

FOOD FORWARD!

SCHOOL
EDITION



Learn How to Reduce Your School's Food Waste

SANTA BARBARA COUNTY

**Resource Recovery &
Waste Management Division**

Innovative Environmental Solutions



www.LessIsMore.org

Table of Contents

Background	1
Reducing Food Waste	2
Share Tables	3
Donating Food	4
Collecting and Composting Food Scraps	6
6 Methods of Composting	
8 On-site Composting	
11 Case Study for On-Site Composting	
12 Vermicomposting in Classrooms	
Student Plate Waste Collection	15
15 Student Plate Waste Collection Set-up	
16 Case Study for Plate Waste Collection	
We Can Make a Difference	17
Contacts and Resources	



BROUGHT TO YOU BY YOUR
Resource Recovery & Waste Management Division of the Santa Barbara County Public Works Department



Background



In America, an astonishing **40%** of our food is **landfilled**. This waste is generated at each step of the food cycle: at the farm, the store, and consumer level.



In Santa Barbara County, about **20%** of what is landfilled is food.

The largest percentage of hungry California children live right here in Santa Barbara County — **more than 28,000 children** are at risk of not having enough to eat.



➔ Schools must **lead by example** in reducing food waste. This can be done by sharing/donating edible, safe foods. As a last resort, schools can compost food preparation waste, uneaten food from plates, and food that has gone bad.



*State law **SB 1383** establishes a statewide goal to achieve a 50% reduction in the disposal of organic waste by 2020 and a 75% reduction by 2025.*

*It establishes an additional target that 20% of currently disposed edible food be recovered for human consumption. **SB 1383** also requires composting of organics that can't be consumed.*

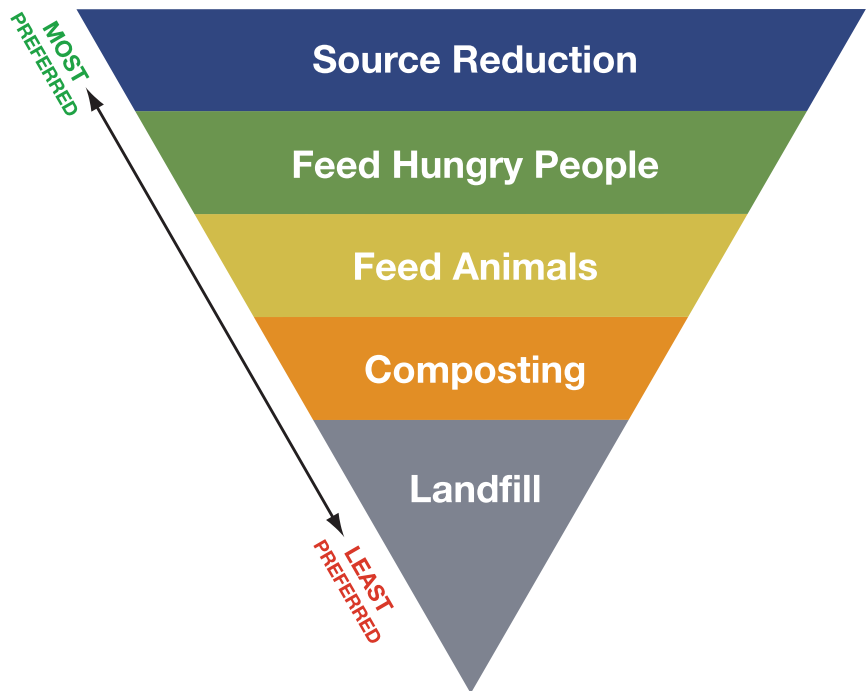


Reducing Food Waste

The best method of reducing food waste is preventing waste at its source, therefore reducing a need to donate, compost, or throw away as much material.



FOOD RECOVERY HIERARCHY



Try these simple methods to reduce waste:

- **Serve what will actually be eaten.** FDA serving guidelines can be found at: <https://www.fns.usda.gov/school-meals/nutrition-standards-school-meals>.
- **Utilize share tables** (see opposite page).
- **Donate** healthy, safe, and untouched food to non-profit organizations (see pages 4-5).
- **Measure how much food** is being thrown away by completing a waste audit.

You have the power to reduce the amount of waste entering our landfill.



