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Composting in Chicago Public Schools

A Go-Green Guide



Prepared for Chicago Public Schools by



environmental impact **initiative**



Composting in CPS

Dear CPS Green Leader,

Welcome to the Chicago Public Schools Composting initiative. As part of our ongoing Environmental Action Plan, we encourage schools to begin composting to reduce their impact on the planet and teach students to be environmental stewards. We put together this guide to steer you through the process of starting a composting program at your school.

Composting may seem like an intimidating task, but it's actually very manageable with the right help. On a daily basis it can take as little as ten minutes. Many Chicago Public Schools have been doing it successfully for years. We've drawn on all their experience here to start you on the path to a thriving and rewarding program. The environmental benefits of composting are substantial—an average school can prevent 3,000 pounds of food waste from going to landfill each year. More importantly, we will instill an empowering message in our students—that they can make a positive difference in their community and the world—while providing them with educational opportunities that we can tie in to the classroom.

This guide will help you plan and implement your composting program step-by-step. Follow the instructions and tips inside— they'll equip you with all the information you need. Working together, we'll make composting a success.

Sincerely,

Suzanne Carlson
Director of Environmental Affairs
Chicago Public Schools

P.S. Stay in touch as we continue to develop the program. Go to www.cps.edu/gogreen for more information.

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CPS Composting Checklist

Use this checklist to track your school's progress!



- Delegate responsibilities among key staff members (p.4).
- Obtain the necessary equipment and materials (p.6).
- Anticipate issues by answering the questions on p.7.
- Develop your food scrap collection and composting processes (p.9).
- Communicate the program and its benefits to staff and students (p.11).
- Start composting on Kick-off Day (p.12).
- Troubleshoot—evaluate after the first week and make improvements (p.12).
- Integrate the program with classroom instruction (p.14).





What Is Composting?

There's a great deal of science involved in the natural processes of composting. Thankfully, you don't need to be a scientist to compost—some basic tips and common sense will see you through.

Composting, most broadly, is the biological reduction of organic wastes to an earthlike substance, called humus. It is a natural part of the life cycle. Humans have known about the benefits of composting as far back as Ancient Mesopotamia, Greece and Rome and have continued the practice to this day. Because composting is a natural process that “recycles” organic waste, it is consistent with recent trends toward sustainable and organic farming and efforts to minimize the large amounts of waste going to landfills.

Whether they occur on a forest floor or in a school compost bin, the natural processes involved in composting are the same. Composting takes place when a series of organisms break down complex biodegradable material into simpler, more usable proteins and carbohydrates, which are released into soil as plant “food.” The work is done by soil microorganisms, such as bacteria, fungi and protozoa, and larger “decomposers” like earthworms, mites, nematodes and other insects. As these critters do their work, biochemical processes like oxidation, reduction, and hydrolysis also occur, providing energy and nutrients.

In order to thrive, composting organisms need four things: carbon, nitrogen, oxygen, and water.

Carbon provides energy and comes from brown, dry materials such as dry leaves, wood waste, or shredded cardboard. Nitrogen is a nutrient and comes from wet, “green” material such as vegetable or fruit scraps. Oxygen aids the process, while water sustains the organisms. The right ratios of these materials create beneficial conditions for decomposition. Too much or too little of any one material can create unfavorable conditions for microorganisms and hinder the process. Don't worry, however—managing the compost pile isn't difficult and we'll go into more detail later.

Composting Methods

There are many methods of composting: bins, tumblers, open windrow piles, vermicomposting (with earthworms), anaerobic (without air). CPS recommends bin composting for its ease, scale, good airflow and drainage, and compliance with City of Chicago laws. Several district schools have successfully implemented bin composting and the lessons learned are incorporated here. The key materials are the bin, some basic gardening tools, and “feedstocks”—green food scraps and dry, brown material that you will compost.





Why Compost?

Help CPS students make a difference for the environment!

Composting is a growing trend in green schools. It is an ideal, natural form of recycling that provides inspiring, hands-on learning opportunities and numerous environmental benefits.

Here's what your school can achieve by composting:

- Conserve and return valuable nutrients and minerals back to the Earth
- Help students develop and put into practice good ecology habits
- Create learning opportunities to reinforce environmental messages
- Increase your school's reputation for eco-excellence
- Reduce cafeteria landfill waste and its environmental impacts

CPS composting schools have reported diverting 85 pounds or more per week of food scraps from landfill. That equates to 2,975 pounds per school year! Schools have also found that composting has led them to rethink food preparation and distribution practices to make them more earth-friendly; for example, by reducing food waste in the first place, encouraging students to take only what they'll eat, and using more sustainable materials.

