2017 SWANA Excellence Award Entry
Educational Program
Waste Management
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Washington - Unincorporated Snohomish County
Population: 130,000 households
Cost per household: $1.61
Budget: $210,000 per year
Executive Summary

Waste Management offers innovative waste reduction and recycling (WRR) outreach programs to elementary and middle schools in Snohomish County. The goal of these programs is to educate students, staff, and their families about waste reduction and recycling and to increase recycling at school and at home. These programs include a school-wide theatrical assembly show, individual classroom workshops, customized technical assistance, action project assistance, and family outreach booths. By providing a full range of educational and technical assistance offerings, WM is able to provide relevant support and education to schools and teachers to help them elevate this important topic area. This program is a unique partnership between Waste Management, Snohomish County and Triangle Associates.

Now in its fifth year, WM continues to educate students, engage families and advance recycling at local schools. Every year, the program has expanded its reach to new schools while continuing to deliver programs to schools who have participated in the past. In 2016 alone, we reached 63 schools in total, providing 49 assemblies, 220 classroom workshops, in-depth technical assistance to 25 schools, action project assistance at 14 schools, and outreach booths at five family night events. The program had a total of 38,276 contacts.

We are applying for the Education Program Excellence Award. Our education offering in schools inform and energize students, teachers and families while providing tools and support for changing recycling behaviors.

Research, Planning & Program Design

The Need

Despite 30+ years of curbside recycling in the Puget Sound region of Washington State, annual improvements in the recycling rate had been slowing. Working with youth engages the next generation of recyclers and gives them the skills needed to help their families recycle. Prior to this program, little recycling education was present in schools. The education that was provided was dispersed, inconsistent and lacked the funding and support to be widely available for schools.

Development

In 2012, Waste Management started the assembly and classroom workshops as a pilot, to be able to test various program elements and make changes based on student and teacher feedback. Throughout the pilot phase, Waste Management made modifications to the scripts and classroom workshop materials.

For classroom workshops, schools expressed that they would like to have more workshops offered to multiple classrooms. To address this for the remainder of the 2012-13 school year, and into the fall of 2013, Waste Management doubled the number of programs available to each school. All workshops were developed to align with current Washington state standards.
and Next Generation Science standards.

For the technical assistance portion of the program, Waste Management made personal contacts with each of the participating schools. We learned that hands-on personal visits were extremely valuable. Many schools expressed that they would not be making the waste reduction and recycling improvements without the outside support that the program provides.

Each year we’ve continued to grow our program and adapt content and service offerings based on student and teacher feedback.

Planning and Goal Setting

This suite of school outreach targets students, teachers, families and custodial staff. By providing education in the schools, we are able to connect directly with students, teachers and custodial staff. By offering a combination of workshops and technical assistance, we are able to meaningfully engage with different groups within each school.

The goals of this project include:
- increase student knowledge about WRR
- increase recycling rates and waste reduction in schools
- students sharing what they learn with their families and others
- moving from learning to action by encouraging behavior change

Our progress towards each of these goals is measured through surveys, feedback and tracking recycling rates. Each year we evaluate our programs and progress towards these goals.

The total budget for this program is $210,000 per year or $1.61 per household. Most of the budget is applied to staff time for providing education and assistance. This budget also includes funding for educational handouts, school recycling bins and signs, assembly and workshop props and other tools to help us carry out our outreach.

School Outreach & Technical Assistance

School Wide Assembly

The school-wide live assembly program is designed to teach an entire school at one time about the importance of the 4Rs (rethink, reduce, reuse and recycle) and motivate them to start or improve their current recycling and waste reduction practices. Students walk away understanding that recycling and waste reduction are important, and that they play a key role in preventing waste. In 2016, we provided 49 assemblies at 35 public and private schools reaching 12,883 students and 576 teachers throughout Snohomish County.
The assembly is tailored to different cognitive levels, offering both primary (grades K-2) and intermediate (grades 3-5) versions of the show. Every teacher receives an assembly discussion guide that provides key vocabulary and facts, discussion questions, online resources, and age appropriate activities to use with their classes both before and after the assembly. Consistent with previous years, teachers overwhelmingly indicated that their students left with a better understanding of WRR. They commented that the assembly prompted them to have follow-up discussions with their students and to integrate the 4Rs in their classrooms.

