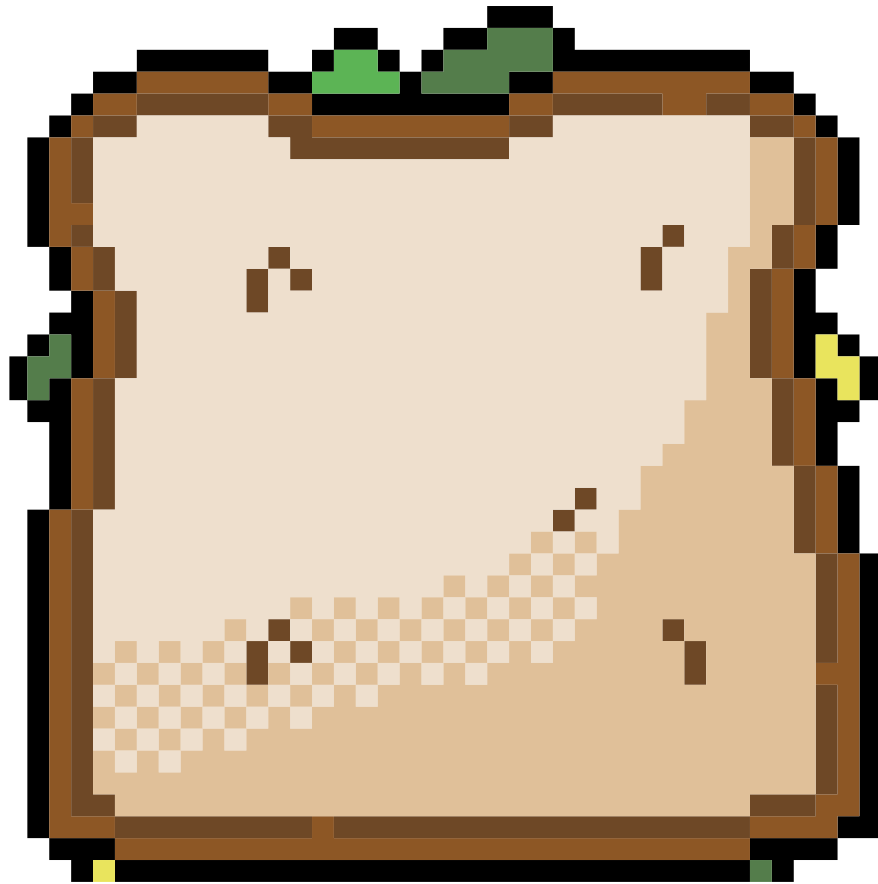


# Project Plan

## LUNCH AGAINST LANDFILL

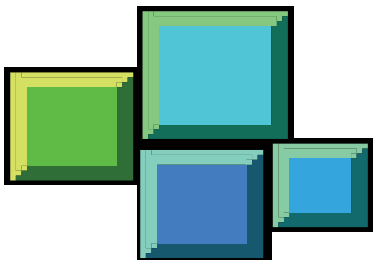


### Reducing Cafeteria Waste



TURN PAGE TO START





## LUNCH AGAINST LANDFILL YOUR MISSION

Set up a composting system to wipe out food waste in your cafeteria. Your system can be small or large, indoor or outdoor, and on school grounds or off-site.

## WHY THIS PROJECT

Lunchtime may be your favorite time of day (it's definitely ours), but it can pack a serious climate punch. Every day, we generate 34 million tons of food waste in the U.S. ([EPA](#)), and if we just dump it in the trash, we miss out on some major opportunities for the climate, our wallets and our local community.

