

August 15, 2013

Oregon State Legislature
900 Court St. NE
Salem, Oregon 97301

Dear Legislators:

The consultants of Essential Ewaste Education submit, for your review, a detailed proposal pertaining to the request of the Oregon State Legislators for “a public awareness program addressing the problem of EWaste” (Association for Educational Communications and Technology, 2012, p. 186). The Essential EWaste Education (EEE) proposal has been designed for implementation in the state of Oregon with the pilot program for grades K-12 to be conducted in the city of Portland.

The goal of the EEE pilot program is to educate members of the Portland community about the harmful effects of and to promote the proper disposal of EWaste.

This proposal will cover the curriculum development of EWaste recycling and the pilot program implementation for grades K-12 in the city of Portland, Oregon. The proposed budget of \$111,070 also includes the funding for the successful execution of the Essential EWaste Education project.

Please contact us with any questions you may have concerning the proposed project. You can reach us by email at essential.ewaste.education@XXXX.com.

Sincerely,

EEE Consultants
Essential EWaste Education
essential.ewaste.education@XXXX.com
www.ewaste-education.org

Enclosure: Essential EWaste Education Program Funding Proposal
EEE Pilot Program materials are accessible at www.ewaste-education.org

Introduction

Electronic waste (EWaste) is a growing environmental concern for the United States and other parts of the world. Awareness and education on EWaste recycling are vital factors towards combating EWaste issues. This proposal addresses EWaste by providing Essential EWaste Education (EEE) for the communities and students in the state of Oregon. The initial pilot program will be conducted in the city of Portland and the results of the pilot program will be used to revise and refine the educational materials before full implementation throughout the state of Oregon. Included in this proposal are (a) a needs assessment of the current recycling program including descriptions of the community, the educational system, and the learners, (b) questionnaires for determining the needs of the community (see Appendices), (c) the methodologies used for creating the EEE program, and (d) the projected budget and implementation time line for the program (see Appendices).

Problem of EWaste

Close your eyes and picture the images of over-flowing landfills. Do you see mounds of trash bags, used diapers, tons of discarded restaurant food with seagulls swarming overhead? In addition to those items, landfills are also over-flowing with discarded, out-of-date electronic waste (EWaste). Discarded electronic products such as appliances, televisions, cell phones, and computers are considered EWaste (Eiselen, 2012; Zhang, Schoor, & Zeng, 2012) and a worldwide 40 million tons are estimated to be created every year (Huisman, et. al, 2008). Consumers can reuse, recycle, or dispose of electronic products permanently. The Office of Solid Waste at the U.S. Environmental Protection Agency (2008) reports estimates of 18.4% of electronics produced were recycled in 2007, with the majority of the rest going into landfills.

EWaste is the fastest growing type of debris generated in developed countries like the

United States due to the large number of people who own electronic devices and the rate at which those devices become obsolete (Eiselen, 2012; Zhang et al., 2012). Loss of natural resources, the toxic materials that cause harm to the environment, and the amount of EWaste that is generated each year are the primary concerns related to EWaste (Zhang et al., 2012; Zhang & Wakkary, 2011). Valuable resources like tin, indium, palladium, cobalt, copper, aluminum, and gold can be mined from discarded EWaste, and then can be recycled or reused (Zhang et al., 2012; Zhang & Wakkary, 2011). In addition, Collins and Ruediger (2011) report recycling one million cell phones can recover about 50 pounds of gold, 550 pounds of silver, 20 pounds of palladium, and more than 20,000 pounds of copper. When EWaste is improperly dismantled, pollutants like lead and mercury are released from the electronic waste; which can harm the health and environment of the people handling those materials (Eiselen, 2012; Kim & Paulos, 2011; Zhang & Wakkary, 2011).

Developing countries like India and China, the main destinations of EWaste, have reported increases in adverse environmental and health conditions due to improper EWaste recycling practices (Eiselen, 2012). Developed countries like the United States and Japan export EWaste to developing countries because it is a cheaper alternative than providing recycling and proper disposal domestically (Eiselen, 2012). Kim and Paulos (2011) reported most EWaste is not recycled but instead is kept in storage at companies, schools, or homes where they were once used. Therefore, Triple E consultants have designed a public education program (EEE) to educate the community members of Portland about the harmful effects and the proper disposal of EWaste in order to increase recycling and proper disposal of EWaste among community members.