The following teacher comments, from all grade levels, exemplify the assembly’s value:

- Beautifully organized assembly. Kids were appropriately involved and learned a lot. Entertaining and educational. (Grade 5)
- Fantastic! Complements our science curriculum beautifully! Fantastic school-home connection. Helped support our current recycling program. (Grade 2)
- Assembly really stuck with the kids and prompted conversations about how to recycle at school/home. (Grade K)
- The 1st graders were so excited following the program. They couldn’t wait to tell their parents about ways to reduce waste at home. (Grade 1)
- This is such a wonderful program. The staff are great with students of all ages. Every student K-4 were engaged and involved. This is hard to come by at a school assembly.
- We can’t wait until next year! (Grade 2)
- While my students, both due to age and disability, have limited understanding they came away singing the “reuse, recycle” chant… and all the movement and action in the production was amazing! (Special Education)

Classroom Workshop Program

Classroom workshops build on the 4Rs key messages taught in the school-wide assembly, and provide students and teachers with a more in-depth study of waste reduction and recycling. Through hands-on activities, curriculum connections and family take-home assignments, the classroom workshops are designed to address needs of students, teachers and families. In 2016, Waste Management presented 220 classroom workshops for 5,384 students and 189 teachers at 40 schools. The following four workshops were offered:
• **Sort-It-Out** (primary grades 2-3 and intermediate grades 4-5 versions)
  Teaches students the concepts of waste reduction and recycling at home and in school. Students learn about natural resources, sort recyclables, play a fast-paced quiz game, and learn how to reduce contamination and improve recycling.

• **Habitat Connections** (grades 2-3)
  Introduces students to the basic components of habitat through a variety of hands-on activities. Students then make the connection between their waste reduction and recycling actions, and protecting the habitat of native Northwest animals. Students also sort recyclables and discuss how to practice the 4Rs.

• **Landfill Laboratory** (grades 4-5)
  Teaches students what happens to the things we throw away. Through interactive activities, demonstrations, and sorting, students learn where their garbage goes, what a landfill is, the simple science of decomposition, and the importance of practicing the 4Rs.

• **Product Lifecycles** (grades 6-8)
  Through interactive group activities, students learn how natural resources are extracted and processed to make everyday products. Groups brainstorm 4R solutions for their products and learn how to properly sort their everyday waste.

Each year, the team revises and updates classroom workshop scripts, marketing materials, school contact lists, and workshop materials. In addition to annual revisions, we developed, piloted, and implemented a new classroom workshop for middle school students in 2016.

| **Waste Management Elementary Classroom Workshop**
| **Teacher Satisfaction**
| (n=137) |
| --- | --- | --- | --- | --- | --- |
| **Statement** | **Strongly Agree** | **Agree** | **Neutral** | **Disagree** | **Strongly Disagree** |
| Grade level appropriate | 93% | 7% | 0% | 0% | 0% |
| Interesting, engaging for the students | 90% | 10% | 0% | 0% | 0% |
| Enhanced student understanding | 89% | 11% | 0% | 0% | 0% |
| Prompted students to teach others | 74% | 25% | 1% | 0% | 0% |
| Effective teaching strategies | 90% | 10% | 0% | 0% | 0% |
| Would recommend to other teachers | 92% | 8% | 0% | 0% | 0% |
Teacher Feedback

- Great information about the impact of throwing items in the trash.
- Excellent pictures and games, very engaging! I loved it! I learned some new things right along with my students. (Grade 2)
- Prompted immediate reaction to items in our classroom (meaningful!). (Grade 5)
- By far, this is the best in-class presentation I have ever seen. Bobby had great pacing, excellent management strategies and super activities that were meaningful and engaging. I’m SO GLAD you reached out to us. WOW! LOVED THIS! (Grade 2)
- The variety of activities and hands-on nature of the activities were meaningful to students’ lives. (Grade 4)
- Challenges student to think about the long-term consequences of their actions and to think about making better choices. (Grade 4/5)
- This workshop took topics we’ve been studying (water cycle, rain forest, etc.) and helped further link them together. (Grade 3)

Technical Assistance

The technical assistance program supports increased recycling and waste reduction in schools, with measurable results. Waste Management’s technical assistance team works individually with schools to help them assess their current WRtR practices, create a plan for overall waste reduction, and establish a comprehensive, self-sustaining recycling program. This program provides schools with materials, in-person assistance, and educational support to improve waste reduction and recycling practices. The following resources are offered through this comprehensive program:

Educational Resources:

- In-person site visits to assess a school’s systems, collect data, recommend next steps, and track progress.
- Ongoing e-mail and phone assistance to answer recycling questions, troubleshoot specific problems, and link schools with additional resources.
- Staff training visits to help custodians and teachers recycle properly.
- Meetings with District Resource Conservation Managers to promote Waste Management’s programs and address district level goals.

