like parks or non-busy corners.
6. Add the Walking School Bus discussion to an upcoming PTA meeting to elicit insight, feedback, concerns and support.
7. Identify possible leaders for the routes based on proximity to their starting points. Ideal leaders would be parents who live near or at the start of each route.
8. Prepare an information sheet (see appendix X) with information and a map.
9. The Walking School Bus should be internally managed by either a school administrator or a parent volunteer (preferable).
10. Order safety vests, stop signs and any other necessary safety information (grants are available through the Active Transportation Alliance).
11. Contact your local police station to inquire about a crossing guard (list of districts: <https://portal.chicagopolice.org/portal/page/portal/ClearPath/Communities/Districts>).

95

The percentage of the 505,000 school buses in the U.S. that run on diesel fuel. The exhaust from diesel fuel is linked to asthma, heart disease, and cancer.

Growing Involvement and Excitement

STUDENTS

- Create in classroom competitions such as The Golden Shoe- awarded to the class with the most walkers each month.
- Chart miles walked and biked with your students so they can keep track and see their progress as individuals, a class and a school.
- Set goals for the class and/or school to encourage participation.
- Join the Walk Across Illinois Campaign to help promote the program: (<http://www.walkacrossillinois.org/>).
- Invite either the Active Transportation Alliance or CAPS (Chicago Alternative Policing Strategy) to hold workshops on safe walking/biking: 312-744-4000.

PARENTS

- Engage parents early on in the process to get their involvement through meetings, fliers and emails.
- If you have parent volunteer requirements add leading a route as an option.
- Promote the health benefits of the program which include: getting to know other kids in the neighborhood, showing your presence in the community, eliminating harmful emissions from vehicles as they drive and idle and starting the day in a healthy way.
- Encourage parents who do not live near a route to drive to a route instead of driving all the way to school- providing options and creative problem solving are essential!
- Get a parent or parent committee to take over the logistics of recruiting volunteers/route leaders.

Success Story

In 2006, the Logan Square Neighborhood Association (LSNA) began a Walking School Bus program. The program works in collaboration with Chicago Public Schools, Ames Middle School and its neighboring feeder school, McAuliffe Elementary School. Several parents who already walk their children to school agreed to become captains and lead other children to school. Parents committed to walking to and from school daily, providing both physical and emotional safety to the children. To promote the program, LSNA organized a logo design contest among the students. The winner won a bicycle and had the design printed on walking school bus t-shirts (A partner of Active Living by Design is CAPS whose staff trains walking school bus captains).

Results

After the a successful first year, the walking school bus expanded to Funston and Mozart Elementary Schools. The program currently has 70 children walking to school and 11 captains stationed along 10 routes. The community applauds the walking school bus program and there are plans to continue the event during the upcoming school year.

Additional Resources/Ideas:

- How to Start a Walking School Bus: <http://www.walkingschoolbus.org/>
- Active Transportation Alliance: <http://www.activetrans.org/>
- International Walk to School Day: www.iwalktoschool.org
- Chicago Safe Routes Ambassadors: <http://www.saferoutesambassadors.org/>
- Walk Across Illinois program and curriculum: <http://walkacrossillinois.org/>

— Green Cleaning —

Background & Benefits

The supplies and methods of cleaning a school can significantly impact the health and performance of students, administrators and cleaning staff. Traditional cleaning products often contain chemicals that can cause cancer, reproductive disorders, major organ damage and permanent eye damage. These cleaning chemicals are also routinely washed down the drain where they make their way into lakes and streams, adversely affecting plant and animal life, threatening public health and adding to pollution. Concentrated environmentally-preferable cleaning products require less storage space, packaging and energy consumption while achieving the same, if not better cleaning results.



The Green Cleaning Schools Act, enacted on August 13, 2007, requires all Illinois' elementary and secondary schools, to purchase and use only environmentally-preferable cleaning supplies.

Implementation Steps

1. Switch to Green Cleaning Products
 - a. Look for products marked "Green Seal Certified" or "Eco-Logo Certified"
 - b. Work with your distributor to find the best prices and ensure that all products that are bought by your school are certified and in compliance with the Green Cleaning Schools Act.
 - c. Use micro-fiber cloths and mop heads in place of traditional ones.
 - d. When you need to replace your vacuums and floor cleaners, purchases ones with high-efficiency filters.
2. Train your staff!
 - a. Work with your distributor or the product manufacturer to train your entire maintenance staff to properly use, handle and store these products. Each member of the maintenance staff should be part of the process as they are the ones doing the work.
 - b. Inform administrative and teaching staff of the changes. Where appropriate, give them access to the new cleaning supplies as well (such as in science labs).

Success Story

In 2003–2004, a Healthy Schools Campaign-led pilot project introduced green cleaning in the Chicago Public Schools. The price of Green Seal certified products was found to be cost-competitive with traditional products. In addition, the study found that not only were green cleaning products readily available, they also performed as well if not better than the conventional products.

Lockport Township High School, in Lockport, Ill., reported a 3 percent increase in the average daily attendance after the first year of implementing an Indoor Air Quality (IAQ) Management plan that included green cleaning. The green cleaning program consisted of switching to Green Seal certified products, using disinfecting wipes, and changing to vacuums equipped with HEPA filters. The IAQ program included switching to high quality ventilation system filters and monitoring the carbon dioxide levels.

35

The amount of trees in millions cut down annually by the cleaning industry to produce 4.5 billion pounds of paper products.



Additional Resources/Ideas:

- Paper products: <http://www.epa.gov/waste/conserve/tools/cpg/products/tissue.htm>
- Institutional cleaners, hand soaps, paper products, cleaning contract providers, floor care products: <http://www.ecologo.org> & Green Seal <http://greenseal.org>.
- Other preferable supplies: http://www.standingupforillinois.org/green/school_cleaning.php
- Healthy Schools Campaign: www.healthyschoolscampaign.org see: free download of The Quick & Easy Guide to Green Cleaning in Schools.
- More information on the Green Cleaning Schools Act can be found at: <http://www.standingupforillinois.org/uploads/FactSheetGCSA.pdf> or www.greensolutions.il.gov.
- Environmental Working Group: Green School Cleaners, Executive summary: <http://www.ewg.org/schoolcleaningsupplies/executivesummary>
- Success Story: "Cost-Effectiveness of Green Products," Healthy Schools Campaign."