Statement of Needs

Technology companies looking to increase profits continue to push new technologies into consumer markets with disregard to what consumers do with outdated or unused devices. With this increased demand for newer, better electronics, the EWaste that is generated continues to escalate. Oregon State Legislators, in their request for proposals, declared a need for “a public awareness program addressing the problem of EWaste” (Association for Educational Communications and Technology, 2012, p. 186). Hence, there is a need to raise awareness of the destructive effects EWaste has on the environment and the need to educate community members on how to recycle EWaste responsibly.

Needs Assessment

The purpose of this needs assessment is to determine the gaps in the current EWaste recycling education program for the Portland, Oregon community in order to improve the program and correct deficiencies. The focus for this needs assessment is the EEE program for kindergarten–twelfth grades.

Learners. Learners need awareness of EWaste issues and knowledge of how they may avoid compounding the problem of EWaste.

Teachers. Teachers need curriculum and lesson planning guidance to instruct students about EWaste recycling. The curriculum should be as user friendly to increase the likelihood that teachers will embrace the program.

Administrators. The needs of the administrators cover a high quality curriculum for their students and teachers that relay the pertinent information for the learners to gain awareness of EWaste issues and solutions.

Parents. Parents of Portland Public School (PPS) students need awareness of EEE

program their child is involved in and guidance on assisting their child with requirements for successfully completing the program.

Society/Community. The societal needs are EWaste programs that will educate students in the PPS to become responsible electronic consumers and EWaste recyclers in their community.

Community Description

This proposal is created for the pilot city of Portland, Oregon, located in the northeastern United States. As of 2010, there were 133.43 square miles of land area in Portland with 4,375.2 people per square mile (Geography QuickFacts, 2013). The total estimated population of the city in 2012 was 603,106. The ethnic breakdown for Portland is 76.1% white, 9.4% Hispanic, 7.1% Asian, and 6.3% black. The median household income was \$50,177 with 16.8% of the people living below poverty level (People QuickFacts, 2013). In addition, there are 265,439 housing units, which can be houses, apartments, mobile homes and other types of separate living quarters (Housing Units, 2010).

The Economic Census of 2007 provided statistics of business establishments in Portland. The types of employers and number of establishments included (a) 1035 manufacturing, (b) 1176 wholesale trade, (c) 2562 retail trade, (d) 3153 professional, scientific, and technical services, (e) 2244 health care and social assistance, and (f) 2205 accommodation and food services (Economy-wide key statistics, 2007).

PPS, founded 1851, is the largest school system in Oregon. There are over 47,000 students served in pre-kindergarten through 12th grade in this urban setting. Students in PPS typically score above the national average on national achievement standards. The general budget for PPS for the 2011-12 school year was \$464,000 (Portland Public Schools: Facts and

figures, 2013).

Educational System

The elected regional government for the Portland area, referred to as Metro, coordinates with the communities, businesses, and people to maintain and improve upon the region (Welcome to Metro, 2013). The Garbage and Recycling Division (GRD) works to educate communities about garbage and hazardous waste disposal and recycling. GRD locates recyclers for various materials, maintains garbage and recycling transfer stations, provides instruction for hazardous waste disposal, and promotes awareness of recycling at home, work, and school (Garbage and Recycling, 2013). In addition, GRD develops and maintains numerous waste prevention and recycling resources for schools. Two employees are responsible for assisting schools with available resources for elementary and secondary schools. Resources available at the elementary level include puppet shows for Kindergarten through third grade, classroom presentations for first through fifth grade, assembly programs for third through fifth grade, several curriculum resources at differing grade levels available for checkout, and a field trip guide to recycling facilities (Waste prevention and recycling resources for schools, 2013).

