Service-Learning Curriculum Unit Plan

Unit/Topic: Using Trash Today Keeps the Landfill Away!	**Grade Level:** 6, 7, 8
Service Idea: Creation of products using Plastic grocery bags, pop bottles, and water bottles to show re-sue of disposable items. Examples	
1. Content Standards/Grade Level Content Expectations: (Identify learning outcomes to be addressed) **L.E.C.06.31** Identify the living and nonliving components of an ecosystem. **L.E.C.06.41** Describe how human beings are part of the ecosystem of the earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems. **L.E.C.06.42** Predict possible consequences of overpopulation of organisms, including humans **R.IT.06.01** analyze the structure, elements, features, style, and purpose of informational genre, including research repo **R.CM.06.01** connect personal knowledge, experiences, and understanding of the world to themes and perspectives in text through oral and written responses, "how-to" articles, and essays. **R.CM.06.04** apply significant knowledge from grade-level science, social studies, and mathematics texts. **6 – P4.2.3** Participate in projects to help or inform others (e.g., service learning projects). **S.IP.06.11** Generate scientific questions based on observations, investigations, and research. **S.IP.06.12** Design and conduct scientific investigations. **W.PR.06.01** set a purpose, consider audience, and replicate authors' styles and patterns when writing a narrative or informational piece. **W.PR.06.02** apply a variety of pre-writing strategies for both narrative (e.g., graphic organizers designed to develop a plot that includes major and minor characters, builds climax, and uses dialogue to enhance a theme) and informational writing (e.g., problem/ solution or sequence). **W.PR.06.03** revise drafts for clarity, coherence, and consistency in content, voice, and genre characteristics with audience and purpose in mind. **W.PR.06.04** draft focused ideas for a specific purpose using multiple paragraphs, sentence variety, and voice to meet the needs of an audience (e.g., word choice, level of formality, and use of example) when writing compositions. **W.PR.06.05** proofread and edit writing using grade-level checklists and other appropriate resources both individually and in groups. **W.PS.06.01** exhibit personal style and voice to enhance the written message in both narrative (e.g., personification, humor, element of surprise) and informational writing (e.g., emotional appeal, strong opinion, credible support).	
2. Students will understand that…. (What are the enduring understandings?) *****Man's interactions with the environment has a long-term effect. * Man needs to take the time to re-use materials.	**3. Essential Questions to Guide Learning & Inquiry:** (Turn understandings into essential questions.) *What is man's impact on the environment? * How can man play a role in reducing the use of non-renewable resources?

4a. Students will know.... (What is the content knowledge focus?) Ecology Renewable resources Non-renewable resources	**4b. Students will be able to do….** (What are the skills?) Research Skills Presentation Skills Scientific Inquiry Skills
Assessment Evidence	
5a. Performance Task: (What will students do to demonstrate their learning?) Present findings of their studies to the group Successful completion of the projects	**5b. Other Assessment Evidence:** (Describe formative/on-going/other summative assessments.) Visual assessments of on-going work.
5a. Performance Criteria: (Provide checklists, rubrics, or criteria.)	**5b. Other Assessments Criteria:** (Describe criteria for other assessments.)

Learning Plan:
(Consider the 5 Components of Service-Learning: Investigation, Planning & Preparation, Action, Reflection, Demonstration of Results & Celebration.)

A. Steps for Students:	**B. Notes for Teacher:** (What do you need to remember to do?)
• Lead Activity (Introduce desired results, ask essential question, connect with student experience, begin **investigation & pre-reflection**) • Student-centered learning steps (Detailed sequencing of lesson; specify formative assessment during practice and summative assessment in conclusion. Include **planning & preparation, action,& reflection**) • Closure (Revisit enduring understanding/essential question. Include **reflection & demonstration of results & celebration**)	

C. Materials Needed:
Paints, markers, computers, poster board, paper, pens, journals, calculators, plastic grocery bags (provided by students), pencils, printer, copy machine, “Bag man” video

D. Approximate Time for Unit:
Three weeks

E. Resources:
Internet, community leaders, community businesses

Lesson 1 of 5	“Paper versus Plastic”	
Lesson Essential Question(s): What is ecology? What are renewable and non-renewable resources?	**Lesson Knowledge:** The meaning of ecology The definition of renewable and non-renewable resources	**Lesson Skill(s)** The learner will define the concepts of ecology, renewable, and non-renewable resources. Advantages of paper and plastic bags.