## CLIMATE CONNECTIONS

- In 2010, 33 million tons of food waste was thrown away -- making food waste the single largest component of municipal solid waste going into landfills and incinerators ([EPA](#))
- Landfills are the third largest human-caused source of methane (a potent greenhouse gas) in the U.S. and accounted for 17 percent of all methane emissions in 2009. ([EPA Methane Sources](#))
- When done correctly, composting can completely eliminate methane emissions from food waste. ([EPA](#))

## EARNING POINTS

- ☐ Up to 8 points for the impact of your project
  - How long food system improvement lasted (or will last)
  - Weeks to plan project
  - People involved outside club
- ☐ 2 points for telling ACE about your project at [www.acespace.org/done](http://www.acespace.org/done)
- ☐ 2 points for submitting photos, video, a blog, or media coverage of your project

## SOURCES

EPA: <http://www.epa.gov/osw/conservation/materials/organics/food/fd-basic.htm>

EPA Methane Sources: <http://epa.gov/methane/sources.html>

## INTRODUCTION

We're glad you are joining Us vs. Waste by doing a Lunch Against Landfill project at your school.

This Action Plan is meant to help you create a customized plan for your project.

## HOW TO USE THE ACTION PLAN

To waste as little paper as possible, download the Action Plan and save it on a computer your whole team can access. You can answer the questions right in the Action Plan and save it so you have all your information in one place or keep your answers in a separate document.

If you need to print the plan out, please print it on recycled or scrap paper to minimize waste. You can keep everything together in a three-ring binder in your faculty advisor's classroom where every member of the team can check it.

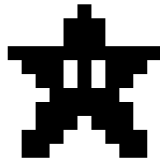
## TELL ACE

When you finish your project, tell us about it online at [www.acespace.org/done](http://www.acespace.org/done) so you get the credit and recognition you deserve. You'll get points for your project, which not only give you something to be proud of, they add up toward the national goal for Us vs. Waste. The more points teams get, the more prizes we'll give out (and the better the prizes will be). We'll also be able to share your success with other students around the country to inspire them!

## IMPORTANT SYMBOLS



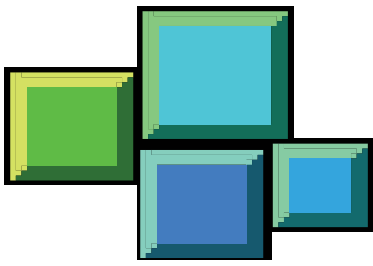
Throughout this guide you'll notice this symbol. This marks a question you'll be asked when you turn in your project so we can give your team the points you've earned. Be sure to fill in these questions as you go so it's easy to submit your project at the end.



This marks a step that will make your project easier: tips, things to watch out for and things ACE students have told us have made them successful.

Green text means that, if you're reading the PDF on a computer, tablet or phone, you can click to go to that webpage.

## NOW IT IS TIME TO GET PLANNING!



## STEP 1 INVESTIGATE AND RESEARCH

What type of compost do you want to do?

Off-Site Industrial

Outdoor On-Site

Indoor Worm Bin

★ Composting can be done on a small scale or large scale, inside or outside, at school or off-site. Each has its own advantages and disadvantages. Read through the composting methods below and look at the side-by-side comparison chart to decide which system best fits what your club and your school can handle.

### ■ Off-site Industrial Composting

As surprising as it may seem, there are thousands of businesses across the U.S. who specialize in industrial composting. These businesses accept, and often pick up, large quantities of food waste from places like restaurants, government offices, individual households and schools! Once they get your food scraps, they turn them into black gold (i.e. high quality soil) which they can sell.

To see what industrial scale composters are in your area, visit <http://www.findacomposter.com/>.

### ■ Outdoor Composting on School Grounds (On-Site)

If you want to compost on a more modest scale, you can set up your own outdoor compost system on schools grounds. Outdoor composting containers can be store-bought or self-made and range greatly in size and price.

To learn more about outdoor on-site composting, visit this site: [http://www.compost-info-guide.com/beginner\\_guide.htm](http://www.compost-info-guide.com/beginner_guide.htm)

To get a sense of the types and costs of various on-site composting containers, check out this resource from Cornell Cooperative Extension: <http://cwmi.css.cornell.edu/designscompostingsystems.pdf>

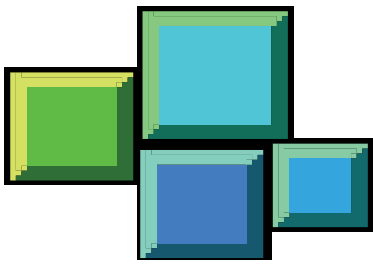
## Indoor Worm Bin Composting

If you are looking for an easy and fast way to start composting on a small scale at your school, then worm bins are for you! This composting method uses special worms called “Red Wrigglers” to break down food scraps. Each bin is roughly the size of a 20 gallon storage container, and if maintained correctly, you’ll have absolutely no smell, insect or pest problems!

