

green team

PLASTIC BOTTLE REDUCTION and RECYCLING CAMPAIGN

Plastic comes from a nonrenewable natural resource, petroleum – the same thing we use to make gas and oil to run our cars and heat our homes. Using less plastic and recycling what we do use conserves this natural resource. **Recycling one ton of plastic saves 685 gallons of oil.**

This campaign encourages alternatives to disposable plastic bottles. Of course it's often hard to buy some drinks, such as soda pop, in containers other than a plastic bottle. In these instances, recycling plastic bottles to create new products is critical in order to save landfill space, prevent pollution, and reduce the impact of global warming. Recycled bottles can be turned into fleece jackets, sleeping bag liners, carpeting or other useful products.

Each of us has a role to play in reducing our impact on the environment, and our choices matter. The Green Team Plastic Bottle Reduction and Recycling Campaign is easy to put into action, with step-by-step instructions for helping participants to better understand how their actions can affect the environment.

The campaign is divided into two sections:

- Promoting reusable drink bottles
- Recycling plastic bottles

Schools across King County have reduced their garbage volume and increased recycling volumes by adding cans and bottles to their recycling programs. For example, Tolt Middle School in Carnation, WA reduced its garbage by 15 tons during one school year through a combination of a new plastic bottle recycling program, compost bins and a double-sided copying campaign.

This campaign will help your environmental club or class to reduce garbage volumes and increase recycling rates. Use these suggestions for setting goals, putting your plan into action, and measuring and sharing results.

Raising awareness of your school's plastic bottle use and encouraging bottle recycling is **easy to do!**



Did you know that 78% of plastic beverage bottles in the United States end up at the landfill?

That's more than 10 billion plastic bottles per year.



King County

Department of
Natural Resources and Parks
Solid Waste Division

Section 1: Step-by-step guide for a Reuse-a-Bottle Campaign

The purpose of this campaign is to conserve resources by encouraging the use of durable, reusable drink bottles.

1. Identify a specific campaign goal.

Do you want to set a goal to get a certain percentage of staff and students to bring their own reusable bottle?

- First find out how many students and staff already use a durable, reusable bottle at school. Conduct a random survey and use this result as your baseline data.

2. Determine the duration of the campaign.

Do you want your campaign to last a week, a month, a semester? While encouraging the use of reusable bottles can be an on-going effort, centering the campaign around a particular day or week, such as America Recycles Day (November 15), Earth Day (April 22) or Earth Week, may provide additional incentive for participation.

3. Select activities to help you achieve your goal.

- Make one day a week a 'bring your own bottle to school' day.
- Designate 'decorate your bottle' days and distribute special stickers to students who bring their own reusable bottle. Over the duration of the campaign, participants with all the stickers win a prize.
- Conduct a fundraiser by selling reusable aluminum, stainless steel, or non-toxic plastic bottles (see About Plastic Drink Bottles). Proceeds could go toward an environmental project at your school.

4. Encourage participation and gather support for the campaign school-wide.

- Gather teacher and administrative support for the campaign. Talk with classroom teachers to see whether they would be interested in having classes participate in outreach and education. Inform the principal or other administrators so that they are aware of and will support the campaign
- Set up a table at lunchtime with information on the importance of reducing waste and using durable rather than throwaway items.
- Create a sign-up sheet with a pledge. Here is an example of a pledge:
"In order to use fewer natural resources, reduce greenhouse gases in the atmosphere, and send less material to the landfill, I agree to bring my own reusable bottle every Friday."
- Incorporate the pledge and sign-up sheet into a large poster or have a few students circulate at lunchtime with a sign-up sheet on a clipboard.
- Have a sign-up sheet in the faculty room for participating staff.