Material Resources:

- Bins, dollies, and signs to assist with recycling or food waste collection.
- Green Team aprons for student lunchroom monitors.
- Resource materials such as Steps to Starting a Recycling Program at Your School.
Recognition Resources:
- Framed “Certificate of Achievement” for active student green teams.
- Student awards and recognition materials such as recycled bracelets, pencils, and water bottles.
- “Recycling Rock Star” recognition for outstanding staff.
- Assistance with Washington Green Schools applications and participation.

In 2016, Waste Management provided customized technical assistance to 25 schools in Snohomish County. Eight (31%) of these participating schools were new to this program component, and 17 schools were continuing assistance from previous years.

Student Action Project

The goal of student action project assistance is to encourage student “Green Teams” to take a leadership role in waste reduction and recycling at their school. Green Team assistance may include e-mail and phone correspondence to identify projects and actions, school visits to provide training and goal-setting, and end-of-year student recognition materials such as certificates and water bottles.

In 2016, the outreach team worked with 438 students at 14 schools to provide resources. Projects included making posters and announcements, monitoring the lunchroom waste station for contamination, installing a water bottle filling station, and developing campaigns to increase recycling in the school. In addition to tailored in-person assistance, teams received resources such as aprons, water bottles, signs, and bins.

Teachers from six schools provided feedback on their experience with the action project assistance. They unanimously expressed that they found the assistance to be very helpful and indicated that it can make the difference in whether or not projects are completed.

- The Green Team loved the mini assembly and used what they learned to each the other students. Help with signage and support left us more time to implement our program and encourage the kids.
- All of the representatives that I have worked with have been very helpful. Our correspondences via email have been promptly responded to. The student training was informative, engaging and fun for the students.
- (The WM Green Team Presenter) was energetic, helpful and let the students really work through the process.
- (The most positive aspect was) connecting recycling to a project where we built our own classroom worm compost bin. We also met with our principal and will be in the process of creating a school-wide recycling program.
- I appreciate all of the hard work that went into an informative presentation!
- The kid’s love to wear the aprons and the signage is a great help to our color-coded cans.
Family Outreach

The goal of the family outreach program component is to help families learn the importance of waste reduction and recycling at home. A staff member facilitates an outreach booth at school events in collaboration with student Green Team helpers. Activities include a recycling Twister game, trivia questions, recycled products information and a recycling sort activity. In 2016, the outreach team offered individually tailored recycling education booths at five school-sponsored family events (e.g. Curriculum Nights, Family Learning Nights, STEM nights, etc.).

Direct contact and recycling resources were shared with 524 family members at these events. Other resources provided during these events include handouts, displays, home surveys, recycling guidelines, activity booklets, and giveaways.

Results

Waste Management analyzed teachers’ opinions of assembly and workshop effectiveness, and measurements of student learning for the elementary classroom workshops. The instruments were designed by an independent evaluator and utilized to evaluate the effectiveness of the 2016 program components. These include the following:

- Assembly teacher feedback survey to measure effectiveness and teacher satisfaction;
- Workshop teacher evaluation form to measure workshop effectiveness and satisfaction;
- Workshop student exit ticket to measure elementary workshop effectiveness;
- Technical assistance feedback form to assess effectiveness and gain anecdotal feedback; and
- Action project online survey form to capture qualitative comments and assess effectiveness.

Evaluation analysis of teacher surveys and student testing, along with anecdotal feedback from school staff, indicates that the Schools WRR Program was successful in achieving its goals. Teachers expressed overwhelmingly strong support for both the assembly and classroom workshops, endorsing their effectiveness in educating students on how to reduce waste and recycle more. Student test results showed significant learning and indicated that they intended to recycle more as a result of what they learned in their classroom workshop. Custodians and Green Team advisors universally expressed strong approval and appreciation for the technical assistance provided, and success was measurable as evidenced by improved recycling rates at virtually every school that received technical assistance support.