To learn more about Worm Composting (or Vermiculture as it is sometimes called), visit [http://www.compost-info-guide.com/worm\\_compost.htm](http://www.compost-info-guide.com/worm_compost.htm)

### Side-By-Side Comparison of Composting Methods:

	Off-Site Industrial	Outdoor On-Site	Indoor Worm Bin
<b>Potential for Waste Diversion</b>	High	Medium	Low
<b>Cost</b>	Depends on Circumstances (could make money, come out even, or cost some money)	Medium	Low
<b>Potential Scale</b>	Large	Medium	Small
<b>Compositing Location</b>	Outdoors, off school grounds	Outdoors, on school grounds	In school building (classrooms, teachers’ lounge)
<b>Organic Waste Accepted</b>	Vegetables scraps, meat, dairy, compostable diningware (trays, silverware, cups, napkins, etc.), yard trimmings	Vegetable & Fruit Scraps Only (No meat, dairy or compostable diningware)	Vegetable & Fruit Scraps Only (No meat, dairy or compostable diningware)
<b>Maintenance Duties</b>	Low-Medium	High	Low
<b>Utilize Generated Compost at School?</b>	Depends on composting company	Yes	Yes



What are the state rules, regulations and health code laws to collect food scraps for compost at your school?

★ Every state has its own rules, regulations and health code laws for composting in school settings. To find your state's regulations, visit: <http://www.recycle.cc/compostregs.htm>. If the regulations are difficult to understand, call the state agency listed on the website. Explain that you are trying to set up a composting system at your school and ask whether there are any permits or health code laws that apply to your situation. Contact your ACE Educator if you need extra support.

## STEP 2 GATHER SUPPORT

A successful composting system will involve the enthusiasm and support of many people in your school: students, faculty, administrators, custodians, cafeteria workers (just to name a few). You'll want to engage key stakeholders and decision-makers early in the process to get input, make sure they're on board, and to help them get excited.

✎ Who are the key people in your school and community who will help you with the planning and implementation of the new composting program?

Who Could Help	Club Member Talking to Him or Her	Due Date	Agreed to help

★ Remember, for a big project, the more support you have, the more successful your project

will be! Here are a few people to consider: Your club's adviser, science teachers, facilities managers, parent/teacher organization, city recycling coordinator.

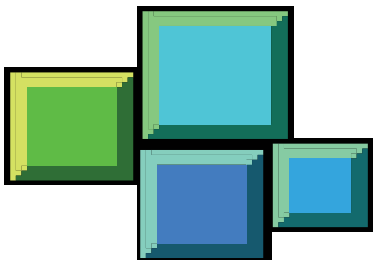
Is it important to demonstrate student or teacher support for the composting before you meet with your school's decision-makers?

If this is important, write a letter of support stating that people support composting at school and would participate in a new system. Ask teachers and students to sign it and ask teachers to indicate if they would like a composting bin in their room.

Who is writing the letter of support	
Due date for letter	
How you plan to get student and teacher signatures	
Who will be responsible for that plan	
Due date for signatures	

Whose support or permission do you need for your composting program?

Person whose permission or support you need	Who will ask him or her for permission or support	Due date	Gave permission



★ These are some people you might need to involve: Principal, Assistant Principal(s), Facilities Manager, Cafeteria Manager. We recommend organizing a meeting to talk to them about your idea. When will you meet them and what will you do during your first meeting?

Which club members will present at the meeting?

When and where will your meeting be held?

★ During this meeting, express your enthusiasm and commitment for the project, get your administration's questions and feedback, and win tentative approval to begin planning the project. Be sure to find out when you need to check in again.

