

Composting at School



The ABCs of establishing an effective composting program at schools in Chittenden County, Vermont

Written by the Chittenden Solid Waste District and Intervale Compost Products with assistance from the many dedicated teachers and volunteers who are working to maintain school composting programs in their schools.

Some of the information on the following pages has been excerpted from *School Composting: A Manual for Connecticut Schools*, available for download at http://www.cswd.net/school_programs/curricular_materials.shtml. It contains lesson plans and activities. We thank Virginia Walton for her generous permission to allow us to borrow their ideas and words.

Composting is a valuable teaching tool

When students take part in a hands-on composting program, they explore threads of relevance that connect a vast spectrum of studies, including environmental science, chemistry, sociology, economics, art, mathematics, and communication.

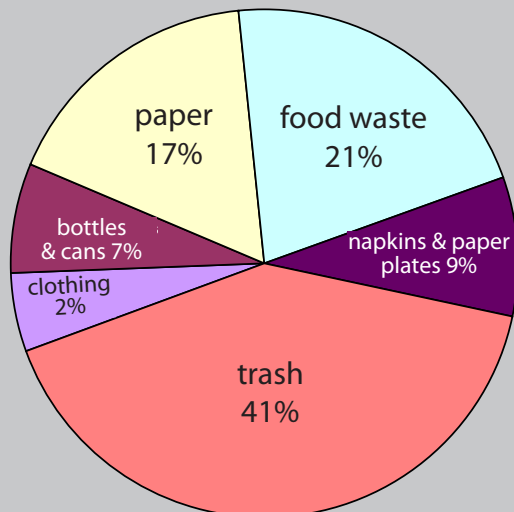
- Students learn to become responsible consumers by thinking about what happens to the waste they create once it disappears into a trash can.
- Composting provides an on-site tool for learning about community, the environment, and local systems of food production and waste disposal.
- Students can play an active role in improving their community's vitality and environment.
- The rot cycle provides a sound foundation of understanding that can lead to an interdisciplinary approach to natural resources.
- Compost education encourages children to use their senses and identify with natural processes.
- Children love to explore the natural world of biological food webs that exist out of sight, below the surface of the earth.



Students from Allen Brook School in Williston demonstrate how to use their compost bucket.

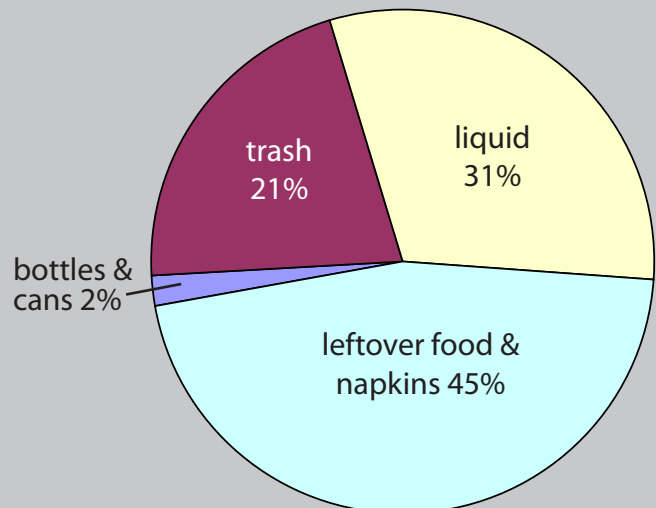
What's in your trash?

Household Trash



Data collected during a 2001 study of residential waste in Chittenden County. Data based on weight, not volume.

Cafeteria Trash



Data collected during a 2003 study of cafeteria waste at Edmunds Elementary and Middle School in Burlington. Data based on weight, not volume.

Recruiting your team

Step 1 Let the principal know that you are interested in starting a program to collect compostables in the cafeteria. It is essential to get her or his support for this endeavor before contacting other members of the school community.

Step 2 Recruit people for your compost committee who will provide time, ideas, and enthusiasm for starting and sustaining your program. The committee should include a wide variety of people from throughout the school community including faculty, kitchen staff, custodial staff, waste hauler(s), the student body, the student council, parents, and administration.

While all students will take part in the program by sorting their lunch waste daily, it helps to recruit a group of ten to twelve students to become the core composting squad. Elect and educate two students per day to help manage and monitor the composting operation.

Step 3 Develop a flow plan for composting the food waste generated in your cafeteria.



