



Educational Composting Program Toolkit for DY Schools

Resources for Parents & Educators

*Composting in the Classroom &
Composting in the Lunchroom*

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Fall 2023 Project for Town of Dennis Public Works

Goals

- This composting education toolkit for DY K-12 schools, was created with free, “gold-standard” informational and instructional components that enable:
 - Learning about the MA “Zero Waste” & “NetZero” Mandates, and how food scrap composting is the single best way to make swift progress
 - Integrating compost/reducing food waste learning across DY’s school curriculum - not just in science classes
 - Limiting waste by composting in cafeterias
 - Engage the community in program *creation* as well as *implementation*
 - Stakeholders might include student clubs/SGA, educators, principals, PTO, cafeteria staff, facilities managers, town gardening clubs, County Extension (Master Gardeners), Council on Aging, citizen volunteers, Rotary Club, Newcomers (gardening club), Center for Active Living
- Encourage composting at home through educational programs active in DY schools, further advancing toward *ZeroWaste and NetZero*



Why Should I Compost?

Sustainability!

- Less incineration & pollution
- Fewer plastic bags
- Less water, fertilizer & pesticides in your garden
- Lowers disposal costs

By composting, you can turn those food scraps...



Into black gold!



Composting is nature's recycling system at work



Composting saves money, and makes a big difference!

Endless Ways to do it!



Scan to learn more!



MassDEP
Department of Environmental Protection

Food Waste Facts:

Currently, the EPA estimates that each person in the US wastes \$728 worth of food each year!

Annually, Dennis households send over 1.6 million pounds of food scraps to SEAMASS for incineration, and this costs our town over \$90,000.

Disposal costs have been and will continue to increase at an accelerated rate. But food scraps deposited in the designated bins at our Transfer Station are removed by Watts Family Farm for free!

Composting our food scraps is a BIG opportunity for both “cost” and “risk” avoidance. It’s also good for the environment.

Savings realized from food scrap composting could be used for additional services and help to limit fee increases.

Benefits Realized from School Composting Programs

Increased knowledge of the environmental and financial benefits of composting among DY students and parents

- Significant decrease in waste from the schools as well as households which lowers costs and risks of disposal to towns
- Yields significant opportunity to learn about and help to meet State's ZeroWaste and NetZero environmental milestones

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Department of Environmental Protection

1792

Great Learning Opportunities! - MA Mandates

“ZeroWaste”

divert 90% of waste from incineration by 2050



“NetZero”

Reduce Carbon Emissions to 0 by 2050



Strategies: Proven Effective Resources (FREE)

World Wildlife Fund: <https://www.worldwildlife.org/teaching-resources/toolkits/be-a-food-waste-warrior>

- [Food Waste Warriors curriculum](#) provides free lesson plans and activities on reducing food waste
- Successfully used in **46 schools** across **9 cities**
- Participating elementary schools saw on average a **14% decrease** in waste

The Green Team (Mass DEP):
<https://thegreenteam.org/>

- Recycling and composting interactive educational program: As of the 2022-2023 school year there are **280 participating schools (including Falmouth)**
- **Classroom kits:** a list of links, lesson plans and how-to's to help teachers

Lessons and Activities by Grade Band



The image shows four toolkits arranged in a 2x2 grid. Each toolkit has a title, a grade band, and a 'DOWNLOAD' button. The toolkits are: 1. 'A Little Food Waste Leads to a Lot' for K-2 (orange button), 2. 'Food Waste Hurts Our World' for 3-5 (green button), 3. 'How Much Food Is Wasted Each Year?' for 6-8 (blue button), and 4. 'Equipping Food Waste Activists' for 9-12 (purple button). Each toolkit also features a small image of food waste and a 'BE A FOOD WASTE WARRIOR' logo.

After signing up for THE GREEN TEAM, you will receive a Classroom Kit. THE GREEN TEAM Kit includes:

- GREEN TEAM Brochure (pdf)
- Program Guide (pdf)
- Pledge Card Template (pdf) For making additional copies (two per page)
 - English – Español – Português – Kriolu – Kreyòl Ayisyen – 中文
- Climate Change Scorecard Activity (pdf)
- Climate Change Scorecard (doc)
- Slash Trash Lesson Plan (pdf)
- Slash Trash Report Template (pdf) For making additional copies (two per page)
- School Slash Trash Report Extension (pdf)
- Clean Air Activities (Idling Reduction) (pdf)
- Idling Reduction Pledge Form (pdf)
 - English – Español – Português – Kriolu – Kreyòl Ayisyen – 中文
- Teacher Response Form (pdf) To submit this form online Teacher Response Form
- Press Release Template (doc)
- THE GREEN TEAM Poster (pdf)

You may need the free Adobe Reader to view these files.