Learner Analysis

PPS has a total of 78 schools: twenty-eight elementary schools, ten middle schools, and ten high schools. Student enrollment is 47,529 and rising. The demographics of PPS students are 55.6% white, 16.1% Hispanic, 11.4% African American, and 8.1% Asian. Forty-six percent of students are eligible for free or reduced-priced meals, 8% are English language learners, and 14% received special education services (Portland public schools: Facts and Figure, 2013).

A strong academic focus is present in PPS. Students are expected to enter first grade ready to read, enter fourth grade reading to learn, enter ninth grade ready for high school, enter

tenth grade on track for graduation, and graduate on time in twelfth grade ready for college or employment. Milestones for the 2011-12 school year were: 77% reading to learn and 70% on track to graduate. The graduation rate in 2011 was 62% (Portland public schools: Facts and Figure, 2013).

Overall, students in PPS are high academic achievers and environmentally conscientious. They are prepared to learn through a differentiation of methods and styles. Students appreciate engaging lessons, presentations, and experiences. A rigorous curriculum is needed with high expectations of the students, faculty, and staff.

Theoretical Framework and Training Strategy

In order to effectively educate the Portland, Oregon community members about the harmful effects and the proper disposal of EWaste, a theoretical framework will be used to guide the development of the program. Rothschild (1999) and Zhang and Wakkary (2011) discussed the use of a Motivation-Opportunities-Abilities (MOA) Model when managing public health or social issue behaviors and designing programs for recycling.

The MOA model focuses on the motivation that influences consumers to act on EWaste disposal or recycling, the opportunity the consumers have for easily disposing of or recycling EWaste, and ability to dispose of or recycle EWaste (Zhang &Wakkary, 2011). Four reasons consumers stockpile old electronics instead of recycling or properly disposing of them include: (a) not knowing what to do with the electronic device, (b) locations or facility operating hours are inconvenient for them, (c) they have an emotional attachment to the device, and (d) a belief that the devices could be reused for something else (Kim &Paulos, 2011; Zhang &Wakkary, 2011). Two strategies Triple E Production consultants will use for informing the Portland community members about EWaste disposal and recycling are E-recycling rallies and public

school EWaste education programs.

System Design

The proposed solution to meet the needs of the Portland community is an EEE program that addresses the issues of EWaste and explores solutions towards eliminating EWaste issues. EEE bases the solution on the Analyze, Design, Develop, Implement, and Evaluate (ADDIE) approach (Branch, 2009).

First, EEE will analyze the probable causes of the gap of EWaste attitudes, knowledge, and performance of teachers and students in the Portland School System. This analysis includes teacher questionnaires and student surveys. In addition, EEE considers the demographics of the area in order to confirm the intended audience. The team will decide on the instructional goals and resources that will be necessary to create a successful program (Branch, 2009).

During the design phase, EEE will decide the anticipated responses and testing methods to use. The learning objectives and pre- and post-tests will be created. Development of the curriculum, teacher training modules, and pilot testing will occur after the design phase. Finally, the program will be implemented and followed by an evaluation phase. Post-tests will be administered to the students and teachers will complete a follow-up evaluation with suggestions for improvement of the instructional materials. As a result of the proposed program, teachers and students will gain knowledge and attitudes appropriate for responsible electronic recycling. It can be expected that Completion of the EWaste program will have positive results on EWaste recycling at the school level and on the PPS community.

Methodologies

Examples of methods of data collection include questionnaires, focus groups, interviews, and observations. For this needs assessment, a questionnaire is proposed. Using a questionnaire

does not require extensive staff involvement for administration. Also, it can include multiple types of questions and it can be administered electronically, reducing the need for paper.

Instruments. Two instruments, an EWaste questionnaire for teachers and one for students (see Appendices) will be used during the needs assessment. This questionnaire provides our consultants with information on teachers' and students' backgrounds and demographics. The questionnaire also includes a Likert scale to provide data on the teachers' and students' attitudes and current practices towards electronic recycling. The advantages of using a questionnaire are cost effectiveness, non-biased, and quick responses. The disadvantages are low response rates and unanswered or wrongly answered questions (World Bank Group, n.d.).