Deb Blumberg, teacher and Eco-Club advisor at Burlington High School, standing by their cafeteria composting tote.

Step 4 EDUCATE! Teachers are essential to the involvement of the student body. They are instrumental in introducing the program to the students and integrating related concepts into school curricula.

Students are the keys to a successful composting program, and it's important to encourage them to feel ownership of the program.

Students:

- Educate peers about composting at the start of the school year. New routines are best established when introduced on the first day of school.
- Initiate the youngest students into routines of sorting their lunch waste to help them develop composting habits early.

If certain aspects of your program don't work, teachers are a fabulous resource for brainstorming solutions.

Teachers:

- Contact your solid waste district for books, videos, Power Point presentations, or other presentation resources.
- Display curriculum materials related to composting in the teachers' lounge or library.
- Lessons on compost addresses several of the Vermont State Department of Education Curriculum Standards, including Communication (1.15, 1.16, and 1.20), Problem-Solving (2.2, 2.6, and 2.12), and overall goals listed in Service 4.1, Democratic Processes 4.2, Sustainability 3.9, and Natural Resources and Agriculture 7.16.

What is this person holding??



The individual in this picture is holding several ten-year-old carrots. They were excavated from a landfill during a research project. Things decompose very, very slowly in landfills. In a compost bin, these same carrots would have turned back in to soil in just a few months.

Working with the school community

The Custodial Staff should be consulted at the outset. It's critical that they be on board with the program, as they will be responsible for several key components.

- Consult with them on where food waste bins should be located and where food waste should be stored until collection day.
- It's easier for the custodial staff to fit the program into their schedules if they know ahead of time what is being asked of them. (For example, they can add sawdust from technology education classrooms and yard waste to the compost bin rather than putting it in the trash.)

HINT: *Attach a spatula to the food scraps bin in the cafeteria. This will cut back on the amount of food that gets on the floor from students hitting their food tray against the side of the barrel.*

The kitchen staff should be brought on board from the start as well.

- Ask them to think about how they can collect kitchen-generated food waste. They may be separating it already, and all they may need is a separate barrel for packaging wastes, such as plastics and Styrofoam.
- Respect their time and ability to make good decisions
- Make it easy for them by providing clear signage

Parents find that composting programs are a great way to get involved in the school. They can serve on the composting committee or help supervise student workers one day a week to help get the program off the ground. Parents who already compost at can be particularly helpful.

A presentation at the PTO meeting should outline program goals and give specific examples of how they can help. A parent group may take the program on as a project, help fund (or fund raise to cover) needed materials, or provide incentives for student volunteers. An informational article in the PTO newsletter will help spread the word.

Words of wisdom

There's no better font of wisdom than that of teachers who have started composting programs.

"It's important to have realistic expectations when starting a food separation program. On the first day of the program, you will probably not get 100% of the food waste that could be diverted. Make a realistic goal to start with; one that is attainable, and then raise the bar."

"I thought the project would be easier to run! I anticipated students would be able to separate their trash from compost easily, without making extra work for the lunchroom staff; this has not been the case. Many of the students need help emptying their trays, sorting trash and compost, and create a huge mess and extra work for the staff."

"Building broad-based support is key. Get the whole school to buy into the project and get parental support. Find a colleague or a committee to share the process with; do not try to do this on your own!"

Dave Bolger, the advisor for the Allen Brook School Composting Squad in Williston, meets with his crew.



Launching the program

1. Schedule a Waste Hauler

- Find out who your waste hauler is, whether or not food waste hauling is included in your waste hauling contract and budget, and how many times per week the food waste will be picked up.
- Find out what the options and/or requirements are for food waste hauling at your school.
- If food waste hauling is not included in your school's waste hauling contract, you may have to speak to your principal about getting it included in the contract. To find out which haulers are currently offering food waste hauling services to area schools, call the Chittenden Solid Waste District at 872-8111.

2. Educate

Separating food scraps in the cafeteria may seem like a practical idea to you and your committee, but it may seem like a foreign idea to many students.

Start with classroom education. Show videos in classrooms, read books on compost, and host in-class presentations for different age groups.

Make composting the new, fun, cool thing to do. Invite the oldest kids in school to answer questions that the younger kids might have.

Place bright signs and posters around the school. Generate interest: "Compost is coming . . ."

3. Set up the cafeteria

Plan the logistics of food waste separation in your cafeteria.

- A. Get the necessary materials
- signs and stickers



A student from Williston Central School meets Paul from All Cycle Waste.