Active, engaged, eco-aware students

Best of all, composting offers fun, hands-on educational opportunities. Students often take the lead in maintaining programs on a daily basis. In addition, concepts related to composting are easily integrated into science, math, and social sciences lessons. Composting can also be linked to school garden and beautification projects and various clubs. These projects can build pride and participation as students put newly-learned eco-habits into practice at school, home and in neighborhoods.

So let's get started! In the remainder of the guide, we will lead you through starting your school composting program.



"The best thing about composting is providing hands-on opportunities for student learning and seeing students take ownership of the project."

*—Patricia Bonness,
Vaughn Occupational HS*

How to Start Composting at Your School



Starting a composting program can seem intimidating. But many CPS schools are already doing it successfully. This guide draws on their experience. As one CPS composter said, “Go for it! Start out small, and don’t worry about being perfect at first. Soon, you’ll be up and running!”

Once you get set up, composting is fairly simple. On a daily basis, it only takes about 10–20 minutes. In this “how-to” section, we identify the roles and responsibilities involved and then guide you step-by-step through the process of getting set up. The first thing you will want to do is to get buy-in at your school for the program— then you can start implementing it.

Throughout the guide you’ll find best-practice tips, resources and encouragement from veteran composters. Use the checklist at the beginning of the guide to track your progress. And remember, you’re not only conserving land and resources, you’re helping CPS students become good environmental stewards!

CPS Composting Implementation Process



1. Delegate Responsibilities



To start composting in your school, you'll need to first get buy-in, especially from your principal. After reading this guide, explain the benefits of composting and the process to key personnel, such as your school's principal, engineer, cafeteria staff and monitors, and teachers. Be sure they know that CPS supports and promotes composting initiatives.

Once you get buy-in, you'll need to recruit help. Composting is a team effort and you'll need support throughout the school. Here are some of the tasks that you may need help with:

- Consulting about any potential issues
- Educating and building support with school personnel
- Determining an effective food scrap collection process
- Acquiring the necessary equipment and siting the compost bin
- Communicating the process to students
- Successfully implementing and monitoring the process



We suggest that you seek the following types of support from key personnel:

Composting Coordinator (You!) & Assistant Coordinator

The Coordinator can be any interested staff member. Because the Coordinator may not be there every day, it is important to have a back-up supervisor for the program. (The moral support also helps). Coordinators will:

- Communicate the program to staff and students
- Oversee development and implementation of the process
- Supervise daily operations, which are usually performed by students

Principals

- Build support and maintain commitment to the initiative.
- Provide approval to purchase tools and equipment

School Engineers & Custodians

We can't emphasize enough how important it is to gain the support of your school engineer. Because engineers are responsible for waste collection and disposal and for the school grounds, they tend to have the most concerns. Fully address their concerns early on so that they feel confident that the process won't create problems. Feedback from successful CPS composting schools can help. You'll want your engineer's cooperation to:

- Obtain necessary tools and equipment
- Site the compost bin
- Set up food scrap, recycling, and trash bins and buckets

(continued next page)



Teachers and Cafeteria Staff & Supervisors

Staff support is vital to maintaining a consistent, effective program because coordinators can't monitor every lunch. Participation grows when people understand and feel personally committed to a goal. You can gain this commitment with competent, considerate planning and clear communication of the composting initiative and its benefits for students and the environment. Staff can help you:

- Get students excited about the process
- Monitor cafeteria disposal
- Supervise daily operations

Students

Successful schools have strong student involvement. In fact, many coordinators cite student involvement as the most rewarding aspect of the program. Environmental clubs or "green teams" are effective—and enthusiastic—helpers, and are often responsible for the daily process:

- Monitor student cafeteria disposal
- Collect and process food scraps
- Monitor the bin and harvest finished compost

"Our students really took charge and are now responsible for maintaining the program."

