



'OPALA OUTING

LEARNING LOG 8

NAME: _____ CLASS: _____

DATE: _____

1. What kind of products does Schnitzer Steel Hawaii recycle?
2. Where does Schnitzer Steel get the metal it recycles?
3. Draw a diagram that shows how HPOWER converts waste into energy. Include at least three steps that show transformation of heat energy, mechanical energy and electrical energy.
4. Name three by-products of HPOWER.
5. How does HPOWER have a positive impact on Hawai'i's environment?
6. What process does the green waste at Hawaiian Earth Products have to go through before it becomes mulch and can be used in a garden? List the steps.



‘ŌPALA OUTING

LEARNING LOG 8 (CONT.)

NAME: _____ **CLASS:** _____ **DATE:** _____



7. What are some of the items produced by Hawaiian Earth Products?

8. What are some items that should not be sent to Hawaiian Earth Products?

9. Identify four (4) or more items you observed in the Waimanalo Gulch Landfill that could have been reused or recycled

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

10. Explain and/or diagram how the landfill is constructed.

11. What are some dangers that the landfill may cause to the environment?



'ŌPALA OUTING

LEARNING LOG 9

NAME: _____ **CLASS:** _____ **DATE:** _____

In this lesson, you had a chance to visit local companies who are helping to reduce waste in our communities by recycling products. You also had an opportunity to learn about how technology has changed the way we use and dispose of products. Now it's time for you to extend a warm *mahalo* to those who provided you with a tour of their recycling facility. To assess your learning, write a one-page thank-you letter to someone at one of the following sites we toured:

Schnitzer Steel Hawaii 91-056 Hanua St Campbell Industrial Park Kapolei, Hawaii 96707	HPOWER 91-174 Hanua St. Campbell Industrial Park Kapolei, Hawaii 96707
Hawaiian Earth Products 91-400 Malakole Rd Campbell Industrial Park Kapolei, Hawaii 96707	Community Affairs Manager Waimanalo Gulch Landfill 92-460 Farrington Hwy Kapolei, HI 96707

My letter is to: _____

Your letter should include:

- Your thanks and appreciation for the opportunity to visit the site.
- What you learned to answer the unit essential question.
- What you found most interesting.
- Things you told your friends or family about the place.
- How you will change your habits to help reduce our wastes and make recycling easier.

Your letter should:

- Be hand-written on folder paper or on stationary in cursive.
- Follow the format for a formal letter. (We will review this in class.)

Your letter will be graded as follows:

Mechanics: Spelling, neatness, punctuation, and grammar _____/5

Poor quality work will be redone until it is acceptable.

Content/Design:

Include concrete examples and express true appreciation

Use an organizational structure that supports the meaning of the letter.

_____/20

Total

_____/25



'ŌPALA OUTING

LEARNING LOG 10

GROUP PROJECT PLAN



compost bin

NAME: _____ CLASS: _____

DATE: _____

In this unit, you learned about how technology has changed the way we use and dispose of products. You may also have had a chance to visit local companies who are helping to reduce waste in our communities by recycling products. Now it's time for you and your group to take action and develop a plan to reduce waste in our school community.

UNIT ESSENTIAL QUESTION:

How has technology changed the way we consume and dispose of products, and what can we do to reduce waste to *ho'ōla* (heal) our *ahupua'a*?

PROJECT

As a group, choose a service project you would like to do for our school. It could be something as simple as recycling bottles and cans, making a compost pile, or using our school's kitchen waste as fertilizer for a garden. Remember, whatever project your group decides to do, each of you will contribute. Review the Group Project description in the Unit Assessment Overview to guide your team as you work on your project.

PRESENTATION

Make a short 3-5 minute presentation of your group's project. Your project should **answer the unit essential question**. Your group may choose to present your project as a computer presentation, video, story, song or poster board.

Our idea:

Our plan:



Group Members and their responsibilities:

Name of Group Member	<i>Kuleana</i> (Responsibility)

How we will present our project:



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LEARNING LOG 11
(SELF-ASSESSMENT)

DATE: _____

NAME: _____

Place a check in the box that matches your performance as a group member. Add up your points and answer the questions below.

	<i>Maika'i loa!</i> Excellent 4 points	<i>Maika'i</i> Good 3 points	<i>Ano Maika'i</i> Okay 2 points	<i>Auē!</i> Not so good 1 point
I did my best work for the team. It was in-depth, organized, neat and creative!				
I helped others when they needed my <i>kōkua</i> .				
I finished my work on time.				
I listened to others' ideas without being critical.				
I gave positive feedback to my team members.				
I asked for and used feedback from others.				
I think we did an awesome job as a team.				

Total Score _____

Explain what your contribution was to the team.

What was difficult for you in working with your team? Why?

How could you improve and help your team to be more effective? (If you need more room, use the other side of this sheet.)

What action can YOU take to *mālama* (care for) the area where you live?



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PROJECT IDEAS

Use your finished EM compost to plant a garden. You learned about EM and performed an experiment using EM Bokashi. Now it's time to use the EM fermented waste from the *pūpū* party to plant a garden or fertilize a tree. (See directions at <http://www.emtechnologynetwork.org/> a teacher's manual to using EM for compost.)

Design a recycling or waste reduction program at your school. You have already conducted a waste audit of your school. Think of ways your group can reduce waste at its source. Target materials to collect for recycling. For example, you noticed a great deal of aluminum cans being tossed into regular waste bins in the teacher's lounge. Set up a recycling bin for teachers to dispose of their waste. Create campus posters to educate students and teachers about your efforts.

Implement a school composting project. Schools generate large amounts of green waste. Work with the grounds staff and custodians to organize a school compost pile. Inform everyone through school announcements that yard trimmings will be disposed of in the designated compost pile. The compost can later be used to fertilize plants around your school campus.

Produce a recycling play and perform it for younger students. Use your talent to write and produce a play for younger children in your school. Teach them about recycling, reducing and reusing products. Write a song or rap that will enhance your play.

Trash to Treasure. Work with your teacher to implement a school-wide yard sale or clothing drive for the homeless. Ask students and school administrators to donate new or gently used items. Collect and store items for giving to the homeless or for your sale.

Waste Not! Work with your cafeteria manager to recycle food waste. This project is challenging so make sure you fully discuss your project idea with your teacher. Experiment by recycling food waste from one lunch period. Once you have allowed the food waste to ferment with EM, use the EM waste as compost for your school garden. (Go to: <http://www.emtechnologynetwork.org/> for a teacher's manual with directions on how to recycle food waste using EM.)



recycled kitchen waste