Procedures. Staff members of EEE will send out the questionnaires with instructions through email to the teachers of PPS. Data collection will take place at the teachers' convenience during a two-week time span. During a regularly scheduled faculty meeting, principals will also explain the process and stress the importance to teachers for completion. Teachers will complete their own questionnaire and administer the student surveys. Next, the teachers will return the forms to EEE through email. EEE staff members will maintain participants' anonymity during the collection process. Finally, EEE will gather the results using a data collection program.

Design and Development of the EEE Program

E-recycling rallies. Essential Ewaste Education will partner with Verizon Communications to promote annual EWaste recycling rallies. Advertisements promoting recycling rallies will appear in local newspapers, on PPS and City of Portland websites, and on radio and television stations. Consultants will collaborate with PPS to advertise event information on school websites and in parent newsletters during the four weeks leading up to the event. The public will be able to bring unwanted items (computers, monitors, telephones, office

equipment, and televisions) for proper disposal. Mobile phones will be collected and reused for survivors of domestic violence. Laptops will be refurbished and donated to veterans work programs. EEE staff will be available to speak with the public about EWaste issues. Children and parents will be able to participate in educational EWaste recycling games. Community members may participate in a satellite-dish repurposing contest to repurpose old satellite-dishes into new products (i.e. gazebos, bird baths, wall murals, solar ovens, and garden ornaments.) Best Buy gift cards will be given as prizes for the top two creations.

EWaste educational program for public schools. EEE recycling curriculum will be developed for elementary, middle and high school students in PPS. EEE materials will include a curriculum guide with lessons and activities, certificates of completion, and Tshirts as rewards for graduation of the program. Resources will be provided as downloadable files on the EEE website (www.ewaste-education.org). For the pilot program, one elementary school with twenty-two classes will be selected to participate. Culminating activities for the EWaste Education program will include a graduation ceremony, essay contest, and a field trip to a local EWaste recycling facility.

Evaluation of the Program

Students will complete an online survey as a pre-assessment of their knowledge and attitudes towards EWaste. After participating in the EEE program, students will complete a second online survey to evaluate their experiences in the program, their current knowledge, and any changes in attitude concerning EWaste. As a culminating activity, students will participate in an essay contest, which will require them to describe how their knowledge about EWaste disposal and recycling will improve the future of Portland. Winners of the contest will receive gift cards from Wal-Mart and winning essays will be posted on the Oregon ECycles home page

(www.deq.state.or.us/lq/ecycle/index.htm).

Funding, Time, and Staffing Requirements

Upon acceptance of the Essential Ewaste Education proposal by the Oregon State Legislature, planning for the Ewaste recycling rallies and the Essential Ewaste Education program will commence. The timeline for designing the Ewaste recycling rallies and the EEE program is projected for 4 months. Once the design process is complete, Ewaste recycling rallies and the Essential Ewaste Education program will be scheduled for implementation over a six-month period in the city of Portland. The staffing requirements for the Essential Ewaste Education proposal include one project manager, an instructional designer with a background in K-12 education, and one Ewaste subject matter expert. Essential Ewaste Education estimates funding to total \$111,070. This budget will cover compensation for staff, development of curriculum and materials, cost of field trips, and prizes for the Ewaste recycling rallies and student essay contests.

Table 1. Timeline for EEE program implementation

Benchmark	Timeframe
Needs Analysis	January-March 2014
EEE Curriculum Development	April-July 2014
EEE Curriculum Pilot Run	August-December 2014
Advertise- Pilot ECycling Rally	December 2014
Pilot ECycling Rally	January 2015
Evaluation of EEE Program	February-March 2015
Revise EEE Program & Curriculum	April-July 2015
Full Implementation EEE Program	August 2015

Summary

The solution Essential Ewaste Education has presented in this proposal will address the problem posed by the Oregon State Legislators by providing education for the members of the Portland community about harmful effects of electronic waste, and promoting the proper disposal of Ewaste through Ewaste recycling rallies and an Essential Ewaste Education

program. This program will would lead to a cleaner, healthier, and more viable community for Portland.