Share Tables



A **food share table** is a cart or a table where students and staff can place food and beverage items that they choose not to eat or drink. A share table should be managed by volunteers and placed near the school lunch area, so other students can enjoy these food and beverage items.

Tips for constructing your food share table:

1. **Set up your food share station** where students stack their trays. Place signage with instructions near this area. Different types of containers can be used to collect shareable items, such as clear plastic tubs, tables, etc.
2. **Explain to participants** how the program operates.
3. **Monitor** the share table.
4. **Clean up and handle leftovers** at the end of lunch.



GUIDELINES TO FOLLOW WHEN HANDLING LEFTOVER FOOD

Room temperature items like packaged crackers and whole fruit can be served again the next day.



Cold foods must be maintained at **41 degrees Fahrenheit or below**. This is the safe temperature zone.

Example: Milk



Hot foods must be kept at **135 degrees Fahrenheit or higher**. This is the safe temperature zone.

Example: Lasagna



Hot or cold items out the safe temperature for LESS than two hours can be served again or donated to an approved program that very same day. Items outside the zone for MORE than two hours must go into the school's composting collection system.

For more information about reusing leftovers, visit: Section 114079 © (2) of the California Health and Safety Code.



Donating Food



Feed hungry people, lead by example, and help the environment.

Schools that serve prepared food often have surplus food.

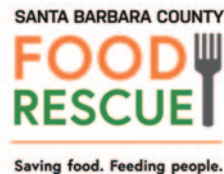
RECIPIENTS:

Schools that wish to donate food may only give to 501(c)(3) nonprofit organizations, not individuals or companies for profit.



Working with a recipient nonprofit organization:

- **Call and meet the organization** in advance to develop a strong partnership.
- **Decide who will pick up or drop off surplus food**, and where. Be aware that some organizations do not have the infrastructure to transport food. It is therefore important to determine the maximum quantity of food that the nonprofit is willing to take.
- **Establish a consistent schedule.** Keep track of the quantity and types of food that are often set aside for donation and adjust future orders accordingly. In addition, **keep a detailed record** of all food donated.



Contact SBC Food Rescue for help coordinating food donations at
sbcfoodrescue@cecmail.org
or by calling (805) 963-0583, ext. 104.



It's important to follow these **basic standards** for food donations to comply with federal regulation:

- **Maintain strict temperature controls** that keep food well within the safe temperature zone limits (see page 3).
- In addition, food should be **used by recipients within 5-7 days**.

Foods that are appropriate for food donation include:

- **Surplus food from a share table** (see page 3).
- **Surplus hot and cold foods from the kitchen** that are maintained within the **safe temperature zone** (see page 3).

Examples:

Hot foods: chicken breast, ground turkey, rice and beans

Cold foods: milk, yogurt

- **Food** with the packaging still intact, such as milk and crackers and whole, uncut produce.



IMPORTANT CALIFORNIA LAWS

AB 1219: *The Good Samaritan Donation Act, protects donors of surplus food from liability.*

SB 1383: *Establishes a statewide goal to recover and donate 20% of edible food going to waste by 2025.*

SB law 557: *Explicitly allows public schools to donate food items that have been served and placed on share tables.*

The National School Lunch Act: *Gives schools the authority to donate surplus food.*



Collecting and Composting Food Scraps

Composting is nature's way of turning organic materials back into nutrient rich soil. **Fungi, bacteria and invertebrates (FBI)** transform organic matter into nutrients used by plants to nourish new growth. The best way to build healthy soil for plants is by creating compost.

Currently, organic material that you put into the trash is landfilled. Food that you cannot serve or donate must be composted to keep these materials out of landfills, where they take up valuable space and release potent greenhouse gas.



Fungi



Bacteria



Invertebrates

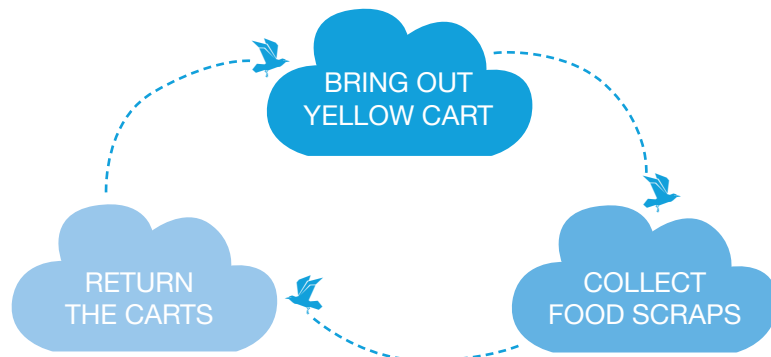
These decomposers break down organic waste into compost.