These consistently high results provide strong support for this program’s ability to deliver effective messaging. Each year, the program exceeded its scheduling goals and continued to be in high demand from schools, confirming that it serves an important role within the school community. The following examples from evaluation results from 2016 confirm that the program is achieving key goals.
• Program Goal: increasing student knowledge about WRR
  o 95% of student responses from classroom workshop exit surveys reported that they learned something new from the workshops.
  o 99% of teachers surveyed from the assembly agreed that the performance effectively enhanced student understanding of recycling and waste reduction and how to sort properly.
• Program Goal: increasing recycling rates and waste reduction in schools
  o Schools receiving technical assistance showed an increase in recycling rates by an average of 53%. All but one participating school increased its recycling rate, and no school showed a decrease in recycling.
  o 82% of teachers who saw the assembly reported that they made improvements to their classroom recycling afterward.
• Program Goal: students sharing what they learn with their families and others
  o 99% of teachers agreed that classroom workshops prompted students to teach others what they had learned.
  o 524 family members voluntarily participated in the Waste Management booth activities and took home resources on recycling and waste reduction.
  o Green Team teachers surveyed unanimously agreed that the assistance motivated their students to teach the school community about recycling sorting.
• Program Goal: moving from learning to action by encouraging behavior change
  o 95% of student responses from classroom workshop surveys reported that they plan to recycle more as a result of what they had learned in the classroom workshop.

Future Opportunities

Moving forward, Waste Management will continue to offer this suite of education and technical assistance to schools in Snohomish County. Based on student, teacher and administrative feedback, we are looking to further advance our programs by:

• Create an all new assembly show to pilot and deliver to schools in fall 2017.
• Create short videos to promote correct recycling practices and market to all eligible schools. These videos will help to provide ongoing support after workshops.
• Continue efforts to reach out to the 35 remaining schools that have not participated in the program. In 2016 we reached 12 new schools, in addition to working with previously participating schools.
• Update supporting materials including the program brochure and promotional flyer to incorporate messages about curriculum alignments.
• Annually review classroom workshop student survey assessment, classroom workshop scripts, and teacher evaluation instruments to incorporate feedback.
• Translate family take-home materials from English into the five primary languages spoken in Snohomish County.

Waste Management’s educational model could be replicated in other communities for a similar target audience. If the program was implemented outside of Washington State, classroom workshops would need to be modified to meet state teaching standards. Our ability to meet state teaching standards is critical in getting support from teachers. Classroom time is limited and ensuring that we are helping teachers meet their goals and metrics is crucial for our success.
SCHOOL RECYCLING RESOURCES
Samples of educational materials available to schools. WM offers customized materials and supporting documents for each of our school offerings.

Garbage/Recycling/Food Waste Signs

Sort it Out Workshop - Pre and Post Workshop Home Activities
Steps to Setting Up School Recycling Guide

1. Step One: Create a Green Team
   - The first step is to create a Green Team in your school. Build a team of students who are interested in recycling. The team should include teachers, parents, and students from different grades.

2. Step Two: Assess Your Existing System
   - Assess your existing recycling program. Look at the current system in place and determine if it is effective. Consider the types of materials being recycled and the amount of recycling going on in the school.

3. Step Three: Implement Your Plan
   - Once the plan is in place, set up recycling bins and signs. Make sure that students and staff know where to put their recycling.

4. Step Four: Measure and Share Successes
   - Measure the success of your recycling program. Compare the amount of recycling before and after the program and share the results with the school community.

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Implement Lunchroom Monitors

- Encourage students to sort their lunch waste into recycling bins.
- Conduct a survey to assess student attitudes towards recycling.
- Offer incentives for students who recycle frequently.

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Helpful Online Resources

- Waste Management (Home Office) [Website]
- Washington State Department of Ecology (resources for schools and students) [Website]
Award Certificate - School Recycling Rock Stars

Certificate of Excellence

Waste Management is pleased to present this certificate of appreciation in recognition of outstanding recycling and waste reduction efforts at school.

is a Recycling Rock Star!

Throughout the 2015-16 school year, you have gone above and beyond to ensure that waste reduction and recycling is a success at your school. Your students, staff, community, and the environment all THANK YOU for your hard work and dedication.

CONGRATULATIONS on making a positive difference in your community!

Waste Management’s School Recycling Assistance Representative __________________________ Date ____________

THINK GREEN!

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