Students at Edmunds Elementary School wrote and performed a play for their peers in an all-school assembly on composting.

- 5-gallon buckets or wheeled 65-gallon carts (called totes)
 - spatula (for scraping food off trays)
 - long-handled tongs (for picking out non-compostable contamination)
 - biodegradable bags to line the totes
- B. Consult with the custodial staff to see where the best placement for the food waste bin will be. The food waste, recycling bin, and trash bins should all be stationed together.
- C. Schedule monitors
- Waste separation monitor should be assigned for every lunch period.
 - Food waste tote monitor is assigned to check for contamination (trash)

4. Monitoring

Monitoring can quickly become a chore, so maintaining student interest will be a long term challenge. The student group can keep it fun and fresh by taking turns between cafeteria food tote monitoring and some other compost or agriculture-related activity, such as cultivating a windowsill garden, feeding indoor worm bins, updating a school composting website, or tending an on-site compost pile.

One way to keep it fresh is to have one class per month adopt the composting bins and set up their own monitor schedule. That classroom teacher will excuse two students per day to monitor food bins for an entire lunch period. Since this usually means missing a little bit of class time, students LOVE this idea! It also means that more students are taking an active role being stewards for the compost program.

Promotional activities

In the beginning of the program, promotion can go a long way towards raising participation levels. Planning any promotion requires time and energy, and it's important that the core composting committee commit the time and energy needed to carry it through.

Give these ideas a try:

Compost Awareness Week: Students who compost correctly are given a ticket at each lunch and a drawing is held each day for a prize (suggestions: gift certificate for ice cream, a book, etc., a sticker, a compost-themed item such as a plant, package of seeds, etc.).

Connect program with existing celebrations:

There are many locally and nationally recognized celebrations that you can connect your program to, such as **Earth Day** (April 22; www.earthday.org); **International Compost Awareness Week** (first week in May; www.compost.org); **Green-Up Day** (early May; www.greenupvermont.org); **America Recycles Day** (www.americarecyclesday.org; November 15).

Contests: Offer prizes for compost-themed posters, run a scavenger hunt, put on a compost-themed quiz show—the possibilities are limitless.

School Compost Club: Use in-school and extra-curricular activities to encourage a sense of ownership of the program for students and staff.

Prizes and incentives: Ask businesses to donate items such as a basketball, movie tickets, an ice-cream sundae, a bowling pass, or music.



Colorful posters at Edmunds Middle School remind students to sort their food waste.

Troubleshooting...

Kids don't want to touch their food?

Provide a scraper for them to scrape food into the tote.

Custodians complain that it makes an extra mess on the floor? Provide a scraper for the students and small dust pan and broom for the monitor to clean up large messes near the food bin. Putting down a tarp is not advised because the tarp would need daily cleaning.

The food waste smells? After being collected, take it right away to an outside location, such as a storage shed or fenced in area every day. Use a clean tote every day.

Some students continue to throw trash in the bin? Make it fun for the monitors to pick it out by providing easy-to-use long handled tongs.

Teachers forget to compost and set bad example? Ask the teacher to monitor the bin one day because you are in a pinch. They might change their tune once they become part of the effort.

Lack of Cooperation from Custodians and Kitchen Staff

Starting a school composting program will require extra effort on the part of some of the busiest people: the kitchen staff and the custodians. You may want to start with only the post-consumer food waste from students and teachers. After the composting system is rolling, students can get the kitchen staff to get on board. If school age kids are successfully separating their waste, it will be hard for the kitchen staff to say that they can't do it.

The custodians *do* need to be on board from the beginning. Where the custodians have been resistant, composting clubs have tried to work around them. This inevitably is unsustainable since custodians are needed for bringing in and taking out the food scrap totes and other containers for recyclables and trash. Involving your custodians in the planning and implementation is a must. Find out how they think a food recycling program could work best. If they are resistant, you can always try to gain their support through their supervisor or through the principal.

...troubleshooting...troubleshooting...trouble

Contamination: the biggest problem

In Chittenden County, we send our food scraps to Intervale Compost where they mix food waste with other organics—including the wastes created from Ben and Jerry's! Intervale Compost has worked out a compost recipe that is precise and efficient.

When local schools send food scraps to the Intervale that are contaminated with plastics or other non-compostable items, it hurts the production process and challenges Intervale Compost's ability to accept food scraps from schools.