5. Publicize the campaign.

- Decide on a slogan or message that you want everyone to remember and associate with the campaign.
- When promoting the campaign, make morning announcements to generate interest. Include facts about why using less plastic helps the environment. The facts in this brochure could be shared on morning announcements, posted on the school website, in the daily bulletins, or listed on a sign-up poster
- Remind students that this is a school-wide effort and that working with their teachers and peers will help them reach their goal.
- Make posters and prominently display them.

Sample Slogans or Messages for Reuse-A-Bottle Campaign

- Help save the planet in five seconds a day!
Using a refillable bottle saves time, money
and our precious natural resources.
- Just say no – to plastic bottle waste.
- Join students around the county who have
said 'no' to plastic bottle waste.
- Refill – don't landfill.
- Don't be left out! Join an ever-growing group
of people around the county who have said
'no' to plastic bottle waste.

6. Determine the results of the campaign and report them to the school and to the larger community.

- Use the same method of random sampling you used at the beginning of the campaign to get a post-campaign percentage of students and staff that use a durable, reusable drink bottle.
- Share your results with the school through morning announcements, school-wide posters, a write-up in the school paper, or an article on the school website.
- Send an announcement to the school board, your local paper, and to the King County Green Team program. Student groups that complete waste reduction and recycling projects are recognized by King County Solid Waste Division each year. Send project information to greenteam@triangleassociates.com.



King County

Department of
Natural Resources and Parks
Solid Waste Division

green team

**PLASTIC BOTTLE REDUCTION
and RECYCLING CAMPAIGN**

Section 2: Step-by-step guide for a Plastic Bottle Recycling Campaign

Don't forget to reduce before you recycle!

Encouraging bottle recycling is important and seeing the results of fuller bins and higher recycle rates is exciting. But don't forget that waste reduction is critical to keeping materials out of the landfill and saving energy and natural resources. As part of an overall plan to reduce waste and conserve resources, consider doing the reusable bottle campaign in Section 1 before undertaking this recycling campaign.

1. Make sure that your school has a good recycling program in place before you start.

Walk through the school with a map and mark locations of garbage and recycling bins in the hallways and cafeteria. If plastic bottles are in the garbage, note locations where they tend to build up so that you can target these areas during your campaign. Providing recycling containers in areas where bottle use is high will make it easy for students and staff to recycle properly.

Talk with the custodian to learn about the school's current recycling practices and to get his or her support. The custodian can tell you who is responsible for recycling. Ask the following questions to determine if recycling is easy and convenient for students and staff:

- Does the school recycle plastic bottles?
- If so, are there containers for collecting bottles in the cafeteria? In the hallways? Are the recycling containers placed next to the garbage cans? (If you have walked through the school with a map, you will already have this information.)
- Do classrooms have commingled recycling where you can put paper and plastic together? If so, empty plastic bottles can be recycled in the classroom bins. If the custodian is not sure, look on your outdoor garbage dumpster for the hauler information and call to confirm.
- Do students and staff know that proper recycling requires that plastic bottles be empty, with caps removed and thrown in the garbage?
- Is there a convenient place to empty leftover liquids? This could be a bucket in the lunchroom or classroom sinks (with teacher permission).
- Do the recycling bins have stickers that say what can and cannot be recycled?
- Are the recycling bins emptied regularly? (Overflowing recycling bins will discourage participation in the campaign.)

If there are no lunchroom or hallway recycling containers, ask the custodian about acquiring some. Having a recycling bin next to each garbage container makes it convenient and easy to do the right thing. If you need outside support, consider joining the King County Green Schools Program. For more information, visit kingcounty.gov/solidwaste and select Green Schools Program.

2. Calculate your school's weekly pre-campaign recycling volumes and the baseline recycling rate.

See Calculate Your School's Recycling Volume and Recycling Rate worksheet. Use the pre-campaign recycling rate as a basis for comparison at the end of the campaign.