1. Lesson Opener:
“Bag man” Video
Possibility of “bag man” suit

Intro discussions on where bags go.

2. Transition:
Discussion on bagman video to what happens to bags in their houses and communities.

3. Activity:
Divide groups into paper versus plastic. Groups will debate pros and cons on each after researching the subjects.

1. http://blog.greenfeet.com/index.php/paper-vs-plastic-the-shopping-bag-debate/reducing-your-footprint/121
2. http://www.enviroliteracy.org/article.php/1268.html
3.

4.Lesson Wrap-Up:
Review the concept of paper versus plastic and as a class, have the students complete the link below.

1. http://techalive.mtu.edu/meec/module14/title.htm

5. Additional Lesson Notes:

Lesson 2 of 5		
Lesson Essential Question(s): What is an ecosystem?	**Lesson Knowledge:** 1. Definition of an ecosystem 2. Biotic and abiotic components	**Lesson Skill(s)** 1.Learner can identify components of an ecosystem 2 Learner can distinguish between an abiotic and biotic component of an ecosystem.

1. Lesson Opener:
Terrarium, rocks, plants in front of class. Have students discuss what is alive and how they know. Creation of Terrarium using non-renewable resources.

2. Transition:
Class creation of lists of living versus non-living items.
Showing examples of living and non-living items.

3. Activity:
Design an ecosystem listing the living and non-living components.

Have students create terrariums on their own or as groups depending on class size and available resources.

4. Lesson Wrap-Up:
Presentation of their ecosystem and terrariums to the rest of the class.

5. Additional Lesson Notes:

Lesson 3 of 5		
Lesson Essential Question(s): How is the ecosystem affected by non-renewable resources?	**Lesson Knowledge:** Renewable resources Environmental impact Conservation	**Lesson Skill(s)** The learner will identify nonrenewable resources. The learner will compare the impact of various resources on the environment

1. Lesson Opener:
Review the Bagman Video
http://videos.howstuffworks.com/hsw/11807-ecology-ecosystems-and-biomes-video.htm

2. Transition:
Discuss where non-renewable resources come from.
Discuss impact of the creation of non-renewable resources.

3. Activity:
Research the components needed to create non-renewable resources

a. Plastic
b. Aluminum
c. Steel
d. Gasoline

4. Lesson Wrap-Up:
Class discussion on the environmental impact of non-renewable resources.

5. Additional Lesson Notes:

Lesson 4 of 5	JOURNAL WRITING	
Lesson Essential Question(s): What have you discovered about renewable versus non-renewable resources	**Lesson Knowledge:** Knowledge of ecosystems and the effects upon it.	**Lesson Skill(s)** Compare and Contrast renewable and non-renewable resources

1. Lesson Opener:
Listing of non-renewable and renewable resources.

2. Transition:
List all resources in their journals.

3. Activity:
Create a narrative essay on the comparison and contrasting ideals of renewable versus non-renewable resources.

4. Lesson Wrap-Up:
Create a final draft of their essay.

5. Additional Lesson Notes:

Lesson 5 of 5	Creation of the Service Learning Project	
Lesson Essential Question(s): What are some alternative uses for non-renewable resources	**Lesson Knowledge:** How to useful items from waste.	**Lesson Skill(s)** Creation of a final products from previously discarded material.

1. Lesson Opener:
Show examples of items made from plastic waste.

i. *Grocery bag wreaths*

ii. *Grocery bag rugs*

iii. *Grocery bag Christmas Tree*

iv. *Pop bottle Santas/Snowmen/Reindeer/Elves*

v. *Plastic bag sandals*

Show examples of items made from other waste:

i. Items from juice pouches

ii. Items from candy wrappers

iii. Items from chip bags

iv.

Ask students if they know how these items were created.

2. Transition:
Show students how items were created.

3. Activity:
Students choose project they wish to work on.
Students create a final product.

4. Lesson Wrap-Up:

5. Additional Lesson Notes:
Unit Resources Needed:
Pop Bottle Terrarium: http://www.suite101.com/article.cfm/enabling_garden/2495
Pop Bottle Snowman: http://www.make-stuff.com/recycling/bottle_snowman.html
Plastic Bag Rugs: http://www.thriftyfun.com/tf517076.tip.html
Plastic Bag Wreaths: http://familyfun.go.com/decorating-ideas/decorating/feature/famf1204wreaths/famf1204wreaths2.html
Reused Items (drink pouches, chip bags, etc.): http://www.terracycle.net/