OPTIONS FOR COMPOSTING

Use the flow charts to determine how to compost your food scraps that cannot be reduced/donated. School can **choose Option 1 or Option 2** depending on what is available in the school's area.

OPTION 1: For schools using a yellow cart, follow these steps:

1. Volunteers will bring out yellow cart to lunch area.
2. Collect food scraps from students.
3. Return the carts to their original location.

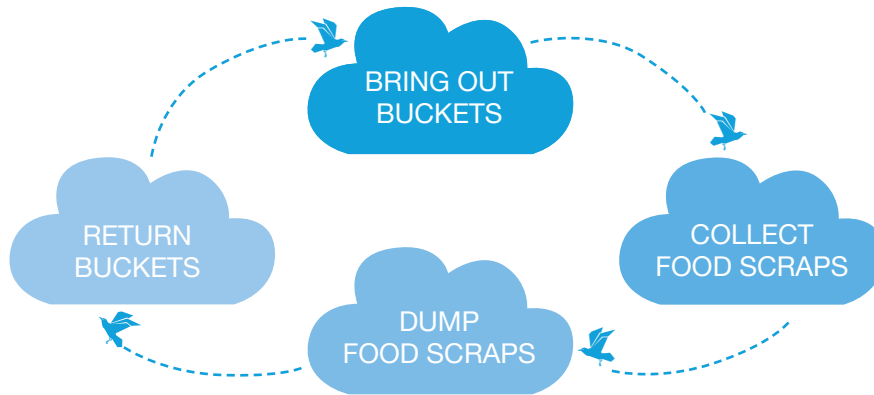


TIP: It is easier for kids to use multiple buckets to collect food scraps and dump what is collected into the yellow cart.



OPTION 2: For schools that wish to **compost on-site**, volunteers should follow these steps:

1. **Bring out collection buckets** to collect food scraps.
2. **Dump food scraps** into an Earth Machine or other established composting system.
3. **Wash and return buckets** to their original location.



For schools that wish to **compost kitchen food leftovers** not served to students, contact your school's compost specialist at (805) 882-3618 to determine what options are available.

ANOTHER ROUTE: **Feeding animals** is an important part of the food recovery hierarchy.

Contact local farms who would be willing to accept food scraps, or visit LessIsMore.org/animals for further information.



ON-SITE COMPOSTING

AEROBIC COMPOSTING SET UP

We recommend aerobic composting for those with outdoor space. You can easily turn plant material and food waste into compost in as little as three months.

Aerobic means **requiring the presence of oxygen**. Oxygen is essential to keep our friends the FBI alive (see page 6). The FBI will naturally show up in your system. It's your job to keep these critters happy and productively breaking down introduced materials from your yard and kitchen.



Buy an Earth Machine or build your own compost area.

With proper maintenance, a school can easily turn food waste into compost in as little as three months.

For more information, please visit:
www.LessIsMore.org/Compost

If you are interested in purchasing an EARTH MACHINE, the County sells them for \$45.

Visit LessIsMore.org for information on where to buy the bins.



Visit LessIsMore.org/Schools for more information.

PLACEMENT

Select an unpaved, flat, and shady or partly shady spot near a water source, and preferably out of sight. You could also use a school garden to place the Earth Machine or to build your compost area.



GENERAL INGREDIENTS

- 3 parts Browns, as a carbon source
- 2 parts Greens, as a nitrogen source
- Water, just enough to keep materials moist
- Oxygen, so the FBI can breathe



Browns

- leaves
- shredded paper products
- cardboard



Greens

- raw or cooked fruits and vegetables
- bread and grains
- coffee grounds
- grass clippings



KEEP OUT: Dairy products, stickers from fruits and vegetables, roots of perennial weeds, glass, plastics.