—*Sandy DeChant, Pulaski Elementary*

Best-Practices: School Participation

- "Get students involved! Our students love to do it!"—*Theresa Bernande, Christopher School*
- "Get a team before you start so that you are not alone. It's significant amount of start-up and supervision initially."—*Nichole Moos, Hamilton Elementary*
- "Get input from necessary personnel, including the engineer, cafeteria staff, teachers, and administrators. Their help is needed and their support makes the process much easier."—*Graham Gazdziak, Pasteur Elementary*
- Generate support and enthusiasm for the initiative by doing a waste audit to demonstrate the benefits and inspire improvement.

2. Obtain the Necessary Equipment & Materials



The main resources you will need are: 1) Equipment & Tools—most importantly, a compost bin, along with some basic gardening and custodial items, and 2) “Feedstocks”—the green food scraps and brown material to be used as your composting material. Be sure to consider age-appropriateness for any bins or tools that students will use (e.g., height or weight). Check with your school engineer and custodial staff to determine what items may already be on hand, re-purposed, or easily obtained.

Equipment & Tools

Item	Explanation & Description	Est. Cost
Compost Bins (2)	We recommend large, approximately 3’ x 3’ x 3’ compost bins (approx. 200 gallons or 27 cubic feet) . Most schools use bins made of recycled plastic with galvanized metal screening to maintain airflow. Two bins are best, so when one is full you can compost in the other. Double bins (approx. 3’ x 68” x 3’) with separated compartments are also acceptable. Compost bins can be purchased from online sources, obtained from CPS (for free programs, inquire at gogreen@cps.k12.il.us), or built. For a plan to build a bin, go to: http://urbanext.illinois.edu/homecomposting/urbanbin.html .	\$159–\$350 per bin \$450–\$599 (double bin)
Chopper	Use a standard ice chopper to chop the food scraps.	\$16
Spading Fork	Use a four-tine spading fork to turn the compost in the bin.	\$17–25
Buckets	Collect food scraps in inexpensive, 5-gallon buckets, which are easiest to find, clean, and carry. Your custodians may have some on-hand.	\$5–7
Large Bin (with cover)	Collect “brown material” (p.7) in a standard 44-gallon bin with a cover. Check with your custodians or at gogreen@cps.k12.il.us for repurposed sources.	\$34–39
Soil Sifter	(Optional) You may want a soil sifter for screening out any remaining scraps from your finished compost.	\$24–30



Basic Composting Bin



Standard Ice Chopper



Spading Fork



“Compost Feedstocks”

“Green” Material

Fruit and vegetable scraps collected from the cafeteria. Note that throughout this guide we call them “food scraps,” not “food waste,” because they are a resource—which you will be putting to use. You may also use fresh grass clippings that haven’t been chemically treated, in moderation. Remember, no meat, fish, dairy, or oily products!

“Brown” Material

Dry leaves (e.g., from school grounds), shredded cardboard, untreated wood dust, straw, used brown bags, newspapers, and napkins from the cafeteria to mix with the “green” food scraps. Avoid any copy paper with toxic inks (newspapers use soy-based inks, so they are OK). If your school has a wood shop, request that it collect untreated sawdust for your composting. Plan ahead by accumulating these materials so you can keep your compost bin in balance.

3. Anticipate Issues



Each school will encounter different issues based on its cafeteria service, size and configuration; its enrollment and grade levels; the school grounds; the number of meal periods; and staffing. The Composting Coordinator should discuss the process with any involved staff in order to anticipate issues and develop solutions. Here are some basic questions to consider when you start:

- What is the current cafeteria disposal process? How can you best integrate the new separation process? Do you currently recycle in the cafeteria? If you aren’t, you may want to start. Download the **CPS Carton Recycling Guide** at www.cps.edu/gogreen/Pages/WasteandRecycling.aspx or go to www.eiigreen.org/school_carton_recycling.htm for a general guide.
- How many “disposal stations” (recycling bin, liquid waste bucket, trash can) does your cafeteria use? For example, high schools usually have several disposal bins and may have to rethink that process. Does your school have more than one cafeteria? This will help you determine how many food scrap buckets you will need.
- What is the current cafeteria dismissal process? Is it orderly, or can it be improved? This will help you to determine the best disposal set-up.
- Who are your cafeteria monitors? Do they rotate? All cafeteria monitors must understand the process thoroughly so they can oversee and guide students.
- How can you maximize student help with the compost and student disposal processes?
- What are the best locations for siting the outdoor compost bin?
- How can you best display signage about the composting process?