It is absolutely essential that you monitor your food scrap separation to prevent it from being contaminated. The easiest way to do this is by assigning students to watch the bin at every lunch period. Having a monitor at the food bin will prevent students and teachers from absent-mindedly throwing trash in the bin. It could also be an opportunity for students to ask questions about where the food is going and why it is important to separate their food waste from their trash.



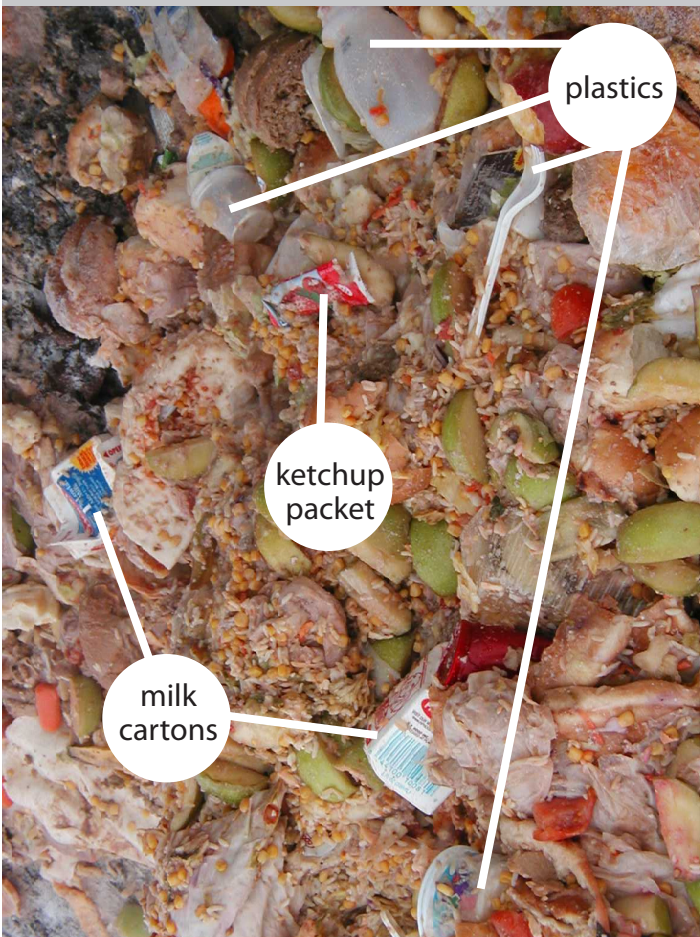
Jack Parmer and Anya Shwartz of BHS check out the compost tote in the cafeteria.

Not Enough People or Time to Monitor the Totes

If you are finding it hard to find monitors for the food totes, it's time to step up the PR. Make it more fun, provide incentives. Make it a privilege to monitor the bins, something the older grades get to do. However, if you are in a middle or high school, privilege might not fly.

Some schools have a community service requirement. If your school doesn't have one, see about getting one in place. Monitoring the compost bin would be a great way to check off those community service hours.

It may be possible after you work to educate your student body about composting that less monitoring is necessary. However this does not let you off the hook for contamination. If you do not have a student or adult monitor in place to prevent trash from getting in the bin, you must have someone sift through the food scraps at the end of the day to pick out the trash by hand. Contaminated food will not be accepted at Intervale Compost. If your school's food waste gets turned away, you will have to pay your hauler for hauling it to the landfill.



On-site composting

Schools with space on their campus can consider on-site composting in addition to—or instead of—sending food scraps off-site. There are benefits and drawbacks to on site composting.

The benefits are clear: Students see what is happening to their food scraps; they learn to tend the pile; and they can do research on the pile by conducting experiments. Students also reap what they sow. At the end of the year there is a usable mass of rich soil for them to dig their hands into and use in a school garden or sell for a fund raiser.

The drawbacks can be minimized with careful planning. An uncared for pile will attract rodents and smell. Decomposition will happen faster with a consistent balance of food scraps and carbon matter such as leaves or sawdust, and will minimize rodents and odors. Most problems associated with compost piles can be avoided by burying and layering food waste with an adequate amount of yard waste.

Students will need to separate their food scraps (excluding meat and dairy products to help prevent scavengers and odors). A small compost project will not generate enough heat to easily break down meat and dairy waste. At the Intervale Compost Facility, all food scraps are accepted because the tonnage, in huge piles, gets hot enough so that all food waste quickly turns into soil.