{ land

— Gardening —

Background and Benefits

The school garden is a powerful tool for teaching students about the connection between their everyday food choices and the health of their communities, the environment, and themselves. Through hands-on experiences, students grow an awareness of the physical environment and develop a sense of connectedness with their land, and all that grows on it. The garden creates opportunities for children to discover fresh organic food, become better stewards of the earth, and develop self-confidence, discipline, and skills in collaborating with others both locally and globally. A school garden can also lower your food purchasing costs by producing the fruits and vegetables for cafeteria snacks.

Implementation Steps

1. Ask for a teacher to volunteer to take responsibility for the garden and create a garden committee of other teachers and staff.
2. The committee should begin to link garden experiences with students' lessons for truly integrated experiential learning.
 - a. Example: Measure and chart the height of a cornstalk each week.
 - b. Older students can plant the same seeds in different soil conditions, facing different directions etc.
 - c. To learn design, students can draw a schematic of the garden area, charting the sun and water gathering locations and plan the layout of the garden.
3. The garden should be planned to grow a wide variety of seasonal produce that favors the local climate; changing from season to season, as you seed, grow, harvest, and rotate crops with new groups of students each year.



Consult

APPENDIX X for a seasonality of certain local plants.

4. Students harvest and prepare produce as part of their garden and other classes.

Questions to ask before beginning a garden project:

1. *Who will be responsible for the garden?*
2. *What will you need?*
3. *How big will the garden be?*
4. *How will you decide what to grow?*
5. *Who will do the work?*
6. *How much time will it take?*
7. *What training do you need?*

Sample Garden Themes (From the Chicago Botanic Garden): SEE APPENDIX X

160

The number of 650 Chicago Public Schools that currently have active or somewhat active gardens.

Growing Involvement and Excitement

1. Gather input and buy-in from stakeholders, including:
 - a. A lead teacher.
 - b. Cooks.
 - c. The school council.
 - d. Parent-teacher association.
 - e. Local Education Authority- especially to help with fund-raising, disbursements of special funds, or strategic partnerships with local businesses.
 - f. The community. Ask local gardening clubs to help you get started.
 - g. Community businesses or individuals. They can sponsor a portion of the garden through a monetary or in-kind donation.
2. Ask carwashes for empty non-toxic detergent containers to use as rain-barrels.
3. Invite school families to tend to the garden over weekends and school breaks in exchange for a portion of the harvest.
4. Contact Master Gardeners from the University of Illinois Extension. Each graduate must complete volunteer hours in their first year after graduation. Call the Master Gardener program to see if any graduates are available to help: 217-265-5256 or by email: modavid@illinois.edu.

Tips

- *Start small and expand later*
- *Establish (and maintain) a good water supply and fencing*
- *Use organic approaches to improve and conserve the soil*
- *Choose crops which are adapted to local conditions, match local traditions and food habits, have high nutritional value, contribute to food security, are easy to cultivate and can be planted and harvested within the school term*
- *Make sure there is a substitute garden manager in case of emergency or sickness*
- *Get trained and experienced teachers and helpers to pass on their knowledge*

Success Story

During the summer of 2009, 30 incoming freshmen at Chicago's Senn High School worked with community volunteers and a local organization, We Farm America, to build and plant 9 raised bed gardens in the school's front courtyard. Using We Farm America volunteers and members of the newly formed Senn Green Team, they raised over \$1,000 to help fund the program. The organizing committee of We Farm America and a member of the Senn Green Committee brought in special guests including Purple Asparagus (www.purpleasparagus.com/) and engaged Chicago based organizations such as Land and Lakes and the Rebuilding Exchange (<http://delta-institute.org/rebuildingexchange/>). The kids learned about planning gardens, growing different varieties of food, building raised beds and creating compost. They sampled exotic berries (from Purple Asparagus) and designed their own boxes (including pizza boxes with tomatoes, oregano, spinach and wheat.) The freshmen got to know the school and began the first day of classes with a sense of ownership over the garden. The plan is that the school will expand the garden and use the produce to create an organic cooking elective for students.

Additional Resources/Ideas:

- Chicago Botanic Garden: <http://www.chicagobotanic.org/schoolgarden/index.php>
- Kids Gardening: <http://www.kidsgardening.com/>
- Edible Schoolyard: <http://www.edibleschoolyard.org/welcome>
- School Garden Wizard: <http://www.schoolgardenwizard.org/>
- University of Illinois Extension: <http://web.extension.uiuc.edu/state/index.html>
- Openlands: www.openlands.org
- Chicago Green Corps: <http://egov.cityofchicago.org/city/webportal/portalEntityHomeAction.do?entityName=Environment&entityNameEnumValue=05>

— Organic and Local Food —

Background/Benefits

The old saying “you are what you eat” is more relevant today than ever. Much of the food that fills our grocery stores and cafeterias contain unpronounceable and unrecognizable ingredients. If we expect excellent performance, we should be serving excellent fuel. Local and Organic food provides opportunities to support local economies, reduce cost (really!) and provide healthy building blocks for our students minds and bodies. Pesticides used to grow many conventional vegetables strip their nutritional content and create risks to our health. Organic and local foods often have higher nutritional value and certainly reduce the environmental impact of the food system and the well being of the animals and farmers who produce the food. Although Organic and Local Food may sound expensive and an overwhelming task, small steps in the right direction will make a massive change and will save you money!

