

Composting at K-12 Schools



Compost bins at Seneca Falls Central School District

What Is Compost?

Compost is a product created from the managed decomposition of organic materials (i.e., plant and animal remains). It is a beneficial soil amendment that can improve the soil's chemical, physical, and biological properties. Compost is generally produced from landscape trimmings (e.g., leaves and brush), food scraps (e.g., fruit and veggie peels), and other once-living things.

Why Is Composting Important?

- Reduces waste and diverts natural resources from landfills
- Decreases greenhouse gases (i.e., methane) emitted by landfills
- Saves money by reducing the need for waste hauling
- Produces a beneficial soil amendment for school gardens, landscaping, and athletic fields, and offsets fertilizer needs
- Creates hands-on learning opportunities for students

How Much Waste Do Schools Generate?

Studies estimate that up to 50% of a school's "waste" can be composted.



A welded wire compost bin



A vermicomposting bin



Students using a compost tumbler

Different Types of On-site Composting

Many schools successfully compost their cafeteria food scraps on-site, but there are several different types of composting systems and it is important to use the right one. The type of composting system that a school chooses depends on the goals of the program, available space, budget, and staff support.

- **Small Bins (1-6 ft³):** In-classroom vermicomposting bins (i.e., worm composting) can be made with wood or plastic containers. 1 pound of red wiggler worms can eat ~3 pounds of food scraps per week.
- **Medium Bins (3'x3'x3'):** Outdoor bins can be made with welded wire, lumber, or cement blocks, and DIY tumblers from plastic barrels. Each bin can manage roughly 15 pounds of food scraps per week.
- **Large Bins (>4'x4'x4'):** Large outdoor bins can be constructed from lumber or concrete blocks and can manage all of a school's food scraps, depending on the size and number of bins. Bins are sized to accommodate machinery (e.g., skid steers) that move and turn the materials being composted.

What Can Be Composted?

Food scraps and landscape trimmings are the two main types of organic materials that a school can compost. Successful composting requires the proper balance of these materials: 3 parts of “brown” (i.e., carbon-rich) material for every 1 part of “green” (i.e., nitrogen-rich) material.

“Greens”	“Browns”	Don’t Compost
Fruits	Woodchips	Glossy paper
Veggies	Leaves	Paper with metallic inks
Bread and pasta	Shredded paper	Plastic-coated paper
Rice and grains	Untreated sawdust	Fats, oils, and grease
Coffee and tea	Paper towels	Compostable plastics
Weeds	Napkins	Treated wood
Fresh grass	Dry grass	Meat and dairy*

*Only compost in carefully managed bins that are >4’x4’x4’ in size.

Don’t Forget the “Browns”

“Brown” materials (e.g., woodchips, leaves) need to be collected and stored in a dry place so they can be used year-round.

The Composting Process

Step 1: Collect cafeteria food scraps and bring them to the compost bin. **Step 2:** Spread the food scraps evenly on a layer of “brown” material and keep them multiple inches (>4”) away from the sides of the bin. **Step 3:** Cover the food scraps completely with several inches of “brown” material (e.g., leaves, woodchips). Cover with 3 times as much “brown” material as food scraps to ensure a proper carbon-to-nitrogen ratio. **Step 4:** Repeat steps 1-3 until the compost bin is full. **Step 5:** Speed up decomposition by turning the compost pile periodically and adding water if it starts to dry out. The compost pile should be like a damp sponge, not too wet and not too dry. **Step 6:** Monitor the composting process with a long thermometer (20” length). Respiration from microorganisms will heat the compost pile to 104-150°F during the active phase. The temperature will drop back to ambient levels when the active phase is complete.

Step 7: Set the compost aside and allow it to cure for 3 months. Organic materials will fully compost in 4-6 months with turning, or 9-12 months without turning. **Step 8:** Screen the finished compost ($\leq 1/2$ ”) and use it on school grounds.

Composting Off-site

If your school cannot compost on-site, consider contracting with a hauling company to transport food scraps and other organics to a nearby farm or composting facility. The NYS Department of Environmental Conservation maintains a list of food scraps haulers in each county:

<https://www.dec.ny.gov/chemical/114499.html>

How Can Finished Compost Be Used?

Finished compost can improve soil health across a variety of applications. Add screened compost ($\leq 1/2$ ”) into school vegetable and pollinator gardens; use coarse compost (≤ 3 ”) with wood chips as mulch around native landscaping, shrubs, and trees; broadcast finely screened compost ($1/4$ ”- $3/8$ ”) as topdressing on athletic fields; and make compost tea to feed potted plants in classrooms and offices.

Need Additional Support?

Interested in starting or improving an existing composting program? Visit cals.cornell.edu/nycore for more resources or email nycore@cornell.edu to request assistance.



Suggested citation: Kerns, J., Aller, D. 2026. Composting at K-12 Schools. New York Center for Organics Recycling and Education. Cornell University College of Agriculture and Life Sciences.



Wooden compost bin made from pallets



School garden in Bethlehem, NY