★ **Sample Agenda**

■ *Introductions - 5 minutes*

■ *Why add/improve composting? - 10 minutes - Why is composting important for your school? to your club? What are all the benefits of composting? (See the Climate Connections at the beginning of this plan to get you started)*

■ *Your proposal - 10 minutes - Explain the type of composting system you would like to set up. In general how would it work? Express your excitement for the project and commitment to working with the administration to create a system that works for everyone.*

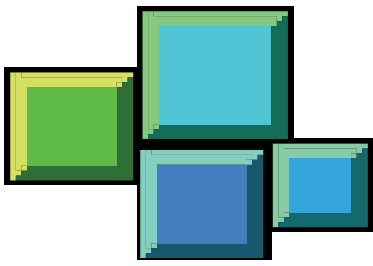
■ *Feedback - 10 minutes - What questions, concerns and comments do they have?*

■ *Conclusions, Next Steps - 10 minutes - Let the administration know that you will work to address their questions and will set up another meeting after doing more planning and research.*

## STEP 3 PLAN AND GET ORGANIZED

Now that you've selected your preferred composting method and built support for the project, it's time to get organized and make composting happen!

- Indoor Worm Bin (if you chose this option, turn to [page 10](#))
- Outdoor On-Site (if you chose this option, turn to [page 13](#))
- Off-Site Industrial (if you chose this option, please turn to [page 17](#))



## INDOOR WORM BIN

### STEP 3 PLAN AND GET ORGANIZED - CONTINUED LOGISTICS

Use this Worm Composting Guide ([http://www.compost-info-guide.com/worm\\_compost.htm](http://www.compost-info-guide.com/worm_compost.htm)) to help you plan the following:

Where in the school do you want to store your compost?

★ Brainstorm the best locations for your worm bin(s) and then meet with the adult in charge of those spaces, and ask if they'd be willing to host your worm bin(s). Consider the following locations: science teacher's room, cafeteria, teachers' lounge. Remind teachers your worm compost containers will not smell or attract pests (as long as you maintain them correctly!).

What food scraps do you plan to collect each week?

- Any leftovers in the cafeteria
- Club members' lunches only
- Food waste from the teacher's lounge
- Other

★ If this is your first time doing worm composting, start small and just collect scraps from the teacher's lounge or club members' lunches.

What containers will you use to collect waste scraps?

★ For small amounts of food, yogurt containers or 2-quart plastic food storage containers work well. 2 quarts is about the amount a bin of worms can handle in a week. How many worm bins do you

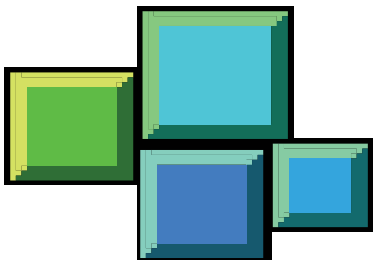
need?

★ Look at the Worm Composting Guide to see how large a bin you need for different amounts of food.

Where will you get your supplies?

Supplies Needed	Suggestions for where to get them
<b>Worm bins</b> <b>OR</b> <b>Materials to build a bin:</b>	
<ul style="list-style-type: none"><li>■ The bin itself (plastic storage container works well)</li><li>■ A lid</li><li>■ A tray to catch the “compost tea” (the lid of a rubber storage tote works well.)</li><li>■ Blocks to elevate the bin by at least 2 inches to allow for drainage.</li><li>■ Look at the Worm Composting Guide above for information about building or buying worm bins. For more purchasing options, go to: <a href="http://www.compostbins.com/worm-composters/worm-composters/12177+4295105380+4295105381.cfm">http://www.compostbins.com/worm-composters/worm-composters/12177+4295105380+4295105381.cfm</a></li></ul>	Look at the Worm Composting Guide above for information about building or buying worm bins. For more purchasing options, go to: <a href="http://www.compostbins.com/worm-composters/worm-composters/12177+4295105380+4295105381.cfm">http://www.compostbins.com/worm-composters/worm-composters/12177+4295105380+4295105381.cfm</a>
Worms	Worms Etc. <a href="http://www.wormsetc.com/webstore/compost-bait-worms.html">http://www.wormsetc.com/webstore/compost-bait-worms.html</a> Uncle Jim’s Worm Farm - <a href="http://unclejimswormfarm.com/index.php/Live-Worms/View-all-products.html">http://unclejimswormfarm.com/index.php/Live-Worms/View-all-products.html</a>
Bedding (strips of newspaper or cardboard)	
Biologically active soil	

★ Think about what supplies you might be able to get donated by a local business or what you can make yourself.