The main concerns will likely involve collecting the food scraps, composting them, and maintaining orderly cafeteria dismissal. We list several questions on the next page with lessons learned at other schools.



Concerns	Lessons Learned
<i>Will the composting cause unpleasant odors?</i>	No. When composting is done correctly, smell is not an issue. See p.15 for clear directions for maintaining a good compost mix that avoids smell. If smells do develop, they are easily corrected in a few days with simple adjustments.
<i>Will the composting attract vermin or other animals?</i>	No, vermin are not a problem. By not mixing in meat and dairy products, you will avoid attracting vermin and animals. As a further precaution, use compost bins with no openings greater than 1/4" to prevent access, as required by law.
<i>How much space do I need for the compost bin?</i>	The standard compost bins that CPS schools have been using are about 3' x 3' x 4' tall, and it is best to get two bins or more. So plan for about 5" x 11" space at least.
<i>What food scraps should I compost?</i>	CPS recommends that schools use bin composting. For bin composting, you can use fruit and vegetable scraps. Used napkins can also be collected. Meat, fish, and dairy cannot be composted.
<i>My school uses compostable food trays. Can these be put in the compost bin?</i>	In "perfect" industrial-grade composting conditions, compostable trays and utensils will decompose. However, school compost bins cannot be controlled to that degree, so we do not recommend including compostable utensils. Compostable trays may be tried as an experiment—if you can shred them first. You will know whether they can work in your bins if they are gone when you harvest your humus. If they do not decompose, you can sift them out of the humus and then either dispose of the shredded pieces or compost them again.
<i>Can the compost bins sit without being tended to over weekends and breaks?</i>	Yes. As long as you are composting properly with a good mix of "green" and "brown" material, and the pile has been regularly turned, breaks are no problem. The natural process will simply continue while you are away.
<i>Will the separation of food scraps create lunchroom messes or delay cafeteria dismissal?</i>	With clear communication to staff and students, composting schools have not experienced lunchroom messes or disruption of their cafeteria routines. Simply integrate food scrap separation into current cafeteria waste sorting and recycling processes and provide sufficient collection buckets.
<i>Will the program create an added burden on lunchroom staff?</i>	During the initial days of the program, students may have questions and require guidance. As the novelty of separating food scraps wears off, it will become second nature to them. The key is clear communication about what to compost.
<i>What if students throw other waste into the recycling cans?</i>	Other materials sometimes find their way into food scrap buckets. Again, clear communication and supervision can head this off. If foreign material winds up in the bucket, simply pull it out.

4. Develop the Collection & Composting Processes



Great work so far! You've gotten buy-in, sourced materials, and anticipated potential issues—your program is well on its way. What's next? Now it's time to develop the processes for cafeteria food scrap collection and composting with participating staff. As you do, try to give students as active a role as possible to maximize environmental lessons and reduce the burden on staff. Here are some tips for developing the processes:

The Collection Process

Cafeteria set-up

- The most effective disposal/recycling set-ups locate food scrap and recycling bins first and trash last. This puts recycling and composting at the forefront to ensure that students do not simply dump their trays in the trash. Some schools have built a disposal counter (see p.15). We recommend the following order:
 1. Sink or five-gallon bucket for dumping out liquid waste.
 2. Recycling bin(s) for milk cartons, plastic bottles, or cans.
 3. Food scrap buckets to collect fruit and vegetable scraps and used napkins. NO meat, fish, cheese, oil or dairy scraps can be composted.
 4. (Optional) A bin for collecting paper bags, which can serve as brown material.
 5. Trash bin for any landfill waste—the goal is to have as little here possible.
- For good traffic flow, space bins and buckets in an orderly line and position supervisors nearby to encourage timely movement and answer questions. If necessary, try multiple set-ups to speed dismissal.
- The cafeteria and disposal stations should feature signage and clearly marked buckets, recycling bins and trash cans. In general, the simpler, the better. Pictures or actual adhered objects work better than lists of items, especially for younger children. Make sure any signage is visible (height-appropriate) to illustrate the process.

“Our students have really bought into the process. Their curiosity and willingness to participate has been great.”

