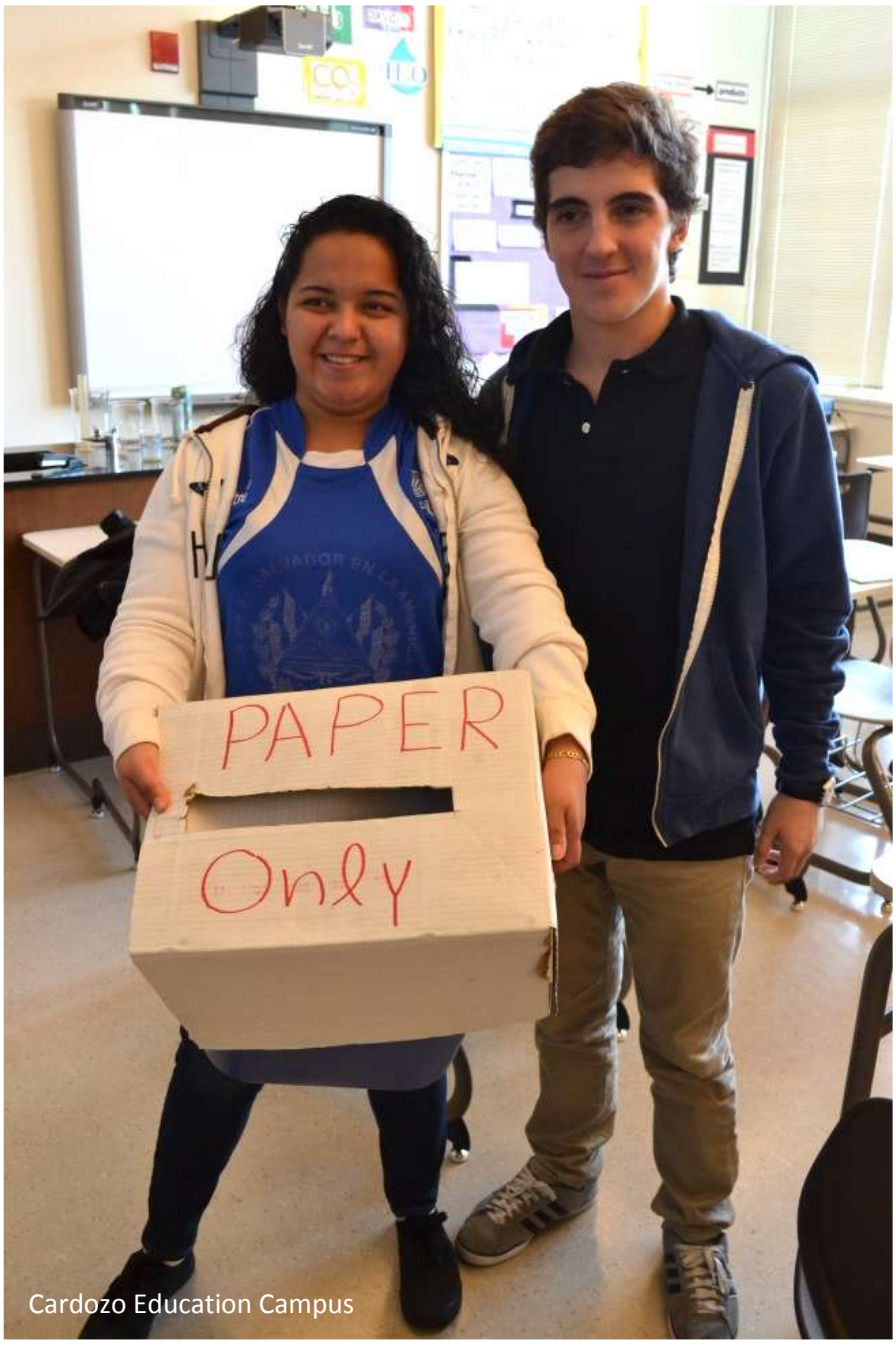
D.C. Recycle Right! Competition

SY 2017-2018



Cardozo Education Campus

About the Recycle Right! Competition

The Recycle Right Competition rewards schools for recycling right, not for recycling more. The Recycle Right Competition – Paper Edition encourages correct recycling behavior in school classrooms.