Follow these simple steps to create compost with collected material:

- 1. Add **three parts brown materials** and **two parts green materials** together. Smaller pieces mean more surface area for the FBI to work their magic, and generate a quicker finished compost.
- 2. **Mix brown materials**, like dried leaves, into the pile and always be sure to **bury greens** (fruit and vegetable waste) under 10 inches of browns. As long as greens are buried there will be no odor.
- 3. The pile **should be warm** as materials break down.
- 4. Before you add to the pile, **turnover and fluff the pile** using a shovel or pitchfork to get oxygen into the pile.
- 5. **Keep the pile as moist** as a wrung out sponge.
TIP: add water if necessary during step 4.
- 6. **When material at the bottom is dark and rich in color**, with no remnants of food or yard waste, **your compost is ready to use**. You can screen large chunks out if you like, or leave it as is.
- 7. Depending on how you manage your system, **you can have finished compost in as little as 3 months**.



Troubleshooting:

PROBLEM	CAUSE	SOLUTION
Rotten egg smell	Not enough air or too wet	Turn pile and incorporate browns
Ammonia smell	Too many greens	Incorporate browns
Pile doesn't heat or decomposes slowly	1. Pile too small	Add more organic matter
	2. Insufficient moisture	Turn pile and add water
	3. Not enough air	Turn pile
	4. Cold weather	Increase size and insulate with straw or tarp

CASE STUDY FOR ON-SITE COMPOSTING

Cold Spring Elementary composts lunch scraps on-site. The small school has just 176 students and no access to a compost collection service, so on-site composting was the only option.

This project is led by a passionate and environmentally aware teacher, Ms. Gradias, who is committed to making this program as successful as possible.

Ms. Gradias began by scheduling an assembly with Explore Ecology. She gained support from the administration and staff who understood the value this program could have on the school community and the environment.



Ms. Gradias with food scrap collection buckets.



Ms. Gradias then organized and trained student volunteers. This included teaching students what type of food waste can be collected for on-site composting, as well as creating a schedule of assigned shifts.

During lunch, student volunteers grab their buckets and head to the food waste collection areas to collect students' food waste.

The student volunteers then add the food waste into several Earth Machine Composting Bins and cover it with mulch.

CONGRATS COLD SPRING
ELEMENTARY SCHOOL
for being environmental leaders
who can inspire other schools
to do the same!

**GET YOUR
STUDENTS INVOLVED!**



ExploreEcology
www.exploreecology.org

Explore Ecology offers in-class composting lessons.



VERMICOMPOSTING IN CLASSROOMS

Vermicomposting uses worms to consume organic waste, ideally small amounts of non-fatty food scraps. Worms eat their weight in organic materials each day and then produce a finished compost product called castings. Vermicomposting requires less space than other composting methods, and is ideal for indoor areas like classrooms.

OVERVIEW

Accomplish vermicomposting in a dark container with a bedding of newspaper or leaves. Fruit and vegetable scraps are added as food for the worms. Over time, the food and bedding will be replaced with castings, a rich brown matter that is an excellent natural plant food.

What size bin should a classroom use?

Depends on the amount of food waste your classroom produces in one week.

Use the formula: one square foot of surface area per pound of food scraps produced per week. For example, a bin that is 4 square feet is perfect for 4 pounds of food scraps produced per week.

How many worms do I need?

2 pounds of red wiggler worms to every one pound of food scraps produced per day. You can find these worms at Island Seed & Feed or online.

Worms like to eat:

Vegetable scraps, fruit peels and scraps, leaves, tea bags, coffee grounds and filters, and wet paper towels



FUN FACT: worms especially enjoy pumpkin and melon scraps.



KEEP OUT: Meat and bones, dairy products, oils and fat, and woody yard waste.



Visit LessIsMore.org/Schools for more information.

BUILD YOUR OWN CLASSROOM BIN

What you need:

- **Electric drill with ¼ inch drill bit — or you can punch holes manually**
- **2 plastic bins***
- **Newspaper and handful of garden soil**
- **Food scraps**
- **Red wiggler worms**

(Buy at Island Seed & Feed or online.)

**Bin #1 will be for your composting worms and bedding, and Bin #2 for catching the drainage or leachate.*

STEP 1

Drill or punch **ventilation holes in Bin #1 around the top and drain holes on the bottom** of compost bin.

STEP 2

Drill or punch **holes on the side of Bin #2** (leachate bin) for ventilation, just below the mid ridge in the bin.

STEP 3

Place the **top onto the worm bin** (you will only need one). Then **place Bin #1 into Bin #2**.