**—Graham Gazdziak,
Pasteur Elementary**



Student disposal and dismissal process

- Students should empty their own trays. It's the most efficient process and it teaches them to be environmentally aware and self-sufficient.
- Student “green teams” and/or staff should monitor and instruct students on the disposal process. For the first week, staff up with volunteers to help instruct students as they empty their trays. After that, the new process will quickly become routine. Students are fast learners.
- Elementary schools may consider a “formal” dismissal process—by tables, rows, or some kind of order—for efficiency. High schools may need to create a disposal line.



The Composting Process

Compost bin set-up

- It is best to site bins in a convenient location outdoors on a soil surface (so nutrients will not run off and be wasted) that is close and easily accessed from the cafeteria. Be sure that you can get to the bin easily in inclement weather (e.g., that a path will be shoveled in winter). If your school has a garden or tool shed, you may also consider locating near it.
- Prepare the compost bin. Each time you initiate a new compost pile, cover the bottom with a layer of brown material. Then “inoculate” it with a thin layer of soil or compost from an existing bin.
- Separately collect brown material in a large bin with a cover (to keep it dry) to mix with the food scraps.

Composting your food scraps

Compost team members will deposit the collected food scraps from the cafeteria in the compost bin. Depending on the amount collected and the size of the bin, the team may do this at the end of each period, after all lunch periods are complete, or at the end of the day. Once you identify a good routine, establish a schedule. The whole process is fairly short—10–20 minutes:

- Chop the food scraps into roughly “salad-like” pieces using the ice chopper (be mindful not to damage the bucket bottom).
- Dump the chopped scraps into your compost bin.
- Cover the food scraps with brown material—try a roughly 50/50 mix. If you collect soiled napkins, factor them in as brown material.
- Toss the top layer, like a salad, using a spading fork to mix the food scraps and brown material.
- Assess the compost as you toss it for too much moisture or matting, or odor (see p.13 for guidance). It should have the consistency of a wrung-out sponge—some moisture, but not matted or soggy. Remember, higher temperatures in the compost pile are good—they speed the process.
- Rinse out the food scrap bucket, either outside with a spigot, or inside (e.g., in the custodian room). Once a week, give it a good cleaning.

Completing the process

- Once a compost bin is full, stop adding material and let the composting process finish on its own—it should take about 2–4 months. You can check it after six weeks or so.
- Begin using your other compost bin for new food scraps.
- The process has finished when you have rich, quality humus, or compost—crumbly, brown-black, with a mushroom or forest-floor-like smell and without food scraps. Then you can:
 - Harvest your new nutrient-rich compost by collecting it into a bin. [Optional] You can use a sifter to separate out leaves or any remaining solids. They can be deposited in your other compost bin.
 - Use your compost! It can be spread in your school garden (in flower or vegetable beds) or flower boxes and pots at school, or sifted for a planting medium for seedlings and young plants. In Chicago, be sure to use your compost *on site*; it can't be transported, and you'll want to reap the benefits.



5. Communicate the Process



Clear communication—especially about what can and cannot be composted—is essential to an effective program. If staff is not clear about this, they will lack confidence and be unable to instruct students properly, which will undermine your program. So make it clear and be thorough!

Composting Coordinators are primarily responsible for school-wide communication efforts, but you may also want to enlist the help of your principal to lend authority to your efforts. School Engineers can help explain program responsibilities for the custodial staff.

Staff Awareness

- After developing your composting plan, schedule a brief meeting with your principal and key personnel to review it. Engineers can pass on any information to the custodial staff.
- After getting your principal's approval, prepare and send out a memo announcing the initiative to all staff
- If possible, present the initiative and its benefits at a staff meeting. Explain to all how the program will work, what can and cannot be composted, and how to supervise student participation. Some schools have done this at a "Green Lunch" before school starts—a working lunch, perhaps with a cool video that reviews and demonstrates how the program will work. Offering a written procedure can also help.
- Keep key staff posted. Send an email reminder just before the composting kick-off day.

Student Awareness

The better you prepare students, the more effective your composting initiative will be. Students learn quickly and the process becomes second nature—if they get clear instructions from the start. They can also be a key resource for monitoring and executing daily composting tasks.

- If possible, explain the composting program room-to-room to ensure that students pay attention and understand. Alternately, present the program by grade or in a school assembly.
- Staff should physically demonstrate the new sorting process—food scraps, recycling and trash—to students in the cafeteria at lunch periods, with disposal stations in place, on the day you start composting:
 - Use an example lunch-sack or tray and empty liquids, recycle containers (and possibly brown bags), toss or scrape off food scraps, and discard any trash.
 - Convey the program's importance to instill a sense of responsibility in students.
- Encourage students to bring or take only food that they will eat and then to finish their meals.
- Support efforts with prominently displayed signage in the cafeteria or on disposal bins.
- Principals can remind students of the effort on kick-off day with a school-wide announcement.