Implementation Steps

1. Talk to your food service provider about your desire to increase organic food purchases. By letting them know of your interest, they can keep track of other schools asking for the same products and may be able to source it in bulk and provide it at a competitive price..
2. Work to eliminate highly processed food from your school’s menu.
3. Request flash-frozen fruits and vegetables during the non-growing seasons (winter).
4. Contact local farmers to see what products are available in each season.
5. Contact the Farm to School Project (323-341-5095). They have a comprehensive program which extends beyond farm fresh salad bars and local foods to include waste management programs like composting, and experimental education opportunities giving children a hands-on learning experience.
6. Look up the Department of Defense Fresh Fruit and Vegetable Program for purchasing options.
7. Contact the Organic School Project for food facts, creative programs and sourcing opportunities.
8. Encourage teachers to incorporate the garden works into their study plans, and develop new methods to create a connection between classroom and garden.
 - a. Recording and charting growth or productivity within the garden.
 - b. Incorporate environmental/geographic/mathematic/health studies into curriculum
9. Look through your food service catalogue for products listed as “Organic” and compare prices to traditionally sourced food.



Growing Involvement and Excitement

Students

- Involve students in the planning of the garden- where it should go and what should be planted.
- Allow students to get their hands dirty (literally) as they plant the seeds.
- Teach students about the responsibility that comes with maintaining the garden.
- Celebrate the harvest!
- Send food home with the kids to share with their family.
- Plant new and interesting fruits, vegetables and plants.
- Plant in creative ways such as upside down tomatoes and bean tee-pees.



Success Story

The Academy for Global Citizenship (AGC) believes that organic and healthy food, leads to healthy brains and bodies. AGC sees organic, fresh and healthy food as the fuel that leads to healthy learning and as a way to honor sustainable agriculture. Working closely with food services providers, local businesses and local farmers, AGC offers organic and healthy breakfasts and lunch each day. The students are exposed to dishes such as freshly made herbed eggs for breakfast and baked tilapia for lunch. Traditional favorites such as pizza is made on whole wheat English muffins with organic sauce and cheese. Each day the kids have a choice of fresh vegetables and salads and fruit is offered every day.

Students at AGC learn the benefits of organic farming and organic eating. Outside, AGC students grow their own organic produce in their school's raised bed garden boxes. Though bugs and animals take some of the crop, the students learn the value of sharing with nature and living in harmony with their surroundings. As the students eat more healthy food that is also healthy for the environment, they become connected to their food source, the land and the families that grow their food.

Additional Resources/Ideas

- Farm to School: <http://www.farmtoschool.org/IL/>
- Department of Defense Fresh Fruit and Vegetable Program: <http://www.fns.usda.gov/FDD/programs/dod/default.htm>
- Organic School Project: <http://www.organicschoolproject.org/>

{water

— Reducing Water Consumption —

Background and Benefits

Schools use a tremendous amount of water everyday, and require water for their heating and cooling systems, restrooms, drinking water faucets, locker rooms, cafeteria, laboratories, and outdoor playing fields and lawns. Conserving water at your school will save money and help the planet. There are a few things you can bring up with your administrators that might help cut down on your school's water usage:



Steps to implementation:

- Develop a water management plan – Outline a plan at your facility to improve water efficiency.
- Know your water and water related costs.
- Determine the quantity and purpose of water being used.
- Set goals, chart progress and post results.
- Read water meter weekly to monitor success of water conservation efforts.
- Assign an employee to monitor water use and waste.

Other methods of water conservation:

- Install Motion Sensor Activated Sinks and Low-Flow toilets.
- Incorporate zero-scaping into parts of the landscape design. Zero-scaping utilizes wildflowers and other no-maintenance plants to create an area that does not need watering or mowing.
- Use water-saving shower heads in locker rooms.

Growing Involvement and Excitement

- Initiate an awareness program – Get input and ideas from staff, students and faculty.
- Encourage water conservation – Increase employee, faculty, and student awareness of water conservation with bathroom mirror stickers and brochures with water saving ideas.
- Conduct contests for employees and students (e.g., posters, slogans, or conservation ideas). Locate suggestion boxes in prominent areas.

Success Story

The state of Illinois and the U.S. Fish and Wildlife Service have provided grants to help schools and public organizations across Illinois create rain gardens. The Fox River Country Day School wanted to install a rain garden in the center of its parking lot to control water flowing off the roof of its elementary school building as well as the parking lot itself. Large storms were causing flooding in a rare and endangered oak savanna located on the campus. The elementary students set out to solve this problem by installing a rain garden to absorb water that previously ran down a drainage pipe into a holding pond. The garden also filters the water as it slowly percolates down into the soil to recharge the groundwater. The expanded rain garden has increased native habitat for migrating birds and insects. It also reduced harmful sediments and contaminants in stormwater runoff from entering nearby wetlands, oak savanna and eventually the Fox River.

Additional Resources/Ideas:

- The Field Museum: Water Calculator: <http://watercalculator.fieldmuseum.org/watertips>
- Maryland Department of the Environment: Water Saving Tips for Schools and Colleges: <https://my.sfwmd.gov/portal/page/portal/common/pdf/schools.pdf>
- US Environmental Protection Agency: Water Conservation Tips for Schools: http://www.epa.gov/NE/eco/drinkwater/water_conservation_schools.html
- Illinois Rain Garden Initiative: http://www.standingupforillinois.org/cleanwater/rg_application.php



3,000

The number of gallons of water that you could save in 1 year by changing 1 leaky faucet.

— Waste Reduction —

Reducing your school's waste stream can lead directly to saving money. Significant waste reduction measures can mean lower hauling costs, and if you begin composting, organic waste transferred from the trash bins can be used for soil and nourishing your soil, lowering your landscaping costs. In addition to costs savings, waste reduction is an essential element to creating a healthier planet. As waste accumulates in landfills, harmful and toxic greenhouse gases such as methane are released into the air.