3. Determine the size and reach of the campaign. Big or small?

- Do you want to target the entire school building and grounds?
- Do you want to focus on one area of the school?
- If you choose to focus on one area, consider the cafeteria where most bottles are used and discarded. Or maybe there is a high-use area that you identified in your initial site survey where you want to focus your efforts. Maybe you want to call attention to keeping plastic bottles out of classroom and hallway garbage bins and putting them in recycling bins instead.
- Whether you choose to think big or small, consider setting a goal to improve the school's overall recycle rate.
- Do you want to make this a weekly, monthly or quarterly campaign? Do you want to designate one month as "recycling month"?
- Consider centering the campaign around America Recycles Day (November 15), Earth Day (April 22) or Earth Week.
- You can make this a continuous campaign and chart on-going improvements throughout the school year.

4. Think about how you will evaluate the success of the campaign.

If your goal is to improve upon the percentage of plastic bottles in the recycling bin, use the pre-campaign rate calculated in Step 2 as your baseline rate. Repeat the calculation once the campaign is over. Establish a consistent time and day for checking recycling bins or dumpsters to minimize the effects of normal daily fluctuations in recycling volumes.

To check for compliance and participation, designate a volunteer to spot-check recycling and garbage bins during the campaign.

5. Gather teacher and administrative support for the campaign.

Talk with classroom teachers to see whether they would be interested in having classes participate in outreach and education. Inform the principal or other administrators so that they are aware of and will support the campaign. Make an announcement at a staff or leadership meeting.

If you are including classrooms as a target in your campaign, talk with classroom teachers to see whether they would be willing to have their classrooms participate. Let them know that it will not mean extra work for them, but may involve a student announcement in class, a poster by the recycling bin or the door, and someone checking their bin periodically during the campaign.

6. Encourage participation and gather support for the campaign school-wide.

- Designate student volunteers to monitor the lunchroom for proper recycling.
- Consider giving out small prizes for proper plastic bottle recycling in the lunchroom.
- Have a table set up at lunch with information on waste reduction and recycling.
- Sell aluminum, stainless steel or non-toxic plastic water bottles and use the proceeds for new recycling bins or prizes for a recycling contest.
- Create a sign-up sheet with a pledge. Here is an example of a pledge:
"In order to use fewer natural resources, reduce greenhouse gases in the atmosphere, and send less material to the landfill, I agree to recycle my plastic bottles every day."
- Incorporate the pledge and sign-up sheet into a large poster or have a few students circulate at lunchtime with a sign-up sheet on a clipboard.

7. Publicize the campaign.

- Consider the reasons why people don't recycle and see if you can address them. If people feel that recycling is easy to do, your campaign will be more successful. In your publicity, be sure people understand that plastic bottle recycling is easy and convenient.
- When promoting the campaign, include facts about why using less plastic and recycling what you *do* use helps our health and the environment. Share facts about other schools that recycle plastic bottles. The facts in this brochure could be shared in morning announcements, posted on the school website, daily bulletins, and school newsletter, listed on a sign-up poster, or be printed on the back of the recycling rate calculation sheet.
- Remind students that this is a school-wide effort; they will need to work with their teachers and peers to successfully reach their goal.
- Create a "thermometer" chart that identifies your goal and how close you are to reaching it.

Sample Slogans or Messages for Bottle Recycling Campaign

- *Help save the planet in five seconds a day! Recycling your plastic bottle saves energy and water, and helps reduce greenhouse gases.*
- *Just say no – to plastic bottle waste. Recycle!*
- *Join students around the county who have said 'no' to plastic bottle waste. Recycle!*
- *Don't be left out! Join an ever-growing group of people around the country who have said 'no' to plastic bottle waste.*

8. Determine the new recycling rate after the campaign to evaluate its impact.

- Use the same calculation formula you used to get the baseline recycling rate. Compare the two rates. How much did your school's recycling rate improve as a result of the campaign?
- Publicize the effects of the campaign. This could be shared in the form of morning announcements, school-wide posters, a write-up in the school paper, or an article on the school website.

