

SNOHOMISH COUNTY ELEMENTARY SCHOOL WASTE REDUCTION AND RECYCLING PROGRAM

*School-wide Assembly, Classroom Workshops, Family Outreach,
Technical Assistance, and Action Projects*

2014 DRAFT EXECUTIVE SUMMARY



*Prepared by Triangle Associates, Inc.
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Program Background and Overview

In 2014, Waste Management worked with Triangle Associates, Inc. (Triangle) to offer the third year of waste reduction and recycling (WRR) programs to schools in select areas of Snohomish County. The overall intent of the program was to increase recycling and reduce waste by educating school communities, including students, staff, and families, on waste reduction and why and how to recycle and compost.

The 2014 program built on the three key components developed and piloted in the two previous years: school-wide assembly shows, individual classroom workshops, and technical and project assistance for schools interested in developing or expanding waste reduction and recycling programs. Key messages and scripts for program components were developed with consultation and oversight by Waste Management and the Snohomish County Solid Waste Department. In addition, the 2014 program expanded to offer the following new elements:

- Increased emphasis on sharing messages with families and taking action at home.
- New pre-workshop take-home survey for students to complete with families.
- Updated assembly and workshop script messaging;
- Technical and project assistance piloted for select secondary schools.
- Feedback surveys for technical assistance and action projects.
- Assistance for schools with Washington Green Schools certification goals.
- Direct family outreach through an interactive recycling “booth” located at family-focused school events.



The 2014 program reached 63 schools, and provided 37 assemblies, 214 classroom workshops, in-depth technical assistance to 23 schools, action project assistance for 11 student groups and outreach booths at six family night events. The program had a total of 28,712 contacts, with some contacts counted more than once, as they participated in multiple program components. Of the 63 schools, 33 of them were new in 2014 and had not previously taken part in any of the Waste Management program components.

The following table provides an overview of the program components and numbers served in the Waste Reduction and Recycling Program in 2014.

Breakdown of Program Activities 2014

Program Component	Activity	# of Schools	# of Districts	# of Programs	# of Students/ Teachers
Assembly	School-wide assembly teaches the 4Rs and the importance of keeping waste out of the landfill.	27	9 districts, 4 private	37	10,074
Classroom Workshops	Classroom workshops expand on concepts introduced in the assembly.	41	10 districts, 4 private	214	5,348
Technical Assistance	Technical assistance helps schools implement or improve waste reduction and recycling programs.	23	7 districts, 1 private	21 site visits	12,597 ¹
Action Projects	Green Teams support student groups with projects to increase school-wide recycling practices and awareness.	11	6	11	203
Family Outreach	Family outreach incorporates recycling messages and best practices at school-based events.	6	2 districts, 1 private	6 events	490 ²
TOTAL CONTACTS					28,712 ³

¹ This total is based on the number of students and teachers at each school.

² This total equals the approximate number of attendees (students and family members) that visited the Waste Management booth, not the total number attending the event.

³ This number reflects the total number of student and teacher contacts, recognizing that students may have participated in multiple program components.

Assembly Program

The school-wide live assembly show is often the first, and sometimes the only, point of contact with a school. The goal of the assembly program is to teach the entire school about the importance of the 4Rs - rethink, reduce, reuse and recycle - and to motivate school communities to take action to start or expand recycling and waste reduction practices.

Assemblies are designed to ignite school-wide interest in recycling and waste reduction by taking students and staff on a fun and interactive adventure. Concepts learned through assemblies include:

- The importance of recycling and reducing waste.
- Garbage is sent to a landfill and sits there forever.
- The types of natural resources that are used to make everyday products.
- Items that can and can't be recycled.
- Simple everyday actions to reduce garbage.



In 2014, Triangle provided 37 assemblies at 27 public and private schools reaching 10,074 teachers and students throughout Snohomish County. The program continued to provide schools with assembly discussion guides that provide key vocabulary and facts, discussion questions, online resources, and age-appropriate activities for teachers to use with their classes both before and after the assembly

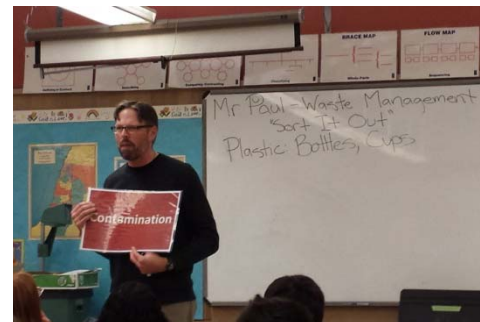
Now in its third year of the program, the assemblies continue to receive excellent feedback and high teacher evaluation marks.