If your school is interested in starting an on site composting program, contact CSWD for suggestions, information and referrals to other schools who have successful on site composting programs.

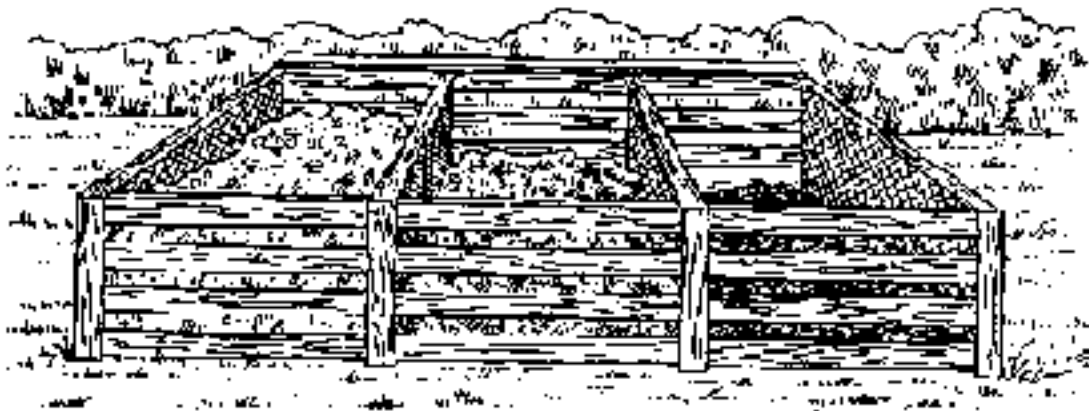


The compost pile at the Vermont Commons School has two bins for easy turning.



At the Waldorf School, the compost pile blends in with the woods out back. It has two wooden steps for easy student access.

This tri-unit composting systems enables the keeper to continue to add food to one unit while the other units "cook."



Try some of these web sites for more information on composting:
www.mastercomposter.com www.journeytoforever.org/composting.html
www.compostinfo.com <http://ohioline.osu.edu/hyg-fact/1000/1189.html>

Local resources

Chittenden Solid Waste District

The Chittenden Solid Waste District (CSWD) runs the local Drop-off Centers for recycling and trash, and works with local and statewide organizations to implement policies for waste management in Chittenden County. A full-time CSWD School Outreach Coordinator is available year-round to conduct tours of waste management, composting, and recycling facilities, give presentations, and help implement school-wide composting and recycling initiatives.

CSWD's School Outreach Coordinator can provide educational resources and facilitate compost bin design and operation. Curriculum that coincides with the Vermont State Standards of Education is also available. The coordinator can meet with you and your steering committee to share ideas and knowledge of what has worked at other schools in the area and can help get you connected to other schools for brainstorming meetings and support.

CSWD can also provide you with free equipment loans such as in-class worm compost bins. Please call 872-8111 or visit our website at www.cswd.net.



In-class presentation

Intervale Compost Products

The compost specialist at Intervale Compost Products is available to meet with your compost committee and provide helpful information on the process of composting and what actually happens to the food waste once it leaves your school. Tours of Intervale Compost are also available to school groups through CSWD.

For more information about Intervale Compost, please contact (802) 660-4949.



AVR presentation of Chef Suzette at a Chittenden County elementary school

Association of Vermont Recyclers

The Association of Vermont Recyclers (AVR) promotes solid waste reduction in Vermont through public outreach and education on waste management practices, environmental ethics, responsible consumption, and other strategies for sustainable futures. AVR reaches thousands of school children each year through environmental theater programs and workshops addressing environmental concepts and the ethics of sustainability. Their education coordinator and actors work directly with teachers to create innovative adjuncts to existing curricula.

AVR stages the annual Vermont Youth Environmental Summit (YES) for Vermont high school students. AVR works with about 20 high school students statewide to plan this one-day conference. The Summit provides the students with a structured educational conference that highlights many environmental topics and issues. For more information, check out their website at: www.vtrecyclers.org or call: (802) 229-1833.

UVM Extension Master Composter Program

The University of Vermont's Extension Learning Program offers a Master Composter Program twice a year. This four session course is an in-depth study of backyard composting. The instructors are UVM faculty and professionals within Vermont's compost industry. Course topics covered include biology of composting, troubleshooting, worm composting, educational outreach partnerships, and much more. For more info, please check out their website at: www.uvm.edu/mastergardener/mastercomposter or call (802) 656-9562.