Through extensive research of the community, education system, and learners, a system analysis provides the needed information to design the proposed project. Focus groups and a questionnaire for teachers will provide the methodology for data collection. A breakdown of the expenses for the required resources is in the budget (Appendix A) and the time necessary for implementing the project is displayed in Table 1. Essential EWaste Education Consultants offer a solution for the Oregon legislators to improve the EWaste education program for the Portland Public School system with the proposed project.

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Appendix A

Budget

WBS #	Work breakdown structure (WBS) elements	Knowledge/Skills	Name of Person	Facilities	Equipment	Materials	Special Resources	Resource Cost totals	Notes
1	Project Management								
1.1	Conduct needs analysis	Project management	Project Manager	Oregon Metro Office	computer	survey, interview		\$45,000	Project manager will consult for one and a half years to oversee project
1.2	Assign tasks	Project management	Project Manager	Oregon Metro Office	computer	WBS, software			
1.3	Monitor task completion	Project management	Project Manager	Oregon Metro Office	computer	WBS, gantt, software			
1.4	Generate progress reports	Project management	Project Manager	Oregon Metro Office	computer	WBS, gantt, software			
2	Project Approval								
2.1	Garbage and Recycling Division	Curriculum & instruction							
2.2	School district	Curriculum & instruction	Director of Curriculum						
2.3	State department of education	Curriculum & instruction	Education Specialist - Teaching and						

			learning						
3	Human Resources (HR)								
3.1	Advertise for recycling curriculum specialist	Curriculum & instruction	Director of HR	Metro Regional Center			Employment websites		Positions to be advertised through district school & government employment websites
3.2	Advertise for instructional designer	Curriculum & instruction	Director of HR	Metro Regional Center					
3.3	Interview for both advertised positions	Curriculum & instruction	Interview panel	Metro Regional Center					
4	Curriculum Development								
4.1	Analyze curriculum needs	Curriculum & instruction	Recycling curriculum specialist	Telecom mute	computer, internet	MS Office	Contract job	3,200.00	Recycling curriculum specialist will have a two month contract/80 hours total/\$40/hr
4.2	Determine curriculum units	Curriculum & instruction	Recycling curriculum specialist	Telecom mute	computer, internet	MS Office			
4.3	Determine curriculum modules	Curriculum & instruction	Recycling curriculum specialist	Telecom mute	computer, internet	MS Office			
4.4	Translation services (five languages)							\$500	10 hours
4.5	Web-site creation		Web designer					\$3000	Contract job
4.6	Printing costs							\$15,000	50,000 color copies each of newsletter and rally flier

6 Teacher Training									
WBS #	Work breakdown structure (WBS) elements	Knowledge/Skills	Name of Person	Facilities	Equipment	Materials	Special Resources	Resource Cost totals	Notes
6.1	Develop training materials for teachers	Instructional Design	Instructional Designer	Oregon Metro Office	computer, internet	authoring software			
6.2	Load training into learning management system	Instructional Design	Instructional Designer	Oregon Metro Office	computer, internet, LMS				
7 Implementation									
7.1	Teachers utilize web-based instruction with students	Curriculum & instruction	Classroom teachers	Schools	computer, internet				no additional cost
7.2	Support for teachers during implementation	LMS operations	Technology help desk	Telecommute	computer, internet				no additional cost
7.3	Public service announcement (29 second commercial) and production of commercial	Public Relations	Marketing Manager	Television Station	Computer, camera	Software		Airing: \$10,000/month Commercial: \$2000	5 times daily (once during morning and evening local news; the rest randomly & over different stations)
7.4	Television advertisement for EWaste rally (bookend 15 second commercial) and production of commercial	Public Relations	Marketing Manager	Television Station	Computer, camera	Software		Airing: \$2500/month Commercial: \$1000	4 weeks prior to rally (once during morning and evening local news; the rest randomly & over different stations)
7.5	Newspaper advertisement for EWaste rally. 1/4	Public Relations	Marketing Manager	Newspaper				\$3000	1 week prior to rally (Portland Tribune)