Inspired by the Green Schools Alliance's Green Cup Challenge, students participating in the competition use math skills in a real-world application to conduct weekly classroom bin surveys. During each bin survey, students count the number of recycling and trash bins used correctly and incorrectly. Students and teachers then take action to improve the bin survey results over the course of the competition. Schools can choose to participate together as a whole school or pit classroom against classroom.

Why Recycle Right?

Why recycle right? Paper can be recycled into new paper items including newspaper, tissue products, paper towels, insulation and even kitty litter. Recycling one ton of paper saves enough energy to heat an average home for six months.[1] Recycling right is important because when items are disposed of in the wrong bin, they "contaminate" the bin and the material cannot be recycled.

What is contamination, and why is it a problem? *Contamination* occurs when materials are incorrectly sorted into the wrong bin. When a bin contains the wrong materials, like when there's a plastic bag in a paper bin, the whole bin is considered contaminated.

Contamination is a problem because:

- It ruins the otherwise recyclable material (Think: A sandwich with ketchup in the recycling bin = ketchup-smeared paper). This means the material either goes to a landfill or is incinerated instead of getting recycled. Contamination from one school can cause an entire truckload of recyclables to become trash!
- It increases the cost of sorting the material at the recycling facility.
- It decreases the value of the recycled material, which negatively affects revenues and profits for the city.
- The District can lose money in the form of penalties for having trash in recycling truckloads.
- Because of high contamination, China placed a ban on waste imports in July 2017. This means the U.S. will not be able to sell many of our recyclables to China, where they would be made into new items.

[1] Tools to Reduce Waste in Schools. U.S. Environmental Protection Agency. http://www.capitalregionrecycling.com/Libraries/Program_Files/EPA__toolstoreducewasteinschools.sflb.ashx

5 Steps to Prepare

Step 1: Assemble a Recycle Right team. This group of students, along with at least one teacher or administrator, will be responsible for conducting bin surveys throughout the school building. The Recycle Right! team will also be responsible for calculating results and winners at the end of the competition.

Teachers participating in the competition should attend a Recycle Right! training to learn more about how to lead a team. See DGS' Healthy Schools website for information about date and location of training.

Step 2: Review correct paper recycling procedures in your school.

DCPS Schools: Correct sorting means following DCPS Recycles! Waste Management Procedures, which dictate that blue recycling bins are for PAPER ONLY in classrooms. Classrooms should have 1 blue bin labeled for paper only and 1 black bin for trash.
Other Schools: Correct sorting procedures and set-up depends on your school's recycling program. If you are unsure about your school's recycling procedures, ask your school's business manager and/or custodial staff.

Step 3: Identify participating rooms.

Identify the classrooms that would like to participate in the competition. Ideally, the whole school will participate. The more rooms that participate, the more competitive and fun the experience will be!

Step 4: Set up bins, labels and additional signage.

Make sure recycling and trash supplies are set up correctly throughout your school. For DCPS, each classroom should have 1 blue recycling bin and 1 non-blue trash can. The recycling bin must be labeled for PAPER ONLY. Place additional posters and signage as you see fit. Paper recycling should also be set up next to printers and copiers, and in any other locations that generate a lot of paper waste, such as art rooms.

Step 5: Set deadlines for the competition. See deadlines below for 2017 competition.

	Action	Deadline
Week 1	Conduct your baseline survey	Friday, Oct. 6
Week 2	Conduct survey #1	Friday, Oct. 13
Week 3	Conduct survey #2	Friday, Oct. 20
Week 4	Conduct survey #3	Friday, Oct. 27
Week 5	Analyze results and award winners	Friday, Nov. 3

Awards & Recognition

Classrooms can compete for awards in Highest Performance, Most Improved, and Most Creative Solution. You can also make up your own award categories.

Highest Performance – An objective category that awards the classroom with the highest percentage of correct bins throughout the competition.

Most Improved – An objective category that awards classrooms that may have started with a low percentage of correct bins but improved the most throughout the competition.

Most Replicable Solution – A subjective category to award the classroom that came up with the most replicable solution to improve sorting.