Implementation Steps

1. Create a Waste Reduction Plan and Policy that looks at how to waste less. Some ideas include:
 - a. Involve a representative from each sector of school (administrator, board member, teacher, head of maintenance, student etc.)
 - b. Reuse scrap paper for phone messages or notes. Keep a box in each room for scrap paper.
 - c. Set printer to double-sided.
 - d. Use paper scraps for art projects.
 - e. Encourage reusable mugs/cups in teachers areas.
 - f. Create and/or encourage recycling. Work with maintenance staff to design a plan for them to easily pick up recycling in bins.
 - g. Purchase recyclable materials.
 - h. Do not print emails.
 - i. Send internal memos via emails or post them on boards.
 - j. Quantify and assess plan regularly.
2. Request that vendors reduce and/or reuse delivery packaging (i.e. pallets and boxes).
3. Reuse landscape trimmings and pruning for science projects, art projects or composting.
4. Use reusable mops, dust mops and rags.
5. Use refillable pump spray bottles.
6. Buy supplies in concentrated and bulk form.
7. Use reusable vacuum cleaner bags.
8. Train maintenance staff to operate and maintain equipment according to the manufacturer's recommendations.
9. Employ reusable filters in the heating, ventilation, and air conditioning (HVAC) system.
10. Place smaller trash cans in the classrooms (over time the expectation of how much trash can be produced will change).
11. Send old equipment (e.g., air conditioner cooling compressors) back to the vendor to be refurbished and resold or to a recycler.
12. Install electric hand dryers in restrooms to eliminate paper waste.
13. Use rechargeable batteries. Recycle spent batteries and fluorescent lamps.
14. Begin composting {See Composting Section of this Handbook}.
15. Use reusable lunch trays, napkins and silverware.
16. Encourage kids to take a small amount of food- they can come back for seconds if they want.
17. If students pack their own lunch, encourage parents to pack no-waste lunches, using reusable containers in place of plastic bags.
18. Allow students to write on the front and back of a piece of paper.
19. Use erasable lap boards, plastic covers over worksheets and use erasable pen, marker.

Growing Involvement and Excitement

- Hold a "no waste" day.
- Organize a "recycling team" that rotates responsibilities/tasks.
- Track the amount of waste your school creates, by running a waste audit. Brainstorm ways to reduce, monitor progress and provide incentives and recognition for most-reduced by classroom or grade.
- Have a waste prevention poster contest – then use posters to designate areas such as recycling areas, reusable areas, etc.

Success Story

Stowe Elementary School in Duluth, Minnesota has developed and carried out a series of projects. They created a waste reduction program for their cafeteria, and food disposal/compost system. They switched to disposable/recyclable products, focused on food ordering accuracy, and also created a vermi-culture composting system. To support these initiatives, they began Service Learning Projects. Taking what students have learned in the classroom to an outdoor setting, which benefits the Stowe community. These projects included, reseeding bare/open spaces, building a compost system for a zoo, controlling erosion on nearby nature trails and creating a nature trail near school. Over time, they purchased solar panels, a wind turbine, and a meter to track and measure the energy created and electricity used in the school. They used these technologies as educational tools for the students who learned about math, science and the environment.

Additional Resources/Ideas:

- Reduction ideas: www.reudce.org
- California Integrated Waste Management Board: <http://www.ciwmb.ca.gov/Schools/WasteReduce/Strategies.htm>
- Stowe Elementary School: <http://www.duluth.k12.mn.us/education/school/school.php?sectionid=116>

Recycling



Background/Benefits

In-school recycling provides many benefits to the school and the community. From reducing waste in the environment to reducing a school's costs by reusing materials, recycling enables the students and teachers to engage in a hands-on learning experience while helping to keep our environment healthy.

17

The number of trees, along with 380 gallons of oil, that you can save by recycling 1 ton of paper.

Implementation Steps

1. Contact your local waste/recycling hauler and inquire if they are able to provide free recycling bins.
2. Ask janitorial staff to place a bin in each classroom, office and meeting area.
3. Send a memo/email to teachers and administrators asking them to engage their students in throwing their paper products in the recycling.
4. Teachers can create educational opportunities measuring the amount of recycled material each day/week, either by weight, amount or proportion- depending on the age group.
5. Discuss recycling with your Head Engineer- come up with a viable plan for his/her staff to collect waste and recycling separately.
6. Create incentives for teachers, administrators, students and janitorial staff to correctly recycle more throughout the year.
7. Use CPS' School Environmental Scorecard as a benchmarking tool.



Growing Involvement and Excitement

Staff, Administrators, Engineer(s) and Teachers

- Let them know what can/cannot be recycled. Contact your recycling hauler for a detailed list
- Set a goal to increase recycling by X%. Use the CPS Scorecard to gauge your progress.
- Invest time with engineer and janitorial staff to alleviate any concerns about extra time; help them come up with solutions (This is essential as, if they are not bought in, all of the recycling may end up in the garbage).

Students

- Have students create signage for each bin of what can be recycled.
- Track progress and mis-sorted materials (this is a great math activity).
- Create inter-classroom/grade competitions.

Families

- Send a recycling list and ideas home.
- Recycle at PTA meetings.
- Have students bring recyclable materials to school from home.
- Encourage parents to pack a waste-free lunch (where applicable).
- Have kids create/decorate recycling bins for home in art class.

Success Story

The Department of Environmental Services of Wake County, North Carolina's FEED THE BIN (FTB) paper recycling program serves more than 135,000 students in 152 schools. The program provides recycling bins for classrooms and offices and roll carts for the schools. Participants recover a variety of products including office paper, notebook paper, brochures, direct mail, magazines, and newspapers. An impressive 800 tons of paper were collected during the 2007-2008 school year.

Student participation and education are given the same level of importance as logistics. FTB provides a learning opportunity for students who take responsibility for the paper collection from their classrooms and facilities. As a direct result of the FTB program, the county saved nearly \$240,000 last year, allowing them to hire staff and develop age-appropriate educational materials.

Additional Resources/Ideas:

- How to Recycle in Schools: <http://www.ciwmb.ca.gov/Schools/WasteReduce/>
- Educational Resources and Implementation: <http://www.kidsrecycle.org/recycling.php>
- For more information on the Wake County Public School System's FEED THE BIN program: www.wakegov.com/recycling/schools

500

The number of years that styrofoam trays remain in a landfill without disintegrating. Approximately 400,000 CPS students use styrofoam trays everyday as part of their lunch program.