9. Report your results to the larger community.

Send the announcement to the school board, your local paper, and to the King County Green Team program. Student groups that complete waste reduction and recycling projects are recognized by King County Solid Waste Division each year. Send project information to greenteam@triangleassociates.com.

Reuse-A-Bottle Fun Facts

Manufacturing the 31.2 billion liters of bottled water that Americans drank in 2006 required 900,000 tons of plastic, the equivalent of more than 17 million barrels of oil, and emitted more than 2.5 million tons of carbon dioxide.

—*New American Dream, newdream.org/c3/*

We're moving one billion bottles of water around a week in ships, trains, and trucks in the United States alone. That's a weekly convoy equivalent to 37,800 18-wheelers delivering water. (Water weighs 8 1/3 pounds per gallon. It's so heavy you can't fill an 18-wheeler with bottled water—you have to leave empty space.)

—*fastcompany.com*

Bottled water costs about \$8 per gallon, but when sourced from the city's municipal water system – among the nation's purest – it costs about one-third of one cent per gallon.

—*Seattle Times, February 28, 2008*

Filter for Good is a plastic bottle reduction campaign sponsored by Brita and Nalgene. In Washington State alone, over half a million Washingtonians have pledged to reduce plastic water bottle waste.

—*filterforgood.com*

In the United States, 24 percent of bottled water sold is either Pepsi's Aquafina (13 percent of the market) or Coke's Dasani (11 percent of the market). Both brands are bottled, purified municipal water.

—*filterforgood.com*

Plastic Bottle Recycling Fun Facts

In the United States, 78.4 percent of PET bottles are thrown away rather than recycled.

—*Container Recycling Institute*

In 2007, the average American used 167 disposable water bottles, but only recycled 38.

—*filterforgood.com*

Bellevue High School increased its plastic bottle recycling rate from 7 percent to 40 percent through the addition of new containers and an education campaign.

—*King County Solid Waste Division*

Plastic bottles can be recycled into rugs, swimming goggles, dog bowls, back packs, skateboard wheels, and ski jackets.

—*Earth 911*

Plastic bottles are very fashionable: about five plastic bottles produce enough fiber filling for a ski coat, 25 recycled bottles can make a fleece coat, and it takes 26 bottles to make a polyester suit.

—*Earth 911*

One ton of recycled plastic saves 685 gallons of oil.

—*Grist Magazine*

One ton of recycled plastic saves 30 cubic yards of landfill space.

—*Stanford Recycling*

As garbage slowly decomposes at the landfill, it releases methane, a greenhouse gas. Greenhouse gases are a leading cause of global warming. Recycling means less trash at the landfill, which means less methane released!

—*EPA*

More Fun Facts

More than seventeen million barrels of oil were used to produce the plastic water bottles used by Americans in 2006.

—*Seattle Times, February 28, 2008*

Americans throw away 2.5 million plastic bottles every hour.

—*Clean Air Council, cleanair.org*

Plastic bottles that go to landfills take about 700 years before they start to decompose.

—*Earth 911*



King County

Department of
Natural Resources and Parks
Solid Waste Division

Calculate Your School's Weekly Recycling Volume and Recycling Rate

Below are easy steps to calculate the effect of your plastic bottle recycling campaign.

Use these calculations to establish baseline data that will enable you to later determine the impact of your plastic bottle recycling campaign. **IMPORTANT:** Try to gather data on the day before trash and recycling are collected by your waste hauler. That will give you the best sense of how much solid waste your school generates every week.



- 1. Determine your school's garbage volume.** You will need to ask the custodian for his or her input. To calculate the fullness of the dumpster, ask the custodian how full it normally is on the day before pick-up. Is it half full? 25 percent full? 75 percent full? Or look inside the dumpster to make your own estimate. Be sure to make your estimates on the day before garbage pick-up.