Students and teachers alike leave the assemblies with a better understanding of what happens to their garbage, the importance of reducing waste, and how to properly recycle. Many teachers comment that the assemblies prompt them to lead follow-up discussions and to take action in their classrooms. The following teacher comments exemplify the assembly program's value:

- *Students loved this program. We discussed ways we can start using and doing the 4Rs at home.*
- *My students were inspired to make some changes in our classroom and at home.*
- *Excellent program! The K's loved it! I love that the language and materials were for all elementary ages. Very relevant and visually friendly.*

Classroom Workshops

The goal of the classroom workshop program is to provide students and teachers with in-depth learning about waste reduction and recycling. Classroom workshops are designed to be developmentally age-appropriate, align with each grade level classroom curricula, and support Washington State Education Learning Standards. The workshops build on assembly messages and teach students where their garbage goes, the importance of the 4Rs, and how to properly recycle to avoid contamination. In 2014, Triangle presented 214 classroom workshops for 5,134 students and 214 teachers at 41 different schools. Of the 41 schools, 30 were new to the program.



Through hands-on sorting activities, critical thinking, and group games students learn how their everyday actions can lead to a more sustainable environment. They are also encouraged to share the information they learn through the workshops with their families and peers. For the 2014 classroom workshop program the Triangle team revised and updated workshop scripts, marketing materials, and student take home materials.

Three different workshops were offered in 2014:

- Habitat Connections (grades 2-3)
- Sort- It-Out (primary grades 2-3 and intermediate grades 4-5)
- Landfill Laboratory (grades 4-6)

High teacher evaluation marks continue to demonstrate that workshops are engaging, worthwhile, and essential in strengthening students' understanding of waste reduction and recycling, and also appear to prompt behavior change. When asked to share what aspects of the workshop were valuable, examples of teacher responses include:

- *Teaching students at a young age to be thoughtful about being wasteful and offering real ways to make changes.*
- *Educating kids so they can go home and teach their families.*
- *Hands on activities really helped students make the connections of materials we use and what it affects.*
- *I was surprised by some of the misinformation students carried with them, but by the time they left, the instructor had given them oral assessments over the objectives he taught and it was evident that the students learned a lot about landfills, the "dead-end" issue, what and how to recycle, reduce, reuse, and rethink. Bravo for WM!*

Technical Assistance

The goal of the technical assistance program is to support increased recycling and waste reduction in schools. This is accomplished by working individually with schools to help them assess their current WRR practices, create a plan for overall waste reduction, and establish a comprehensive, self-sustaining recycling program. In 2014, Triangle provided in-depth technical assistance to 23 schools.

The technical assistance program involves:

- In-person site visits to gather baseline data and assess a school's waste practices.
- Providing up to \$200 in recycling container funds and similar materials to enhance recycling or food waste collection options.
- Providing recycling, garbage, and/or food waste signs.
- On-going data collection and tracking of a school's recycling rate and waste reduction efforts.
- Creating school resources, such as the program's "Steps to Starting a Recycling Program in Your School" guide.
- On-going support via email and phone to check on a program's progress and help troubleshoot.



Of the 23 schools that received technical assistance in 2014, seven (or just over 30%) of the schools were new to the program and 16 schools received continued assistance from the previous year. Now in the second full year of this program component, Triangle calculated an *average* increase of 69% in recycling rates for schools that received technical assistance support.

Based on survey results and feedback from school contacts, via email and in person, schools appear to be highly appreciative of the technical assistance program and find the operational and educational assistance both helpful and effective. Representative comments from school contacts

include:

- *The assistance from Nanda has been HUGE!! She was able to work with the school and students to come up with an actual recycling plan that has been implemented and is still being used in both our breakfast and lunch programs. We also REALLY appreciated the beginning of the year recycle assembly that was provided.*
- *We are grateful for the assistance...It is so helpful to work with people who have done this before! It is difficult to change an environment, but we are doing it, one step at a time.*
- *Here is what I know; the program is 100% successful as of right now! (Love it!) We do have volunteer monitors that work most lunches and that really helps. To date we have not had to toss any of the recycling in the garbage dumpster due to contamination! Thank you for helping Little Cedars move closer to Green!!!*

Action Projects

The goal of the action project component of the program is to encourage schools to move from learning to action, and to support students in taking key leadership roles in enhancing the effectiveness of their schools' recycling and waste reduction practices. The Triangle team works with interested teachers and student groups, referred to as Green Teams, to identify and implement projects that can have a positive impact on the school's recycling efforts. In 2014, Triangle worked with select student leader groups to create meaningful and sustainable action projects at 11 schools.