Composting

Background/Benefits

Composting at school presents many opportunities for the school community from waste reduction, to costs savings, to excellent educational opportunities. Composting provides connections, interdisciplinary learning, financial opportunities and it helps to instill an environmental ethic, conserve natural resources and build school community. It also provides an opportunity to teach social responsibility and to give the students a hands-on opportunity to see how science and nature operate.



Implementation Steps

1. Appoint a Composting Committee consisting of custodians, cafeteria manager, a group of students, and a teacher sponsor.
 - a. Discuss collection system design with the maintenance director
 - b. Assess container
 - c. Determine custodial responsibilities in kitchens and cafeterias.
 - d. Observe student flow, tray bussing timing and habits, and lunchroom set up.
2. Set up a station in the cafeteria near the trash with an additional can for compost-able material. Use a sign or a dry-erase board on the wall lists the items that are acceptable for composting that day.
 - a. Meat, dairy products, grease, and oil are never acceptable items for composting.
3. Assign a staff members on a rotating schedule to assist the students in separating their waste.
4. After lunch, a custodian or student should take the compost bin to the larger outdoor compost bins.
5. Train kitchen staff as to what is compost-able from their operation. Provide them with a compost bin.

Outside/Backyard Compost Bin

1. Discuss with custodians how to maintain the compost bins.
2. Choose a location for your compost pile. The location should be on a level, well-drained surface of pavement or bare earth.
3. Use a large bin or build a bin for your compost pile be sure to abide by county, city, and state ordinances.
4. After your bin has been constructed, wet the ground under the bin. Add two inches of wet dirt to the bottom of your bin if it is located on pavement or has a sealed base. Proper moisture is essential to a good compost pile.

5. Lay a four to six inch layer of twigs and branches at the bottom of your bin. This will allow for air circulation.
6. Now add thin layers of biodegradable materials like fresh grass clippings, leaves, twigs, potato peelings, etc.
7. Continue adding biodegradable items over the next few weeks. Examples include fruit and vegetable peelings, coffee grounds, stale bread, and yard waste.
8. Stir your pile with a shovel or pitchfork once a week to keep things mixed and ensure that everything remains moist. Add water when necessary.
9. When individual materials can no longer be identified and the pile resembles dark, rich soil, the compost is completed (this may take six–twelve weeks)
10. Use this composted material in your garden as a fertilizer or pile it around the base of trees to help retain moisture in the soil.

In Classrooms

Vermi-Composting (Worms)

Worm Bins can be purchased or easily constructed for your classrooms. See Appendix.

1. Worms need moisture, air, food, darkness, and warm (but not hot) temperatures.
2. Bedding made of newspaper strips or leaves will hold moisture and contain air spaces essential to worms.
3. You should use red worms or red wigglers in the worm bin, which can be ordered from a worm farm and mailed to your school. The scientific names of the two commonly used red worms are *Eisenia foetida* and *Lumbricus rubellus*.
4. When choosing a container in which to compost with worms, you should keep in mind the amount of food scraps you wish to compost, and where the bin will be located. A good size bin for the classroom is a 5– 10– gallon box or approximately 24" X 18" X 8". The box should be shallow rather than deep, as red wigglers are surface-dwellers and prefer to live in the top 6" of the soil.
5. Some teachers have extra aquariums available (be sure to cover the outside in black paper as the worms cannot survive in light). Some have wooden boxes which they would like to reuse. Others may prefer to buy or reuse a plastic container, such as commercially manufactured storage bin. No matter what material you choose, make sure to rinse out the container before using. For wooden bins, line the bottom with plastic (e.g. from a plastic bag or old shower curtain). Cover the bin with a loose fitting lid.

Growing Involvement and Excitement

- Start a Waste Reduction Week at your school or other activity/event to gather excitement and show your commitment to composting.
- Integrate the worms into the curriculum.



21

When food decomposes in a landfill, it releases methane, a greenhouse gas 21 times more damaging than carbon dioxide.

Success Story

Five years ago students in the Rosemount–Apple Valley–Eagan School District started scraping their plates in the cafeteria, separating uneaten food from plastic forks and other garbage in an effort to compost organic waste. But it's been a long time since most lunchroom trash actually made it to the compost heap.

In 2008, District 196 rolled out a new composting program designed to keep food waste from mixing with other trash in garbage trucks -- a problem that sank students' previous attempts to turn leftover French fries into garden mulch. And the enthusiasm has been building: At Rosemount High School, students made signs for the cafeteria about how composting works and volunteered to be lunchroom monitors.

"I didn't have to sell this," said Veda Kanitz, a ninth-grade earth sciences teacher who helped get the program off the ground at Rosemount. "They know that we need to do something, that this planet is in trouble."

Composting is taking off at schools throughout the metro area: It's good for the environment, gives students an easy way to be green and can help reduce a school's garbage costs because organic waste comes with lower tipping fees and taxes.

"The interest is growing just dramatically," said John Jaimez, an organics and recycling specialist who has helped launched similar programs at eight Hennepin County school districts in the last five years. As much as 80 percent of a school's trash comes from its cafeteria and kitchen, and about three quarters of that is organic, he said.

Participating schools collect food, napkins and other nonrecyclable paper in biodegradable bags that are picked up by different trucks than those that haul regular garbage. The organic waste is inspected to make sure it's at least 90 percent pure, then taken to a waste processing facility near Rosemount that sells the resulting compost for landscaping to buyers that include school districts such as District 196.

The program was supposed to save the district as much as \$30,000 a year and compost up to 20 percent of its trash, said Mike Schwanke, the district's facilities manager. But the organic material was so contaminated that the waste processing facility eventually stopped composting it, instead bundling it off to the incinerator with the rest of the trash.

"We were discouraged there for a while," he said. For the new program, each school has been issued five compost bins -- one for every day of the week -- along with biodegradable bags that are sealed after lunch to keep rodents out. A separate truck will pick them up once a week. Similar programs have worked well in Hennepin County schools, where more than 95 percent of loads pass inspections, Jaimez said.