The Competition

Week 1: Conduct a Baseline Survey

Conduct a bin survey to establish a baseline. In order to know how much you improve, you must know where you start. Use the bin survey worksheet provided on page 9

a) In the "Location of Bins" column, enter the locations for the bins.
b) In the "Correct" column, enter the number of bins that contained ONLY items that belong in those bins.
c) In the "Incorrect" column, enter the number of bins that contained ANY items that didn't belong in those bins.

Week 2: Share Results, Take Action, and Conduct Follow-Up Surveys

Share results and create an action plan. Share the results with the whole school. Each classroom should create an action plan to improve recycling "correctness" throughout the 3-week period. Review the Take Action section for ideas.

You can use this opportunity to apply science concepts such as writing a hypothesis and conducting an experiment. For ideas on how to improve paper recycling, review the resources and real-life examples provided below. You can also get come up with your own creative ideas!

Conduct Survey. Conduct weekly bin surveys using the same survey form that you used to establish your baseline during Week 1.

Weeks 3 & 4: Take Action and Evaluate your Strategy

Repeat the steps in Week 2 for Weeks 3 and 4. Revise your strategy if you do not see an improvement in your recycling correctness.

Week 5: Analyze Results and Award Winners

For **Highest Performance**, award the classroom with the highest percentage of correct bins throughout the competition. Use the scoring worksheet on page 10.

The **Most Replicable Solution** is a subjective category, but you should pick the strategy employed that is the easiest for others to reproduce.

Share your results with DGS! We would love to see your data and share your ideas for how to recycle right.

For **Most Improved**, there are two method options for calculating the winner: percentage change between Week 1 and Week 4 and slope calculation.

There are two methods for calculating the winner of Most Improved.

Method 1: Calculate Percentage Change. Calculate the percentage change between Week 1 and Week 4 to measure your progress throughout the month-long challenge.

Percentage Change = [(Week 4 – Week 1) ÷ Week 1]

Method 2: Calculate the Slope. Calculate the slope of the line formed by plotting recycling correctness (%) for Weeks 1 through 4 on a graph.

The class with the largest percentage change or the steepest slope wins Most Improved.

When you're done, announce the winners and celebrate, then continue to recycle right all year long!

Connect to Classroom Learning

The Recycle Right Competition is designed for you to be able to integrate with or supplement your in-class lessons with a real world activity. Examples of how to do this include:

- **Math**— Apply math skills, including counting, addition, calculating percentages, creating graphs, and calculating slope (in calculating improvement over the 3-week period), etc.
- **Science** – Explore nutrient cycling, climate change, limited resources, etc.
- **Art** – Create posters and signs.
- **Economics** – Explore secondary materials markets and commodity prices.

Check out Recycle Right curriculum-linked lesson plans written by DCPS teachers here.

Action Ideas

- Share your weekly results with your school and use them to improve your recycling "correctness" throughout the three-week period.
- Announce survey results on the morning announcements and encourage correct recycling procedures in classrooms.
- Have students make Posters and Signs to label classroom recycling bins.
- Provide incentives for classrooms that recycle right.
- Post a leaderboard in a common area like the lobby, so everyone can see which classrooms are the best at recycling right.

Quick Links

- Dept. of General Services - DCPS Recycles! Website
- DCPS Recycles! Waste Management Procedures (July 2017)
- Classroom and Common Area Cheat Sheet
- The DCPS Recycles! Honor Roll Self-Assessment
- DCPS Classroom Recycling Acceptable Items
- Department of Public Works (DPW)'s Commercial Recycling Guide

Results from 2016 Competition

During Growing Healthy Schools Month 2016, 26 DC schools participated in the DC Recycle Right Competition to promote recycling right in their schools. Check out the photos and press release from the 2016 competition to see examples of what schools have done in the past to improve recycling correctness throughout the school.

Who Participated?