Classroom Kit



The image shows a grid of 12 small thumbnail images representing various materials included in the Classroom Kit, such as brochures, guides, templates, and posters.

Strategies: Proven Effective Resources (FREE)

Compost Research and Education Foundation:

<https://www.compostfoundation.org/ICAW/ICAW-for-Teachers>

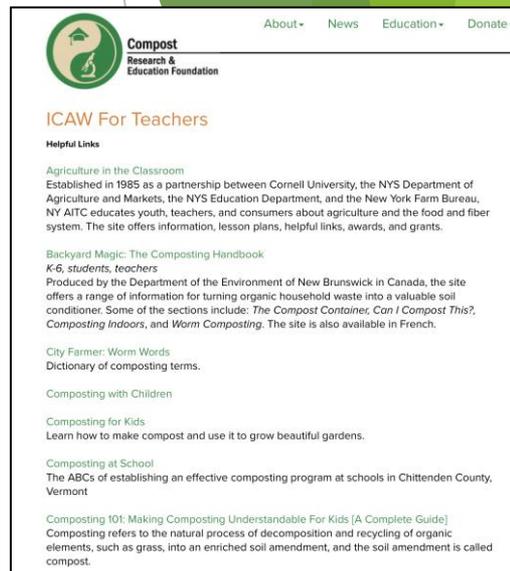
- Resources for teachers including games, quizzes, and books
- Includes in-depth guide to implementing a composting program in schools (produced by Cornell Waste Management Institute)

Teacher's guide to Composting Activities: (Central VT Solid Waste Mgt)

- http://www.cvswwmd.org/uploads/6/1/2/6/6126179/do_the_rot_thing_cvswwmd1.pdf
- Activities broken down by grade level

Composting Across the Curriculum: (Marin County Office of Waste Mgt)

- <https://www.marincounty.org/-/media/files/departments/pw/mcstoppp/education/compostingcurriculum.pdf?la=en>
- Examples of compost related lessons for history, geography, fine arts, math, physical education, and science classes



The screenshot shows the website for the Compost Research & Education Foundation. The navigation bar includes links for 'About', 'News', 'Education', and 'Donate'. The main heading is 'ICAW For Teachers'. Underneath, there is a 'Helpful Links' section with several entries:

- Agriculture in the Classroom**: Established in 1985 as a partnership between Cornell University, the NYS Department of Agriculture and Markets, the NYS Education Department, and the New York Farm Bureau, NY AITC educates youth, teachers, and consumers about agriculture and the food and fiber system. The site offers information, lesson plans, helpful links, awards, and grants.
- Backyard Magic: The Composting Handbook**: K-6, students, teachers. Produced by the Department of the Environment of New Brunswick in Canada, the site offers a range of information for turning organic household waste into a valuable soil conditioner. Some of the sections include: *The Compost Container*, *Can I Compost This?*, *Composting Indoors*, and *Worm Composting*. The site is also available in French.
- City Farmer: Worm Words**: Dictionary of composting terms.
- Composting with Children**
- Composting for Kids**: Learn how to make compost and use it to grow beautiful gardens.
- Composting at School**: The ABCs of establishing an effective composting program at schools in Chittenden County, Vermont.
- Composting 101: Making Composting Understandable For Kids [A Complete Guide]**: Composting refers to the natural process of decomposition and recycling of organic elements, such as grass, into an enriched soil amendment, and the soil amendment is called compost.

Case Study: Brookline, MA

- ↻ Detailed guide for school composting program with comprehensive **tutorial on how to conduct a waste audit**
https://drive.google.com/file/d/12PGAiMyR-dQwVuOilXXwndvD_a4AHzCR/view
- ↻ Promotion of composting program
 - ↻ Incorporate composting program news and updates into morning announcements and/or student TV station program
- ↻ Additional sample cafeteria signage
- ↻ List of 47 environmental/composting related books to use in classrooms or to have available in the library
- ↻ List of 12 educational videos on composting

How to Run a Basic School Cafeteria Waste Audit

A basic waste audit is a good way to find out how much waste is going from the school cafeteria to the incinerator. It will give you baseline data that can be used to measure how successful you are when, later on, you separate liquids, organics, and recyclables out of the trash.

What you need:

- Excel spreadsheet or paper recording sheets (and a clipboard)
- Scale - the DPW can provide a luggage scale for you to use
- Large tub with handles - the tub is for holding each bag of trash while you're weighing it
- Trash barrel on wheels for transporting bags of trash
- Gloves (either disposable or work)
- (Optional) Phone to record the event or for entering data

Where to have the audit:

- The school cafeteria is the obvious place because that's where the students are and where the trash is
- Alternative locations: Outside the main door of the school? In the science room?