Additional Resources/Ideas:

- San Francisco Environment Schools: <http://www.sfenvironment.com/aboutus/school>
- US Composting Council: <http://www.compostingcouncil.org/index.cfm>
- Cornell Waste Management Institute: <http://cwmi.css.cornell.edu/Composting.html>
- US Environmental Protection Agency: <http://www.epa.gov/msw/compost.htm>
- University of Illinois Extension Master Gardener Compost and Plant Clinic Hotline: 773-233-0476
- "Ask a Master Composter Online:" www.tinyurl.com/askcomposter
- City of Chicago's Discount Compost Bins: 312-743-9283
- The Adventures of Herman the Worm: www.urbanext.uiuc.edu/worms.
- The Microbe Zoo: www.commtechlab.msu.edu/sites/dlc-me/zoo/
- How-To, Activities and Science from Mansfield Middle School Composting Program: www.mansfieldct.org/Schools/MMS/compost
- Recycle Now School Composting Pack: <http://www.wrap.org.uk/downloads/SchoolsPackKS1.2faa6ae0.pdf>
- School Composting: A Manual for Connecticut Schools http://www.ct.gov/dep/lib/dep/compost/compost_pdf/schmanual.pdf
- Journey to Forever: http://www.journeytoforever.org/edu_compost.html
- See appendix for Chicago Compost Ordinance
- Success Story by Sarah Lemagie at the Star Tribune

{engagement

— School Green Teams —

Establishing a Green Team

The Green Team is the core of the Green Schools process, both organizing and directing activities at the school. Consisting of the stakeholders of the school environment – students, teachers, janitors, facilities managers, parents and school board members – the Green Team is democratic and can be run by the students themselves. Whatever the type of school or age group, student involvement in the committee is essential. This group can be charged with coordinating many of the greening activities; making recommendations to relevant school decision-makers, and facilitating communication among and actions by the whole school community.

Implementation Steps

1. Select Members of Your Green Team–The Green Team will be more successful if you include more participants from different parts of your school community. A full Green Team includes at a minimum:
 - a. One teacher
 - b. Two students
 - c. A support staff member (ex: teaching assistant, kitchen staff)
 - d. One administrator
 - e. One custodian or facilities representative
 - f. One parent or other community member
2. Create Roles and Responsibilities
 - a. Chair, Co-chair: Sets up meetings, creates the agendas, facilitates meetings and keeps them on track, encourages participation by all team members, and stays informed about new resources available.
 - b. Secretary: Takes minutes at the meetings, records decisions made and includes the name of the person responsible for carrying out each action as well as an estimated timeline. Provides minutes to the rest of the Team (preferably electronically or by posting one copy for others to read).
 - c. Communications/Publicity:

Ensures that results of Assessments, actions, and events are communicated to the school community (e.g., submitting a monthly report/update for the school newsletter, making posters, signage, and promoting special events). This important role probably requires more than one person.

 - d. Student Representatives:

Offer suggestions from a student perspective, communicate information to and from the student body (e.g., through weekly announcements, bulletin boards, student council, assemblies). Students also work on actions from the Action Lists, conduct research for Assessments, develop campaigns, take leadership for classroom initiatives (e.g. train other students in waste reduction and energy conservation practices), and help with fundraising and incentives activities (e.g. contests).
 - e. Adult Site Advisor: A teacher, custodian, administrator or other staff person provides counsel on



logistics, policy, protocol, or permission requirements for special projects. Supports students as leaders.

3. Adopt a Vision Statement that includes the goals and initial steps.
4. Create a plan that may include:
 - a. Environmental Audit which can be done internally by students, teachers and maintenance staff, possibly as part of an educational project.
 - b. Action Plan identifying priorities and responsibilities. It should include both short term and long term goals taken on by students, teachers and administrators.
 - c. Recycling Project that sets measurable goals.
 - d. Energy Conservation: Is your school shutting off the lights after you leave a room? Are the computer monitors being shut off when they are not being used? Conduct your own audit to how you may conserve energy.
 - e. Reduce consumptions and avoid waste: Are there ways to reduce the resources your school consumes? If you can't get rid of Styrofoam, can you encourage a "waste free lunch" campaign or ask each kid to bring in a reusable napkin or water bottle, is there a collection box for paper that has only been printed on one side?
 - f. Participate in something fun! Plan an event in your school for America Recycles Day in November or Earth Day in April.
5. Monitor and celebrate success while constantly evaluating and refining your plan!

Additional Resources/Ideas

- Fostering Sustainable Behavior, A guide to effectively encouraging people to adopt sustainable behavior: <http://www.cbsm.com/public/world.lasso>
- Example Green Team Projects from the Green Education Foundation: http://www.nationalgreenweek.com/index.php?option=com_content&view=article&id=123&Itemid=149
- Examples Secondary School Green Team Projects: <http://your.kingcounty.gov/solidwaste/secondaryschool/gtprojects.asp>
- Waste Free Lunches: This site provides how to, success stories, and activities related to starting a waste-free lunch program at your school or office: www.wastefreelunches.org/links.html
- School Profiles
- Head-Royce School Profile (K-12): www.greenschools.net/news/headroyceprofile
- Ojai Unified School District (K-12): www.greenschools.net/n

Community Involvement

Background/Benefits

In the study, *A New Wave of Evidence: The Impact School, Family and Community Connections on Student Achievement*, researchers show that "students from families of all different backgrounds and incomes who have involved parents are more likely to: earn higher grades and test scores and enroll in higher level programs; be promoted; pass their classes and earn academic credits; attend school regularly; have better social skills, show improved behavior, and adapt well to school; and graduate and go on to post secondary education."