	page ad in Sunday paper.								
7.6	Radio advertisement for EWaste rally and Production of commercial	Public Relations	Marketing Manager	Radio Station				Airing: \$1500/month Commercial: \$500	1 month prior to rally
7.7	Geotargeted pay-per-click and social advertisements	Public Relations	Marketing Manager	Business office				\$5000	
7.8	Refurbishing of laptops							Partnership with tech high schools (students labor) Budget for parts: \$2000 annually	Ongoing
7.9	Gift card prizes for annual satellite competition							\$100	Annual
7.10	Miscellaneous funds for recycling rallies							\$1000	Annual
7.11	Gift card prizes for essay competition							\$25/level \$325 total	annual
7.12	T-Shirts for students participating							\$5/shirt: 13 classes x 23	annual

								students: \$1495	
7 . 1 3	Field trip funds							\$150/field trip: 13 classes: \$1,950	annual
7 . 1 4	Vinyl wrap semi-truck trailer skin							\$12,000	One time cost
8	Evaluation								
8.1	Formative evaluation	Assessment & evaluation	Project Manager	Telecom mute	computer, internet	Google Doc			no additional cost
8.2	Summative evaluation	Assessment & evaluation	Project Manager	Telecom mute	computer, internet	Google Doc			no additional cost
							total cost	\$111,070	



EWaste Student Survey Grades K-2

Teachers: Please answer the following questions by surveying students in your class.

1. Grade: _____ **Age of Students** (check all that apply) K 1 2

2. Gender of students: _____ **male** or _____ **female?** (enter total for each gender)

3. What language(s) do your students speak? (check all that apply)

- English Chinese Russian Somali
- Spanish Vietnamese other: _____

4. Do your students own electronic devices? Yes No (check one)

If yes, which items do they own? (check all that apply)

- personal computer scanner laptop tablet e-reader
- cellular phone video game player TV MP3 Player
- printer digital camera GPS DVD player
- other: _____

5. When students receive new electronics, what do they do with the old ones?(check all that apply)

- throw it in the trash put it in a closet recycle it donate it
- sell it other: _____

6. Do students or their families recycle electronics? Yes No (check one)

If yes, which electronic items have they recycled?

- personal computer scanner laptop tablet e-reader
- cellular phone video game player TV MP3 Player
- printer digital camera GPS DVD player
- other: _____



Appendix C



EWaste Student Survey Grades 3-12

Please answer the following questions.

1. How old are you? _____ What grade are you in? _____

2. Are you a male or female? (check one)

3. What language(s) do you speak? (check all that apply)

- English Chinese Russian Somali
 Spanish Vietnamese other: _____

4. Do you own electronic devices? Yes No (check one)

If yes, which items do you own? (check all that apply)

- personal computer scanner laptop tablet e-reader
 cellular phone video game player TV MP3 Player
 printer digital camera GPS DVD player
 other: _____

5. When you buy new electronics, what do you do with the old ones?(check all that apply)

- throw it in the trash put it in a closet recycle it donate it
 sell it other: _____

6. Do you or anyone in your family recycle electronics? Yes No (check one)

If yes, which electronic items have you recycled?

- personal computer scanner laptop tablet e-reader
 cellular phone video game player TV MP3 Player
 printer digital camera GPS DVD player
 other: _____

7. How many electronic items have you recycled?

0 1-2 3-4 5-6 7-8 9-10

all electronic items

8. In the past year, how many times have you recycled electronic items? _____

9. Where do you recycle? home school other: _____

10. Does your school have an electronics (EWaste) recycling program? Yes No (check one)

If yes, what are your thoughts about the current electronic (EWaste) recycling program offered by your school?

11. Do you think your school needs to do more to make you and your family aware of electronic (EWaste) recycling programs in your area? Yes No (check one)

12. If your school implemented an electronic (EWaste) recycling program, would you support it?

definitely support it not sure would not support it

Comments or Questions:



EWaste Teacher Questionnaire Grades K-12



This questionnaire is intended for teachers who will be working with the Essential EWaste Education recycling materials provided by Essential EWaste Education Consultants. Information gathered from this questionnaire will be used to guide the develop an EWaste program to suit the needs of the Portland community. Your anonymity will be respected and your participation is greatly valued.