STEP 4

Shred 3 to 4 pounds of newspapers into ½ inch strips. Soak shredded strips in water and then squeeze out water so strips are damp.





STEP 5

Fill Bin #1 three quarters of the way full with prepared bedding material. Keeping the paper loose and fluffy is the goal. Mix in a handful or two of garden soil into the bedding.

STEP 6

Place Bin in a completely shady and accessible area with moderate temperatures of 55 to 75°.

STEP 7

Add worms evenly and lightly over the damp bedding material. Let the worms acclimate to their new home for a week before introducing food scraps.

STEP 8

A week after introducing worms you can **feed your worms** by spreading out a thin layer in just one area of the bin in the middle of the bedding material and alternate weekly where you place the food.

TIP: to aid the decomposition processes, chop, shred, and bruise waste before feeding to your worms.

STEP 9

Check your bin when you add food for moisture level (moist as wrung out sponge), and ensure that added food is always covered with a few inches of damp bedding material.

Troubleshooting:

PROBLEM	CAUSE	SOLUTION
Fly population	Exposed food	Add one inch of fresh bedding and add moisture. Can add a small amount of baking soda.
Bin has rotten egg odor	Anaerobic Conditions	Add fresh bedding and fluff up
Ant population	Bedding is too dry	Keep bedding moist



Student Plate Waste Collection Set-up



GUIDELINES:

Establish a leader to oversee the program. This can be a teacher, student, parent, or faculty member who coordinates the logistics of the program and **handles the following steps:**

1. **Speak with the Principal, Administration and Parents** to ensure they are ready to support the program.
2. **Schedule Explore Ecology composting lessons** and/or assemblies by calling (805) 884-0459.
3. Identify whether the school will **use a yellow cart or compost on site**. Contact the County's composting specialist at (805) 882-3618.
4. **Gather volunteers** to help monitor collection. Ideally, the leader will be in charge of creating volunteer schedules.

5. **Get students excited** by putting posters around the school, having school rallies, game nights, or a poster making competition.

6. **Encourage active participation** from all students.

7. **Measure and...**

Celebrate Your Achievements!



CASE STUDY FOR PLATE WASTE COLLECTION



- **IV Elementary School** utilized **food scraps collection services** instead of on-site composting like Cold Spring Elementary.
- **A motivated parent, Vicki, stepped up to lead** the collection program.
- **The Principal and Administration** saw the value of starting this program on their campus as it educated students about environmental sustainability.
- The school **scheduled an assembly with Explore Ecology** that highlighted why this program was so important and urged students to volunteer to help collect food waste.
- **Vicki collaborated with a teacher** who managed the creation of volunteer schedules, poster making, and gathering volunteers.
- **Vicki sent out an email** to all parents subscribed to the IV Elementary mailserv to **gain volunteers**.
- **Vicki continued to oversee the program** by volunteering at lunch times, being in direct communication with the Principal, Administration, Staff, and Custodian and continuing to provide support to students involved in the program.



THANK YOU
to the Parent Leader,
the teacher, volunteers, and
all who participated!



We Can Make a Difference



Organic material that we put into the trash will be landfilled.

Don't Forget...

Our hands are the last ones to ever touch
what we throw into the trash.

Keep Food Waste out of our Landfill!

By reducing the amount of food that we waste, we are:

1. Saving money.
2. Providing food to those in need.
3. Creating a nutrient-rich soil amendment.
4. Reducing the use of resources such as water, energy and land.
5. Reducing the production of methane, a potent greenhouse gas.
6. Saving valuable landfill space.



CONGRATULATIONS SCHOOLS!

You have made a huge positive impact by keeping organic materials out of the landfill.

RESOURCES & CONTACTS

- **WASTE REDUCTION**— Santa Barbara County Resource Recovery & Waste Management Division: LessIsMore.org; (805) 882-3600
- **FOOD SAFETY**— Santa Barbara County Environmental Health Services: [countyofsb.org-food safety](http://countyofsb.org-food%20safety); (805) 681-4900
- **FOOD DONATION**— Community Environmental Council: (805) 963-0583





For more information please visit:
LessIsMore.org



SANTA BARBARA COUNTY

**Resource Recovery &
Waste Management Division**

Innovative Environmental Solutions

130 E. Victoria St., Suite 100
Santa Barbara, CA 93101
(805) 882-3600

Please share this booklet as many times as you can before recycling.