Action Project support typically consists of the following elements:

- Consultation with school contacts on project ideas.
- In-person visit/s with student Green Team groups to brainstorm and help them create an action plan.
- Drafting action plan summaries and working with schools to create timelines for implementation.
- On-going support via email and phone to check on each team's progress, provide follow up resources, and help troubleshoot.
- Follow up in-person visits as needed.

Green Team projects in 2014 included lunchroom recycle monitor training and practice sessions, PA announcements and posters for lunchrooms, recycle relay sorting games, and training on how to lead family night outreach booths. All projects addressed creative ways for students to educate their schools and families. Green Team participants were provided with reusable water bottles as well as aprons for lunchroom monitoring, as requested.

Green Team leaders expressed appreciation for the program and indicated that they found the assistance valuable. Representative comments from school contacts include:

- *Things are going fantastic! We are so grateful for you sharing and helping us start our Green Team and couldn't be more excited!*
- *(The Green Team program) strongly reinforced concepts and motivated students to continue as Green Team members.*

- *I have heard reports from the two teachers whose students are monitoring this week that the students are excited to see the levels of garbage going down, and the recycling bins filled up instead! I also am looking ahead to next year, and implementing a composting program. Thanks for any ideas, and for all you've done for Hazelwood already!*

Family Outreach

The family outreach program component was new in 2014 and was developed with the goal of increasing connections between what students are learning about waste reduction and recycling at school, and what they are sharing with their families about these topics at home. Triangle developed an interactive family night booth that contained multiple games and materials to engage families learning about waste reduction and recycling. Examples include a waste station sorting game, a “Family Feud” style buzzer game show, a recycling Twister game, a Q&A flip book, and resource materials and prizes. A total of 490 attendees actively participated in the booths at six different events.



Prior to each event, the Triangle team worked with student Green Teams to coordinate roles and responsibilities. At the family outreach events, whenever possible, Green Team students themselves were the primary teachers for family learning. They explained the recycling rules and helped answer questions as appropriate. Triangle staff was also there to help facilitate the activities with the Green Team, and served as the expert resource for families. Triangle used these events as opportunities to learn what questions families still have about recycling. Questions and responses were recorded and addressed as appropriate in subsequent school assistance activities.

Evaluation

In 2014, Triangle continued to evaluate the effectiveness of the overall program in meeting Snohomish County’s goals. In addition to the instruments used in previous years, technical assistance and action project feedback forms were added this year. Evaluation instruments included the following:

- Assembly student pre- and post-tests to measure student learning.
- Assembly teacher feedback survey to measure effectiveness and teacher satisfaction.
- Workshop teacher evaluation form to measure workshop effectiveness and satisfaction.
- Technical assistance feedback form to assess effectiveness and gain anecdotal feedback.
- Action project online survey form to capture qualitative comments and assess effectiveness.

Data from the completed 2014 evaluations was analyzed and presented along with recommendations in the full-length annual evaluation report. The report appendix contains samples of all program materials and scripts, as well as a complete list of survey responses.

The following highlights indicate the 2014 program's success in addressing several of Snohomish County's goals for the program:



- **Goal: increasing recycling rates and waste reduction in schools**
 - An average of 69% increase in school-wide recycling was calculated for the 23 schools receiving technical assistance.
 - 43% of teachers who saw the assembly reported making classroom reuse bins afterward, and 14% reported starting classroom recycling for the first time.
- **Goal: increasing student knowledge about WRR**
 - Student results from testing before and after assemblies indicated continued consistent learning. Some concepts showing large improvements include:
 - Recognizing *that waste in a landfill sits there forever as a wasted resource* (29% correct at pre-test and 87% correct at post-test).
 - Recognizing that *when packing a snack for school*, reuse options are a preferable first step before recycling (47% correct at pre-test and 82% at post-test).
- **Goal: students sharing what they learn with their families and others**
 - 98% of teachers agreed that classroom workshops *prompted students to teach others* what they had learned.
 - 238 families completed and returned optional surveys listing questions they have about recycling.
- **Goal: moving from learning to action by encouraging behavior change**
 - As a result of the assemblies, teachers reported that:
 - 73% improved their existing classroom recycling
 - 32% reduced waste in their classroom
- **Goal: expanding the program to reach new schools every year while continuing to provide education for on-going schools**
 - 33 of the 63 participating schools were new to the program in 2014.
 - 30% of schools receiving technical assistance were new in 2014.
 - 95% of schools receiving technical assistance in 2013 requested on-going assistance to expand upon their recycling programs in 2014.

Consistent evaluation results provide strong support for this program's ability to deliver effective messaging regarding waste reduction and recycling. The program continues to be highly regarded and requested by schools, confirming that it serves an important role within the school community.