Please check one answer choice for each question unless indicated otherwise.

Gender: Male Female

Age: 25 or under 26-40 41-56 56 or older

Primary Language:

- English Chinese Russian Somali
- Spanish Vietnamese other: _____

Highest Level of Education:

- Vocational/Technical Certification Master’s degree
- Associate’s degree Doctoral degree
- Bachelor’s degree Professional degree

Ethnicity: (check all that apply)

- Arab Indigenous or Aboriginal
- Asian/Pacific Islander Latino
- Black or African American Multiracial
- Caucasian/White Other
- Hispanic

Current Teaching Assignment: (check all that apply)

- Kindergarten Seventh grade
- First grade Eighth grade
- Second grade Ninth grade
- Third grade Tenth grade
- Fourth grade Eleventh grade
- Fifth grade Twelfth grade
- Sixth grade Other: _____

Questionnaire continues on next page

Areas of Certification: (check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Art | <input type="checkbox"/> Library Media |
| <input type="checkbox"/> Biology | <input type="checkbox"/> Math (Advanced) |
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Math (Basic) |
| <input type="checkbox"/> Early Childhood Education | <input type="checkbox"/> Middle School Language Arts |
| <input type="checkbox"/> Elementary Education | <input type="checkbox"/> Middle School Science |
| <input type="checkbox"/> ESOL | <input type="checkbox"/> Middle School Social Studies |
| <input type="checkbox"/> Family and Consumer Sciences | <input type="checkbox"/> Music |
| <input type="checkbox"/> French | <input type="checkbox"/> Physical Education |
| <input type="checkbox"/> General Business Education | <input type="checkbox"/> Physics |
| <input type="checkbox"/> Health Education | <input type="checkbox"/> Social Studies |
| <input type="checkbox"/> Integrated Science | <input type="checkbox"/> Spanish |
| <input type="checkbox"/> Language Arts | <input type="checkbox"/> Special Education |

Please indicate the response that describes your level of agreement with each statement listed below. (check one)

Not Applicable	Never	Not Often	Monthly	Weekly	Daily
N/A	1	2	3	4	5

1. How often do you use computers to access resources for instructional purposes?

- N/A 1 2 3 4 5

2. How often do you recycle at the following places?

Work N/A 1 2 3 4 5

Home N/A 1 2 3 4 5

School N/A 1 2 3 4 5

3. How often do you recycle bottles and/or cans?

- N/A 1 2 3 4 5

4. How often do you recycle paper and/or cardboard?

- N/A 1 2 3 4 5

5. How often do you recycle electronics?

- N/A 1 2 3 4 5

We appreciate your participation. Please return this completed questionnaire, via email, to Essential EWaste Education Consultants. Thank you.



EWaste Teacher Evaluation Grades K-12

This evaluation is intended for teachers who have worked with the Essential EWaste Education recycling materials provided by Essential EWaste Education Consultants. Information gathered from this evaluation will be used to improve the EWaste program to suit the needs of the Portland community. Your anonymity will be respected and your participation is greatly valued.

Please check one answer choice for each question unless indicated otherwise.

Gender: Male Female

Age: 25 or under 26-40 41-56 56 or older

Primary Language:

- English Chinese Russian Somali
- Spanish Vietnamese other: _____

Highest Level of Education:

- Vocational/Technical Certification Master’s degree
- Associate’s degree Doctoral degree
- Bachelor’s degree Professional degree

Ethnicity: (check all that apply)

- Arab Indigenous or Aboriginal
- Asian/Pacific Islander Latino
- Black or African American Multiracial
- Caucasian/White Other
- Hispanic

Current Teaching Assignment: (check all that apply)

- Kindergarten Seventh grade
- First grade Eighth grade
- Second grade Ninth grade
- Third grade Tenth grade
- Fourth grade Eleventh grade
- Fifth grade Twelfth grade
- Sixth grade Other: _____