Use this table to help you keep track of what you need:

Supplies	How many you need	Who's getting it	When it will arrive	Cost

If you're going to build the bins, who will help?

If you need money for supplies, how will you get it?

How will you maintain the worms' health?

<b>Who will feed the worms?</b>	
<b>How often will you feed them?</b>	
<b>Who will check in on the worms health/make sure there's enough bedding and moisture?</b>	

When will you start your composting program?

How will you monitor the composting system to be sure people are using it correctly?

## OUTDOOR ON-SITE COMPOSTING

### STEP 3 PLAN AND GET ORGANIZED - CONTINUED

Now that you've selected your preferred composting method and built support for the project, now it's time to get organized and make composting happen!

Read through this Composting Guide ([http://www.compost-info-guide.com/beginner\\_guide.htm](http://www.compost-info-guide.com/beginner_guide.htm)) to help you answer the following questions:

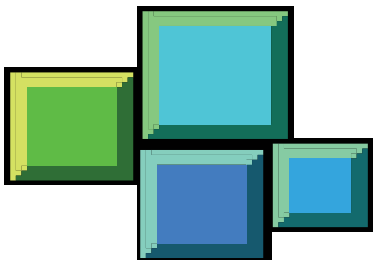
What food scraps do you plan to collect each week?

- ☐ Any leftovers in the cafeteria
- ☐ Club members' lunches only
- ☐ Food waste from the teachers' lounge
- ☐ Other

★ If this is your first time doing on-site composting, start small and just collect scraps from the teachers' lounge or club members' lunches.

What kind of compost container will you use?

What volume of vegetable scraps do you plan to collect?	
Will you build your own compost container(s) or purchase one?	
What kind of container(s) will you build/buy?	
If you're going to build it, who will help? When? If you're going to buy them, who will buy them and when?	
How many containers will you need?	
Where will you buy the container or supplies?	
How much will your container(s) cost?	
Where will this money come from?	



- ★ The [Composting Guide](#) has information about different types of bins.
- ★ If you want to construct your own bins, check out <http://cwmi.css.cornell.edu/designscompostingsystems.pdf>
- ★ Visit <http://compost-bins.org> to read about different bins you can buy

Where will you put your outdoor compost container?

- ★ Identify a location on campus that meets the following criteria:
  - Easily Accessible
  - Good Drainage - The compost needs to be able to drain so that standing water does not accumulate. You also want worms to enter the compost from the bottom.
  - Near a Water Source - Ideally, your compost system can be sited near a water source so you can make sure it does not become too dry. If necessary, you can always carry buckets of water occasionally.
  - Avoid exposure to high winds and direct sunlight to keep the bin from drying out.

How will your vegetable scraps be collected and transported to the outdoor bin?

Collection Bins	
What type of collection bins will you use?	
Will you line your collection bins or wash them between use?	
Where will you place the collection bins?	
How many collection bins will you need?	
How will you get your collection bins?	
Transporting Food Scraps Outdoors	
How will you transport the food scraps to the outdoor container?	
How often will you empty the indoor bins into the outdoor container?	
Who will transport the food scraps to the outdoor compost containers?	