Sample calculation: If your eight cubic-yard container is 75 percent full and is picked up once a week, your weekly garbage volume is $8 \text{ cubic yards} \times .75 \times 1 = 6 \text{ cubic yards}$.

<input style="width: 100%; height: 30px;" type="text"/>	X	<input style="width: 100%; height: 30px;" type="text"/>	X	<input style="width: 100%; height: 30px;" type="text"/>	=	<input style="width: 100%; height: 30px;" type="text"/>
Size of garbage dumpster		Fullness of dumpster		Number of pick-ups per week		Weekly volume of garbage

- 2. Repeat step #1 for each garbage dumpster to get total amount of garbage discarded weekly.**
- 3. Determine your school's recycling volume.** You will need to ask the custodian for his or her input.

<input style="width: 100%; height: 30px;" type="text"/>	X	<input style="width: 100%; height: 30px;" type="text"/>	X	<input style="width: 100%; height: 30px;" type="text"/>	=	<input style="width: 100%; height: 30px;" type="text"/>
Size of recycling dumpster		Fullness of dumpster		Number of pick-ups per week		Weekly volume of recycling

- 4. Repeat step #1 for each recycling dumpster to get total amount of paper recycled weekly.**
- 5. The recycling rate is the amount of material collected for recycling as a percentage of the total solid waste generated (recycling volume plus garbage volume).**

<input style="width: 100%; height: 30px;" type="text"/>	÷	<input style="width: 100%; height: 30px;" type="text"/>	X	100	=	<input style="width: 100%; height: 30px;" type="text"/>	%
Weekly recycling volume		Weekly recycling volume plus weekly garbage volume				Recycling rate	

- 6. Once the campaign is complete, it's time to recheck garbage and recycling volumes. Follow steps 1-5 to judge the campaign's impact.**



About Plastic Drink Bottles

Some plastics can release chemicals into the foods and liquids they contain. To be safe from potential harmful effects of these chemicals, it's best to avoid using drink bottles made from certain plastics.

Plastics to avoid

Check the number on the bottom of the bottle. Avoid those with a 3, 6 or 7 on the bottom as these contain chemicals that have been designated as having potential health hazards.

#3 Polyvinyl Chloride (PVC) commonly contains di-2-ethylhexyl phthalate (DEHP), an endocrine disruptor and probable human carcinogen.

#6 Polystyrene (PS) may leach styrene, a possible endocrine disruptor and human carcinogen, into water and food.

#7 Polycarbonate contains the hormone disruptor bisphenol-A (BPA), which can leach out as bottles age, are heated or exposed to acidic solutions. Unfortunately, #7 is used in many reusable sports bottles.

Better plastics

#1 Polyethylene terephthalate (PET or PETE), the most common and easily recycled plastic for bottled water and soft drinks, has also been considered the most safe. However, health advocates recommend them for one-time use. Re-use should be avoided because studies indicate they may leach DEHP when they are in less-than-perfect condition.

#2 High density polyethylene

#4 Low density polyethylene

#5 Polypropylene

www.thegreenguide.com/doc/101/plastic

Alternatives to plastic bottles

To avoid exposure to BPA or other chemicals in plastic bottles, switch to an aluminum or stainless steel water bottle. But, be careful. Many products on the market are lined with an epoxy finish. This defeats the purpose. Make sure that the bottle is aluminum or stainless steel both inside and out. Stainless steel water bottles are light, durable and hold both hot and cold liquids well.

Health precautions for all water bottles

Whichever type of bottle you choose, avoid bacteria build up by washing it out with warm water and mild dish soap. Be sure to wipe the mouth of the container and the lids. And most importantly, let the container completely dry before refilling. Keeping any container continually filled with liquid can lead to bacteria developing and potential illness.

Alternative Formats On Request
206-296-4466 | TTY Relay: 711
1-800-325-6165 ext. 6-4466



King County

Department of
Natural Resources and Parks
Solid Waste Division