71

The percentage of students that did not meet recommended levels of physical activity in 2007 according to the Chicago Risk Behavior Survey

Implementation Steps

Create a Welcoming Environment

- Make sure your school says "Welcome," literally with signs and figuratively by making it a place that parents want to go.
- Can visitors find the parking lot, front door and front office? If not, create signs and directions to help make that easier for all visitors.
- Train support staff to provide outstanding customer service to students and families.
- Create a family mentoring program where long-time families are paired up with new families to help them through the transition process and answer their questions.
- Create a "Parent Ambassador" program where parents can represent the school to prospective families, at school fairs and in the community.

Communication

- Be sure your communication with families is free of educational jargon and adaptable to the reading level of all families.
- Identify the different languages spoken by students and their families within the school. Provide translators for non-English speakers.
- Prepare a welcome package to distribute to new families.
- Encourage open communication and problem solving between families

Shared Decision Making

- Give families meaningful roles and responsibilities with regard to school improvement and school committees.
- Survey parents at the beginning of the year to identify their expertise and interests and whether or not they would be willing to serve as a resource to the school or to individual classes of students.

Enhance a Culture of Learning

- Post the academic standards and assessments for different grade levels and subjects.
- Hold workshops for parents that explain the standards, assessment and content that students are learning.
- Offer English as a Second Language (ESL) classes to parents and others in the community.

Speak up for Child and Advocacy

- Hold school board meetings in schools throughout your district to highlight each one.
- Provide workshops about parent rights and responsibilities and the process for handling issues of concern.

Building Community Connections

- Facilitate family get-togethers that highlight student accomplishments and provide connections with community resources.
- Plan a seminar for real estate agencies to introduce them to the schools in the district.
- Invite parents and members of the community to school wide events.



Growing Involvement and Excitement

- Work with your staff to instill the idea that parents must be part of the solutions, not the problems!
- Have your teachers host welcome nights at the beginning of the year as a social gathering at the school to get to know the families.
- Encourage teachers to know the professions of the parents and invite them in to assist in projects or as special guests for related subjects (i.e. a firefighter can come in for the community helper lesson.)

Success Story

In Chicago's Lakeview neighborhood, Nettelhorst Elementary School was plagued with decades of community indifference and negative stigmas. Through the visionary leadership of their new principal, Susan Kurland and Jacqueline Edelberg, a neighborhood mom, Nettelhorst's administration and parent body banded together to change the entire dynamic of the school...and brought the neighborhood with it. Through parental involvement and the trust and empowerment from the school's administration, the story of Nettelhorst exemplifies all that can be done when schools and families work together. The full story of Nettelhorst is documents in the new book, "How to Walk to School"

Additional Resources/Ideas

- Parents make the difference: <http://www.nhparentsmakethedifference.org/index.htm>
- Nettlehorst Elementary School: <http://www.nettelhorst.org/book/>
- A New Wave of Evidence, Southwest Educational Development Laboratory, The Impact of School, Family, and Community Connections on Student Achievement. Annual Synthesis 2002: <http://www.sedl.org/connections/resources/evidence.pdf>

Fundraising

Background/Benefits

Fundraising is the means to your passionate end. It is not the objective of your school, but it is the way in which you will fulfill your mission and gather support. Although many schools are funded publicly, the budget is stretched thin. If your school desires to have and maintain organic breakfasts and lunches, a school garden, after school sustainability programming, or to start a green team or club, you are going to need to find alternative sources of funding. Fundraising should be approached from many creative perspectives including: government grants, foundation grants, individual donors and fund raising events and activities.



Implementation Steps

1. A clear understanding of your school's mission and goals are essential to make a clear case for your organization. Make sure that whoever is working on fundraising (administrator, board members, parents, volunteer committee, students etc) clearly understands the mission of your school and the goals of the fundraising campaign/grant. Give them a short sentence or two that exemplifies what your school is all about.
2. Clearly answer these questions:
 - a. What is your school mission – your reason for being?
 - b. What is your fundraising goal – what program, operations, capital enhancements, etc. are you raising money for?
3. Develop a needs statement that explains why you want this, what tasks are involved, and how much it will cost.

41

The number in billions of dollars fundraised in the US for education in 2008. This amount represents 13% of the total philanthropic gifts.

4. Get help researching and writing grant proposals from board members and volunteers. They can help find prospects, draft the proposal, and assemble the necessary documents.
5. Note deadlines. Many funders have deadlines once or twice a year. As you identify funders, discover the best times to apply and plan your grant strategies accordingly.
6. Be creative in your requests. Have new and creative ideas to solve the same problems that everyone else is applying for.
7. Be comprehensive. Talk about the life-cycle of your project and the residual effects that it will have on your school and community.

Growing Involvement and Excitement

- Ask teachers, board members and parents for a wish list. This early stage of engaging them will help raise interest and volunteers to help.
- Encourage your teachers to find and submit grants that support and expand their programs and curriculum.
- Ask students to create wish lists and fundraising plans.
- Use student/parent projects including art, bands theatrical productions as fundraising opportunities.
- Hold composting workshops, sell composting bins, and charge a fee for the information.
- Hold a Swap-Meet with a small entry fee. Families can bring usable goods that they no longer need at home and can trade with other families or community members.
- Set up a bin at your school to collect E-Waste.

Success Story

In 2008 Interface, a worldwide leader in commercial and residential interior products, was accepting grant applications for projects that would increase student environmental awareness and responsibility. Since 1999, the Interface Environmental Foundation has contributed more than \$180,000 USD to more than 50,000 students in the global communities where Interface associates work and live. During the 2008-2009 school year the corporation was able to reach over 7,300 students. The Academy for Global Citizenship applied for and received an Interface grant for Winter Composting. Students experimented with different means of composting by growing seedlings in their classrooms that were then transplanted to the outdoor garden in spring. Students made predictions and compared and contrasted basic composting and vermi-composting processes, as well as the resulting plant growth from each type of compost. AGC was fortunate to have outdoor composting. However, with the winter approaching ceasing hands-on composting would mean ceasing learning experiences. The indoor composting systems have greatly extended AGC's students' learning experiences and has offered them a chance to inquire into multiple processes of composting and conduct experiments throughout the year

Additional Resources/Ideas

- Earth Friendly Fundraising ideas: <http://www.greenraising.com/testimonials.aspx>

Physical activity

Background/Benefits

Physical activity is an essential part of physical and mental childhood development. "Fourteen published studies analyzing data from approximately 58,000 students between 1967 and 2006 have investigated the link between overall participation in physical activity and academic performance. Eleven of those studies found that regular participation in physical activity is associated with improved academic performance. a national study conducted in 2006 analyzed data collected from 11,957 adolescents across the U.S. to examine the relationship between physical activity and academic performance. Adolescents who reported either participating in school activities, such as PE and team sports, or playing sports with their parents, were 20 percent more likely than their sedentary peers to earn an "A" in math or English."