Working with the custodian(s) and collecting the trash for weighing:

- Make sure the custodians know what you're up to. They are great at getting the trash emptied during and after every lunch. If they know the plan, they can set the trash aside for you to weigh when you're ready. The custodian will appreciate if, when you're finished, you return the trash to a designated spot near the dumpster so they can dispose of it.
- It's best to weigh the trash at the end of the meal when all the tables have been cleared.

Best Practices

Town	Date Started	Funding	Project Ambassador/s	In the Classroom				In the Lunchroom		
				Integration with school events/holidays	Educational Books/Videos	Presentations/Skits	Activities & Games	Cafeteria Signage	Sustainable Serveware	Monitors
Falmouth Contact: Carmela Mayeski	Fall 2023	District budget	Key players: Principal, teachers, hired cafeteria monitors	No	Yes	Yes	Yes: data analysis activity & winogradsky column	Yes: includes an outline of mascot for students to place stickers from fruit in	Reusable (stainless steel)	Yes: staff and community volunteers
Mashpee	April 2016									Yes
Wellfleet										
Brewster Contact: Patricia Marchant	Fall 2022	School budget	Key players: teachers, principal, students, Brewster Recycling Commission Chairwoman	No	No	Yes	Yes: waste audit and incorporation of 5 th grade life science standards	Yes	Reusable silverware and trays	Yes: community volunteers, students in Earth Club, staff
Lexington Contact: Lin Jensen	2016	School budget	Key players: parents and facilities managers	Yes	Yes	Yes: presentations translated into multiple languages	Yes	Yes	Yes: compostable napkins and lunch trays	Yes: parent, students (advise against relying solely on volunteers)
Brookline	Fall 2022	School budget	Key players: teachers, community members, facilities managers	Yes	Yes	Yes	Yes	Yes		Yes: parent and student volunteers

Engaging with the School Community

Student leadership and empowerment

- Older students mentoring younger students in cafeteria composting
- Students performing community service hours or “patrol” duty
- Creating a club for students especially interested in composting (or work with an existing club)

Librarians

- Work with educators to include books on composting and the environment in the school library

PTO

- Encourage parents to be involved in the school composting program



Examples

Host a school assembly/orientation to introduce the composting program

- Include interested parents and community members who want to be involved

Send out brief explanation of composting program in the school newsletter

Have students create their own cafeteria signage in art class



Atkinson Elementary School, North Andover



Thomson Elementary School, North Andover



Miller-Driscoll Elementary School, Wilton, CT

Program Logistics

- Funding:
 - Resources: FREE
 - Cafeteria composting: ?
 - **Potential pilot program funding source:**
New England Grassroots Environment Fund
- Identify a school to pilot
 - Works best to start with elementary schools
- Hauler: Black Earth Compost
 - Used in every town researched



Considerations

- ↻ Is there signage already developed in the DY schools regarding composting? If there is, can it be enhanced?
- ↻ What is the science or environment curriculum that currently exists in the Dennis schools, and how can we build off it?
- ↻ Who would be the best ambassadors to work with from Dennis schools (a teacher, facilities manager, etc) and how can we recruit/identify them?
 - Offer compensation (small stipend) for extra work?
- ↻ Could there be any money allocated towards the program?
 - ↻ Producing signage/educational materials
 - ↻ Field trips (Cape Abilities, Taylor-Bray, Covanta)



Potential Implementation Roadmap

Phase 1 - COMPLETE

- Used existing resources and case studies as a guide to create a program specifically designed for Dennis schools & community
- ID'd "best practices" of Lexington & Brookline school programs
- Review draft plan with ToD DPW
- Learn from experiences of 4 other Cape towns

Phase 2 - Schools

- Review by school stakeholders
- Identify ambassadors for the program
- Incorporate suggestions from school leadership
- Finalize creation of teacher toolkits, cafeteria signage, and promotional materials

*Coordinate
"handoff"
of program to
ambassadors for
execution*



Phase 3 - Schools

- Collaborate with designated program ambassadors: Dennis educators, school groups, parents, environmental & other after-school clubs, boy- & girl-scouts
- Engage students in creation of "curricula"

Easy Ways to Get Started!

Leverage our new, Dennis Food Composting Website!

<https://town.dennis.ma.us/348/Food-Waste-Composting-Info>

- ↻ Add links to short & fun **videos** to DY School web pages & other communications platforms, such as PTO Bulletin and Facebook
- ↻ Select students to produce their own “call to action” video
- ↻ Put one of our “Why Should I Compost?” **posters** in lobbies of schools
- ↻ Put **Earth Machine composters** in the DY schools
- ↻ Appoint **lunchroom ambassadors or mentors** to help “teach” and sort in the cafeteria
- ↻ Collaborate to include **composting across curricula**