- Anacostia High School (Ward 8)
- Ballou High School (Ward 8)
- Benjamin Banneker High School (Ward 1)*
- Brookland Middle School (Ward 5)
- Burroughs Elementary School (Ward 5)*
- Cardozo Education Campus (Ward 1)*
- Deal Middle School (Ward 3)*
- Dorothy I Height Elementary School (Ward 4)
- Drew Elementary School (Ward 7)
- Garfield Elementary School (Ward 8)*
- Houston Elementary School (Ward 7)
- J.O. Wilson Elementary School (Ward 6)*
- Janney Elementary School (Ward 3)
- Key Elementary School (Ward 3)*
- KIPP DC: Heights Academy (Ward 8)
- Ludlow-Taylor Elementary School (Ward 6)
- Noyes Elementary School (Ward 5)
- Phelps ACE High School (Ward 5)
- Randle Highlands Elementary School (Ward 7)*
- Roosevelt High School (Ward 4)
- School Without Walls @ Francis-Stevens (Ward 2)*
- School-Within-School @ Goding (Ward 6)
- Tyler Elementary School (Ward 6)
- Van Ness Elementary School (Ward 6)*
- Woodrow Wilson High School (Ward 3)
- Youth Services Center (Ward 5)

*Denotes schools that participated in the 2015 competition as well

The Results

Over the course of the competition, schools improved classroom recycling bin "correctness" by 17 percentage points, applied 21st century math and science knowledge, and practiced invaluable interpersonal skills.

- Highest Performance -

	Percentage of Correct Bins
1st Brookland Middle School	97%
2nd Burroughs Elementary School	92%
3rd Janney Elementary School	86%
HM Dorothy I. Height Elementary School	80%
HM Key Elementary School	80%

- Most Improved -

	Percentage Point Increase
1st Ballou High School	70 pp
2nd Randle Highlands Elementary School	52 pp
3rd Tyler Elementary School	50 pp
HM Drew Elementary School	48 pp
HM Cardozo Education Campus	32 pp

- Most Replicable Solution -

Ballou High School

School Without Walls @ Francis-Stevens

Cardozo Education Campus

Recycle Right Strategies

Students from **Cardozo Education Campus (Ward 1)** created bar graphs to analyze recycling data and trends throughout the competition. Cardozo Education Campus students also made a lid for the paper recycling bin out of cardboard to prevent contamination.

Students in the **Sustainability Club at School Without Walls @ Francis-Stevens (Ward 2)** made homemade paper with both clean and contaminated paper recycling batches to show how contaminated recycling bins lead to poor quality recycled paper products.

Several schools, like **Columbia Heights Education Campus (Ward 1)** and **Randle Highlands Elementary (Ward 7)** School, created student green teams, which continued to improve recycling throughout the year.

Frequently Asked Questions

Question: Is cardboard allowed to be recycled in the paper bin?
Answer: Yes, cardboard is allowed in the paper bin. Cardboard boxes should be broken-down.

Question: Is there a separate pick-up for bottles and cans?
Answer: Most schools have pick-up for bottles and cans. Consult with your custodial staff to see if your school has bottles and cans collection and/or pick-up.

Question: Can milk cartons go in the paper recycling bin?
Answer: No, milk cartons should NOT go in the paper only bin. The milk cartons have a plastic lining which contaminates the paper recycling stream.

Question: Can tissues and napkins go in the paper recycling bin?
Answer: No, tissues and napkins should NOT go in the paper only bin. They are dirty and contaminate the bin.

Worksheets

Recycle Right! Competition Weekly Bin Survey Worksheet						
Name(s) of Surveyors:						
Date: / /						
Circle One: Baseline Week 1 Week 2 Week 3						
	A	B	C	D	E	F
Classroom (Room #)	# of Correct Recycling Bins	# of Incorrect Recycling Bins	# of Correct Trash Bins	# of Incorrect Trash Bins	Total # of Correct Bins (A+C)	Total Bins Surveyed (A+B+C+D)
Totals						

Recycle Right! Competition Scoring Worksheet – Highest Performance *Use this scoring worksheet to calculate the Highest Performance winner.*				
	A	B	C	D
Classroom (Room #)	# Correct Bins (Add up all from Weeks 1- 4)	Total Bins Surveyed (Add up all from Week 1 – 4)	Overall Percent Correct =(A/B) x 100	Highest Performance Ranking (Rank Column C in order from largest to smallest)