Implementation Steps

1. Follow the Surgeon General's recommendation of 60 minutes of physical activity each day. Be creative!
2. Encourage students to walk and bike to school.
3. Create after school physical activity programs (sports, dance etc)
4. DO NOT follow the recent trend of cutting your PE program. Studies have shown improved academic performance for kids who are physically active, meaning that the extra classroom time has a positive effect of academic performance.
5. Encourage family participation- softball/ kickball leagues, weekend walks (can be a fund-raiser.)
6. Incorporate other subjects into PE so students the kids can learn Math, Science and Reading while moving around.
7. Incorporate PE into classroom activities so students the kids can see their classrooms as places to move around.

Growing Involvement and Excitement

- Involve families by setting family goals, i.e. this month as a family we will walk 26.2 miles—a marathon!
- Encourage walking and biking to school with families.
- Hold weekend or after-school fitness events.
- Offer a student/parent yoga workshop led by a teacher or local yoga instructor.
- Hold a fund raising race for the school community.
- Bring in local athletes to speak to the students about physical activity.



Success Story

For years, schools around the country have been cutting down on PE. And while child obesity is skyrocketing—up 45 percent since 10 years ago—many school cafeterias continue to serve meals high in sugar and fat. All of which makes tiny Namaste—now a school for kindergartners and first graders on Chicago’s Southwest Side—a curious anomaly.

For starters, many kids walk to school—accompanied by a volunteer troop of parents. When they arrive, they down a nutritious breakfast. Next, they limber up with stretches called the lizard walk and frog jump. After that, everyone does deep-breathing exercises. Finally—fed, stretched and calmer—the kids start class.

A former teacher in the public school system, Slade, 28, was convinced that many of the behavioral and academic problems she encountered were linked to poor nutrition and lack of physical activity. Research backs her up: A 2004 study by the National Institute for Health Care Management Research and Educational Foundation and Rand Corp., for example, showed that overweight children scored significantly lower in math and reading than their normal-weight peers...Students get a full hour of gym as well as playtime outside each day, along with breakfast and lunch featuring fruit, vegetables and whole grains. First grader Katelyn Winkelman, 6, who was overweight before she started at Namaste, has lost 10 lbs. since September. “Now I eat less and don’t get stomachaches,” she says. Adds her mom, Jennifer: “My daughter has so much energy now. She’s even excited to do her homework.”

UPDATE:

Namaste’s holistic approach to education is working! Illinois Standards Achievement Test (ISAT) scores released by Chicago Public Schools (CPS) in 2008 ranked Namaste Charter School among the top ten of all charter schools in Illinois! Furthermore, 89% of Namaste students met or exceeded Illinois State Standards, compared to an average of 68% across CPS. Additionally, students’ vigorous activity levels increased by nearly 50% and students’ body mass index (BMI) scores decreased or remained consistent with healthy levels. The results of a parent satisfaction survey conducted by CPS also show great results with 98% of families satisfied or very satisfied!

Additional Resources/Ideas

- Active Living Research: http://www.activelivingresearch.org/files/Active_Ed.pdf
- The Importance of Physical Activity for Children and Youth: <http://www.michiganfitness.org/Publications/documents/Adolescents.pdf>
- Namaste Elementary School: <http://www.namastecharterschool.org/>
- Namaste Shares: <http://www.namasteshares.org/>
- Federal Guidelines on Physical Activity: <http://www.cdc.gov/physicalactivity/everyone/guidelines/index.html>
- Teacher Education, Lesson Plans for Physical Education: http://www.education-world.com/a_tsl/archives/pe.shtml
- “Let’s Get Physical” By Jennifer Wulff. People Magazine. May 23, 2005 Vol. 63 No. 20: <http://www.people.com/people/archive/article/0,,20147647,00.html>
- Namaste Scores BIG on the 2008 ISATs source: <http://www.namastecharterschool.org/news.html>

60

The amount in minutes of physical activity recommended for students each day by the CDC. On average, 37.2% of high school students spend three or more hours a day watching TV.

{ the key to greening your school



{ acknowledgements

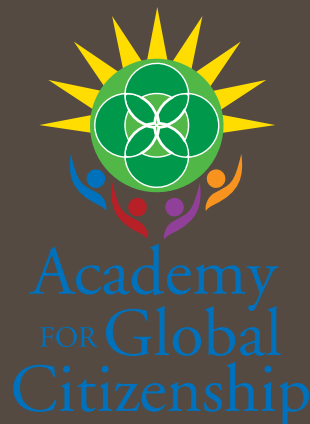
This Handbook is a testament to the power of collaboration.
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As a Charter School with a mission centered on environmental education, Prairie Crossing Charter School is excited for the opportunity to collaborate with the Academy for Global Citizenship. A charter school in the Chicago suburbs, Prairie Crossing Charter School is eager to partner with other schools and organizations that embrace the Green Movement. Since the inception of our school in 1999, our mission has always concentrated on environmental stewardship and ecological understanding. Visits to the nearby Prairie Crossing Learning Farm, our Farm to Table lunch program, outdoor classrooms, and our waste-free lunch program are some of the ways we incorporate an environmental lifestyle into our day-to-day teachings. We look forward to sharing this amazing handbook created by the Academy for Global Citizenship throughout Illinois and the United States.

This book was published by the



M Northwestern
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PRAIRIE CROSSING
CHARTER SCHOOL