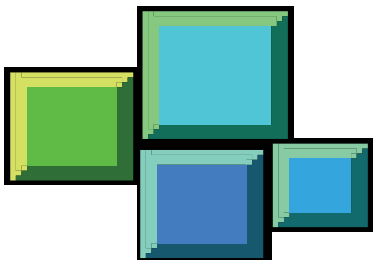
★ You can buy collection bins, get them donated from a waste-hauler, or make your own. Five gallon buckets or lined trash cans on wheels can work well, depending on how much food you plan to collect. Remember, food waste is heavy, so you'll probably want smaller containers or containers with wheels so they're easier to transport to the outdoor composting site.

★ From wheeling tote bins (around \$70-\$120) to small and medium collection bins, you can typically purchase the bins you need at a large hardware or home improvement store.

When will you start your composting program?

How will you maintain your compost and who will be in charge of each component?

<b>Brown Materials</b>	
Where will you get "brown" materials?	
Who will be in charge of adding these brown materials?	
How often will you add brown materials?	
<b>Turning the Compost</b>	
How will you turn your compost?	
Who will be in charge of turning the compost?	
How often will you turn it?	
<b>Compost Temperature</b>	
How will you check the compost temperature?	
Who will be in charge of checking the temperature?	
How often will you check the temperature?	
<b>Compost Moisture</b>	
Who will check the compost moisture?	
How will you add moisture if needed?	
How often will you check the moisture?	
<b>Communication</b>	
How will you communicate about any changes you need to make to maintain healthy compost?	



Here's a list of the supplies you'll need for your system. Use this table to keep track:

Outdoor On-Site	Where you are you getting it?	Who's getting it	When	Cost
Outdoor composting container				
Indoor compost collection containers				
Brown Material				
Optional Maintenance Equipment				
Compost Thermometer				
Work gloves				
Pitch fork				
Wheel barrow				
Hose, bucket, watering can				

How will you raise funds for your supplies if you don't already have them? Can you get supplies donated?

How will you monitor the composting collection bins to be sure people are using them correctly?

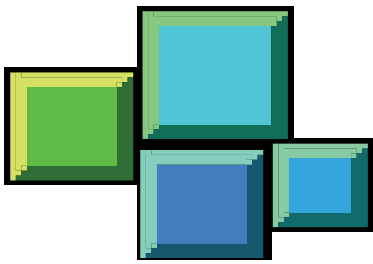
Wrap up Step 3 for Outdoor On-Site composting by turning to [page 21](#).

## OFF-SITE INDUSTRIAL STEP 3 PLAN AND GET ORGANIZED - CONTINUED

What company will you use for your composting?

★ Visit [www.findacomposter.com](http://www.findacomposter.com) to find information on industrial composters in your area. Call or email each composting facility and explain your composting project to them (the scale of the project, items you'd like to compost, etc.). Be sure to get answers to the following questions and choose the company that best fits your needs.

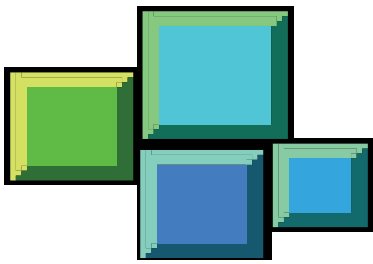
★ Remember, if off-site industrial composting is not possible for your school due to cost, lack of facilities, or other reasons, never fear! Check out the on-site outdoor composting or on-site indoor composting alternatives to see if they are a better fit for your school.



<b>Compost Company Name</b>	
<b>Company contact Information</b> <b>Name:</b> <b>Title:</b> <b>Email:</b> <b>Phone Number:</b>	
<b>What type of compost items do they collect?</b>	
<b>What type of compost container do they require outside the school?</b>	
<b>Will they provide this outdoor compost container to the school?</b>	
<b>Will they provide compost collection bins for inside the school?</b>	
<b>If so, what style and size?</b>	
<b>When do they pick up the compost?</b> - How often? - What days? - Where do bins have to be to be picked up?	
<b>How much would services cost the school?</b> - Outdoor containers: - Indoor bins: - Collection service	
<b>Are there discounts for schools?</b> <b>Or is it free to the school?</b>	

★ Schools often pay a “tipping fee” to your trash-hauler to get garbage picked up from your school. The more trash you generate, the more your school typically pays. That means if you can divert food waste from the trash by composting, your school could end up **SAVING** money. Possibly even enough to offset the cost of paying for an industrial composting service.”