6. Kick-Off Day—Start Composting!



It's kick-off day, and you're ready to go! Here's what to do:

- 1. Principals:** begin Kick-Off Day with a morning announcement reminding students and staff about the composting kick-off.
- 2. Composting Coordinators:** check that the composting signage is properly displayed.
- 3. Engineers / Composting Coordinators:** check that the disposal station, including the composting bucket or bin, is properly set up and that all bins are in the correct order.
- 4. Composting Coordinators & Cafeteria Supervisors:** at the start of each meal period, briefly announce the program kick-off and demonstrate the process for students. Also, inform students about any change to the dismissal process.
- 5. Cafeteria Monitors:** as the meal period winds down, initiate as orderly a dismissal as possible to help students familiarize themselves with the process. Help students correctly recycle and dispose of lunch remains and note areas of confusion or refinements to be made. It is important to be very vigilant initially about having students follow the process correctly to cement good habits and understanding.
- 6. Composting Coordinators, Assistants & Students Helpers:**
 - a. Monitor the composting bucket and empty it as necessary or planned.
 - b. Process the food scraps (chop, deposit, and "toss"—see p.10).
 - c. Rinse out the compost bucket.
- 7. All Personnel:** Have a short de-briefing afterwards to determine whether adjustments should be made.



7. Troubleshooting—Assess Your Process

After you've implemented the program for one week and made adjustments, troubleshoot both the collection process and the composting process. Bring together key staff and students to evaluate and determine what, if any, improvements to make. If helpful, contact personnel at other schools to find out what's worked for them.

Collection process

- Are students exiting in a timely way? If not, you may need another disposal station, improved traffic flow, or better communication.
- Are nearly all of the compostable food scraps being collected properly? If not, why?
- Is foreign material being mixed in with the food scraps?
- Is your staff overburdened? Why? Can students do more to help? Remember, to be flexible and keep the program manageable.
- How are the younger children doing? They may need extra help at the beginning.



Composting Bin Fine-tuning

You should assess your compost regularly as you deposit new food scraps. When you do, you may run into some issues. Thankfully, Mother Nature is forgiving and most issues can be easily corrected within a few days with simple actions. Here are some common issues and their solutions:

“It’s a process—not an art. It doesn’t have to be perfect. Flexibility is key for students, teachers, and support staff.”

**—Nichole Moos,
Hamilton Elementary**

Concerns	Lessons Learned
<i>The compost is starting to smell...</i>	Aerate the compost pile by tossing it thoroughly with the spading fork. It needs oxygen to stimulate the aerobic bacteria that decomposes food scraps without causing odors, so keep it loose and aerated.
<i>The compost seems sloppy—too wet and matted...</i>	Mix in more browns. Brown material will absorb moisture and prevent odor. Be sure to aerate the pile afterwards by tossing it with the spading fork. If the excess moisture is the result of rain, consider covering the bin.
<i>Nothing seems to be happening with the compost pile—no decomposition...</i>	This usually means the pile is too dry. One solution may be to simply add water and stir it in. But you may also be using too much carbon material. If the pile is dry, and largely brown, adjust the ratio of green material—add more food scraps and, if available, green leaves or fresh clean grass clippings. That will add moisture and heat up the compost pile, speeding the decomposition process.
<i>I went to my bin and there were a lot of flies...</i>	Occasionally fly swarms pass through, just as they do in backyards. Most often it’s just a passing thing not caused by the composting. Remember, there should be many good bugs living in the bin helping the composting process—you will want to see some of them.

Congratulations! Your composting initiative puts you in the forefront of CPS green schools and helps students and the environment. On the next two pages we provide resources to integrate your composting program into the classroom and some ideas for expanding your efforts when you’re ready.



8. Classroom Integration



Composting offers educators a rich topic for classroom study and activities. As one veteran composter shared, “Across the grade levels, students are excited about composting and regularly share their accomplishments.”