Questionnaire continues on next page

Areas of Certification: (check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Art | <input type="checkbox"/> Library Media |
| <input type="checkbox"/> Biology | <input type="checkbox"/> Math (Advanced) |
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Math (Basic) |
| <input type="checkbox"/> Early Childhood Education | <input type="checkbox"/> Middle School Language Arts |
| <input type="checkbox"/> Elementary Education | <input type="checkbox"/> Middle School Science |
| <input type="checkbox"/> ESOL | <input type="checkbox"/> Middle School Social Studies |
| <input type="checkbox"/> Family and Consumer Sciences | <input type="checkbox"/> Music |
| <input type="checkbox"/> French | <input type="checkbox"/> Physical Education |
| <input type="checkbox"/> General Business Education | <input type="checkbox"/> Physics |
| <input type="checkbox"/> Health Education | <input type="checkbox"/> Social Studies |
| <input type="checkbox"/> Integrated Science | <input type="checkbox"/> Spanish |
| <input type="checkbox"/> Language Arts | <input type="checkbox"/> Special Education |

Please complete the following questions with as much detail as possible.

1. What was your overall impression of the EEE program?
2. Which activities did you complete?
3. What did you learn from the EEE program?
4. What would you change, add, or remove from the EEE program?
5. What would you change, add, or remove from the curriculum?
6. What would you still like to know about EWaste?

We appreciate your participation. Please return this completed questionnaire, via email, to Essential EWaste Education Consultants. Thank you.



Consultants

in partnership with
Portland Public Schools and Total Reclaim



We are responsible
E-Waste Recyclers

Recycle your E-Waste.
It is the right thing to do.



E-Waste Rally

January 18, 2015

10am-4pm

Total Reclaim
6427 NE 59th Place
Portland, OR 97218



Sponsored by

www.ewaste-education.org
www.totalreclaim.com

PLEASE SUPPORT OUR RECYCLE PROGRAM

Electronic waste, or E-Waste, the components of electronics that are discarded, is a growing concern worldwide, particularly as purchases of electronics increases and options for recycling remain limited. E-Waste is often globally traded and discarded in unhealthy and environmentally toxic ways. Toxic corrosives are often used to treat metals and improper disposal and handling have severe health and environmental consequences for workers and the vulnerable people, particularly children, who live in nearby communities.

The public schools in the Portland, OR with the help of Essential Electronics Educational programs have provided tools and support to help our communities in the Portland area.

Our first project was the E-Waste Rally held at one of the parks in Portland. We had an excellent turn out and as a result of the response we are providing additional drop off locations every month.

As a result of our rallies our schools were able to help recycle and dispose of old electronics for free.

Our Next E-Waste Recycle Events:

February 20	1-4 pm	at Cathedral Park, N Edison St. and Pittsburg Ave., Portland
March 1	1-4 pm	at Dawson Part, N Stanton St. and Williams Ave., Portland
April 20	12-4 pm	at Kelley Point Park, N Marine Dr. and Lombard St., Portland

Picture from Rallies



E-Waste Products Through Portland Schools - Was it Trashed or Recycled?

PRODUCTS	TOTAL DISPOSED (MILLION OF UNITS)	TRASHED (MILLION OF UNITS)	RECYCLED (MILLION OF UNITS)	RECYCLING RATE (BY WEIGHT)
COMPUTERS	306.8	131.1	175.7	15%
PROJECTS				
CELL PHONES	171.9	10.3	161.6	10%

- COMPUTER PRODUCTS INCLUDE CPUS, MONITORS, NETBOOKS, KEYBOARDS, MICE, AND "HARD COPY PERIPHERALS," WHICH ARE PRINTERS, COPIERS, AND FAXES.

Certificate of Completion

presented to

Name Here

awarded on

Date (Month Day, Year)

for completing

Essential EWaste Education



Signed By

Date



Gift Certificate

This certificate is redeemable at the BestBuy store for your support to the Oregon Public Schools Recycle program for recycling 100 items of Recycled Goods

To _____



Portland Public Schools _____



Gift Certificate

This certificate is redeemable at any Wal Mart Superstore for your support to the Oregon Public Schools Recycle program for recycling 100 items of Recycled Goods

To _____



Portland Public Schools _____