<b>Compost Company Name</b>	
<b>Company contact Information</b> <b>Name:</b> <b>Title:</b> <b>Email:</b> <b>Phone Number:</b>	
<b>What type of compost items do they collect?</b>	
<b>What type of compost container do they require outside the school?</b>	
<b>Will they provide this outdoor compost container to the school?</b>	
<b>Will they provide compost collection bins for inside the school?</b>	
<b>If so, what style and size?</b>	
<b>When do they pick up the compost?</b> - How often? - What days? - Where do bins have to be to be picked up?	
<b>How much would services cost the school?</b> - Outdoor containers: - Indoor bins: - Collection service	
<b>Are there discounts for schools?</b> <b>Or is it free to the school?</b>	



- ★ You can buy collection bins, get them donated from a waste-hauler, or make your own. Five gallon buckets or lined trash cans on wheels can work well, depending on how much food you plan to collect.
- ★ Remember, food waste is heavy, so you'll probably want smaller containers or containers with wheels so they're easier to transport to the outdoor composting site.
- ★ From wheeling tote bins (around \$70-\$120) to small and medium collection bins, you can typically purchase the bins you need at a large hardware or home improvement store.

Here's a list of the supplies you'll need for your system. Use this table to keep track:

Off-Site Industrial	Where You Will Get It	Who Will Get It	When	Cost
Outdoor compost container (for pick-up location)				
Indoor compost collection bins (if different from outdoor bins)				
(optional) Bag liners for indoor bins				

How will you raise funds for your supplies if you don't already have them? Can you get supplies donated?

When will you start your composting program?

How will you monitor the composting system to be sure people are using it correctly?

### **STEP 3 PLAN AND GET ORGANIZED - CONTINUED FOR ALL TYPES OF COMPOSTING EDUCATION**

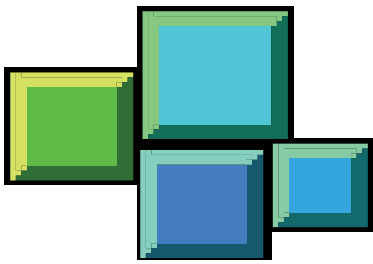
How will you educate your school community about your composting program?

What art and media will you design to tell others about the program?

Who will you want to help you with this?

How far in advance of the event will you begin educating people?

How will you educate people about how your project fights climate change?



### TIPS:



Check out the Climate Connection facts on the first page of this Action Plan to give you ideas about how your project fights climate change.



Ideas for communications:



Decorate your bins. Let people know exactly what they can compost.



Flyers, notes to send home to families, posters



Make it clear what can be composted and what can't



Announcements, skit, classroom presentations, or tabling in the cafeteria



Tutorial video about what to compost



Get the media to help: Put it in the school or local paper. See if the local radio station will talk about it.

Use this table to keep track of who's doing what to educate your community:

Task	Who's doing it	Whose help they need	When it is going to be done
<i>Example: Announcements</i>	<i>Maria and Peter</i>	<i>Mr. Smith, media Teacher</i>	<i>November 1-5, 8am</i>

Measure your success:



How long is your compost program expected to run for?

## TELL ACE

Now, it's time to tell ACE about your work at [www.acespace.org/done](http://www.acespace.org/done).

What happens when you tell ACE about your project?

■ Recognition: ACE can share your awesome project with people around the country and give your team the spotlight!

■ Points: You earn points for your Action Team and digital badges for your efforts. These will appear on your Action Team's ACE webpage and next to your Action Team's name on the Us Vs. Waste Leaderboard.

■ Help everyone: Your points will be added to the national Us vs. Waste point total, proving that together we can beat trash in schools across the country and fight climate change.

■ A chance for prizes: You team and team members have a chance to win great prizes. The more points we earn nationwide, the more prizes we'll give out (and the better the prizes will be)

If you're curious how we calculate points, you can visit [waste.acespace.org](http://waste.acespace.org) to see an example.