You can build on this enthusiasm by linking your composting program to teaching in the classroom. Integrating the program as “globally” as possible—into classroom curricula, school programs (e.g., environmental, science or gardening clubs), and activities will ensure its longevity and maintain commitment. Although composting itself is fairly simple, it involves biological, chemical, and physical processes that can be integrated into science, social studies, math, and language arts class work.

Resources

Here are some resources for composting-related lessons and activities:

<http://cwmi.css.cornell.edu/resources.htm>

The **Cornell University Waste Management Institute** website provides AV materials, guides, quizzes, research projects and activity booklets for classroom integration (scroll down to the “Youth and teacher” heading). You can also go to <http://compost.css.cornell.edu/schools.html> for more K–12 ideas and activities.

<http://www.thegreenteam.org/library.html>

The **Massachusetts Department of Environmental Protection “Green Team”** resources and materials provide teachers with a variety of lessons on environmental topics including composting.

http://www.teachersdomain.org/resource/ess05.sci.ess.earthsys.lp_recycle/

Teachers’ Domain offers an interactive lesson plan on Composting & Recycling that includes videos, PDF documents, activities and discussion guides for K–5 grade levels. The site also contains other related topics.

<http://www.lessonplanet.com/lesson-plans/compost>

LessonPlanet offers a variety compost lesson plans and activities for different grade levels, with user ratings.

<http://www.calacademy.org/teachers/resources/lessons/composting-a-scientific-investigation/>

California Academy of Sciences provides a composting lesson plan with activities geared to different grade levels, as well as suggestions for lesson extensions and references.

<http://www.kidsgardening.com/Dig/Dig.taf>

The **National Gardening Association’s** website [kidsgardening.com](http://www.kidsgardening.com) has several articles devoted to lessons and activities involving composting. Type in “composting” in the article search for resources.

<http://learningtogive.org/lessons/unit507/>

“Cool Kids Compost” is an educational/service project developed in Michigan schools. It uses a cafeteria food-waste survey to teach lessons about waste, composting and recycling, which are put into action.



9. "Composting 2.0"

Once you've got your cafeteria composting program going, you may be ready to expand your efforts. Here are a few options for "turbo-charging" your program:

■ **Expand the program's scope.**

For example, if your school serves breakfast, consider composting breakfast food scraps as well. Also consider a bin in staff areas for food scraps or coffee grounds and filters.

■ **Involve other departments or programs.**

For example, school kitchens or culinary programs can contribute food scraps, while wood shops can collect untreated sawdust for use as brown material.

■ **Create a student "Green Team."**

If you don't currently have one, a Green Team can make a huge difference in educating and monitoring students. Schools have found that providing the team with hip green-team t-shirts can promote interest and make the initiative cool so that student leaders contribute and recruit others.

■ **Conduct a cafeteria waste audit.**

If you haven't done one, conduct a waste audit to measure the amount of food scraps you are diverting and to determine how you can improve the process. It's usually an eye-opener for staff and students and can build commitment. Also, you can use the results from the audit to apply for Illinois state zero-waste grants for items such as hand dryers or other relevant equipment to make your school more eco-friendly! To do so, get a basic hanging (or "fisherman's") scale to weigh the food scraps you are composting. They are readily available online and at sporting goods stores.

■ **Consider small program incentives.**

Stickers, bookmarks, or other ideas can help to encourage increased composting, by lunch period, grade level, or school-wide.

■ **Build a cafeteria disposal counter.**

Some schools have built a disposal counter with a small row of cupboards at bottom and holes cut into the top for the various materials (liquid waste, recyclables, food scraps, used brown bags, landfill waste). Students drop materials into the hole, where they fall into buckets or bins in the cupboards. This set-up enables students to rest their trays while sorting, reduces messes, and allows space for clear signage.

■ **Consider a Sharing Table in your cafeteria.**

Many schools find that food sharing tables are a great way to redistribute uneaten fruit or packaged items that otherwise might go to waste. Students place uneaten fresh fruit with rinds, such as oranges and bananas, or fruit wrapped in plastic, like apples or pears, on a table for other students to enjoy. Check with your principal or school dining staff to start a sharing table at your school.

Remember to stay posted for future related initiatives and updates to this guide—and keep up the great work!

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Environmental Impact Initiative (EII) is a nonprofit think-and-do tank that helps governments, schools, and businesses to implement emerging green practices and technologies. By bringing practical solutions to eco-ideals, we make green make sense for people and organizations. For more information, visit www.eiigreen.org.



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