

Title	Trash to Treasure		
Creator:	Toth, Sheila stoth@access.k12.wv.us		
Source:	TLI 2009 PBL Plans		
Project Idea:	In this interdisciplinary project, students will collaborate and discover ways to use recycled items. Students will create a new product using at least 50% recycled materials. Students will present their product and the process they used to create it through a multi-media presentation.		
Entry Event:	Resource personnel from the Solid Waste Authority or Department of Natural Resources will visit the classroom and make a presentation on the importance of taking care of the environment. They will bring examples of products made from recycled goods to show students that you can reuse items to create something new and to get students excited about inventing their own product.		
Content Standards & Objectives:	Objectives Directly Taught or Learned Through Discovery	Identified Learning Target	Evidence of Success in Achieving Identified Learning Target
	RLA.O.2.2.11 use a variety of sources to gather information to communicate with others (e.g., dictionaries, informational books, pictures, charts, indexes, videos, television programs, guest speakers, graphic organizers).	Students will research recycling through the use of various sources (informational books, guest speakers, internet, etc.) and communicate their findings to others.	Students will successfully complete their research and present it to others mastering teacher-determined criteria on the Oral Presentation Rubric and the PowerPoint Presentation Evaluation .
	RLA.O.2.3.3 access media tools to create an oral or visual presentation (e.g., desktop publishing, electronic resources, photos).	Compile pictures and journal writing logs to create power point slides.	Students will work collaboratively to record the steps and process needed to create their product to use for a PowerPoint. Daily "Go Green" Journal Log PowerPoint Presentation Planning Guide Students will present a model of their new product and power point presentation to teachers, class members, parents, Solid Waste Authority or Department of Natural Resources personnel. Evaluation will be based on the Oral Presentation Rubric and the PowerPoint Presentation Evaluation .
	SC.S.2.1 Students will <ul style="list-style-type: none"> • demonstrate an understanding of the history and nature of science as a human endeavor encompassing the contributions of diverse cultures, scientists, and careers. • demonstrate the abilities and understanding necessary to do scientific inquiry. • demonstrate the ability to think and act as 	Work in collaborative teams. Design and create the model of the new product.	Students will use books, internet sites, and recycled materials from the Solid Waste Authority to brainstorm ways to reuse materials to make a new product. Daily "Go Green" Journal Log Students will reason what materials and process is needed to create their product. Trash to Treasure Brainstorm Sheet Students will design and create a new product using at least 50% recycled materials. Students will be evaluated for their group work by the Collaboration Rubric and

	<p>Scientists by engaging in active inquiries and investigations, while incorporating hands-on activities.</p>		<p>the Team Work Rubric.</p>
	<p>SC.O.2.1.1 interpret science as the human's search for an understanding of the world by asking questions about themselves and their world.</p>	<p>Resource personnel from the Solid Waste Authority or (Department of Natural Resources) will teach students about environmental education and the 3 R's(reduce, reuse, recycle)They will show examples of items made from recycled materials.</p>	<p>Students will participate in discussion about the impact that recycling has on the environment. Students will communicate their understanding of the 3R's and how they can make a difference by completing the 3 R's Graphic Organizer. Students will record information and facts in Daily "Go Green" Journal Log.</p>
	<p>SC.O.2.3.4 recognize that common objects and events incorporate science (e.g., CD players, Velcro, or weather) to solve human problems and enhance the quality of life.</p>	<p>Engage in environmental education "on the road" by taking a field trip.</p>	<p>Students will participate in an educational field trip to a local recycling facility to learn about the recycling process.</p>
	<p>SC.O.2.3.5 listen to and be tolerant of different viewpoints while working in collaborative groups.</p>	<p>Understand roles and responsibilities.</p>	<p>Students will agree to work as a collaborative team and communicate thoughts. Group Contract Daily "Go Green" Journal Log Student teams will illustrate what environmental education means to them on a Blank Puzzle Piece. Puzzle pieces will be connected together to create a class puzzle to show that everyone needs to work together to help the environment. This puzzle will be displayed in the classroom.</p>

21st Century Skills	Learning Skills & Technology Tools	Teaching Strategies Culminating Activity	Evidence of Success
<p>Information and Communication Skills:</p>	<p>21C.O.PK-2.1.TT7 - Student, working in a teacher-led whole group project, uses presentation software to illustrate concepts and communicate ideas.</p>	<p>Review process of using PowerPoint and Microsoft Word. Instruct students on how to use a digital camera and upload pictures and text.</p>	<p>Each student will take part in preparing the group PowerPoint slides and presentation. PowerPoint Presentation Evaluation Oral Presentation Rubric</p>
<p>Thinking and Reasoning Skills:</p>	<p>21C.O.PK-2.2.LS3 - Student engages in a problem solving process using objects to solve problems and demonstrates learning by explaining how they solved the problem.</p>	<p>Demonstrate how reusing products is good for the environment.</p>	<p>All team members will be able to explain through the PowerPoint presentation why reusing materials to produce another product is good for the environment. Power Point Presentation Evaluation Oral Presentation Rubric</p>

Personal and Workplace Skills:	21C.O.PK-2.3.LS6 - Student focuses on a project goal, and with teacher guidance, frames appropriate questions related to the goal, considers possible courses of action, selects a plan of action and completes the project.	Instruct students on roles and responsibilities of working in a group.	Students will work together to create a new product. Students will meet the teacher-determined criteria on the Group Contract and on the Collaboration Rubric .
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Performance Objectives:	<p>Know: How to use a digital camera How to use Microsoft PowerPoint How to use Microsoft Word What environmental education means What recycling means Why recycling is important</p> <p>Do: Prepare a multimedia presentation using Microsoft PowerPoint and Microsoft Word Create a model of a product made from 50% recycled materials Work collaboratively in groups</p>
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Driving Question: What effect does reusing materials to produce another product have on the environment?

Assessment Plan:	<table border="1"> <tr> <td style="background-color: yellow;">Major Group Products</td> <td>The group product will be a recycled product from 50% recycled items. The final product will be a group created media presentation showing start to finish of the recycled product. Oral Presentation Rubric and PowerPoint Presentation Evaluation</td> </tr> <tr> <td style="background-color: yellow;">Major Individual Projects</td> <td>Blank Puzzle Piece Daily "Go Green" Journal Log</td> </tr> </table>	Major Group Products	The group product will be a recycled product from 50% recycled items. The final product will be a group created media presentation showing start to finish of the recycled product. Oral Presentation Rubric and PowerPoint Presentation Evaluation	Major Individual Projects	Blank Puzzle Piece Daily "Go Green" Journal Log
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Assessment and Reflection:	<table border="1"> <tr> <td rowspan="3" style="background-color: yellow;">Rubric(s) I Will Use:</td> <td>Collaboration Collaboration Rubric</td> <td>X</td> <td>Written Communication</td> <td></td> </tr> <tr> <td>Critical Thinking & Problem Solving</td> <td></td> <td>Content Knowledge</td> <td></td> </tr> <tr> <td>Oral Communication Oral Presentation Rubric</td> <td>X</td> <td>Other</td> <td></td> </tr> <tr> <td rowspan="4" style="background-color: yellow;">Other Classroom Assessments For Learning:</td> <td>Quizzes/Tests</td> <td></td> <td>Practice Presentations PowerPoint Presentation Evaluation</td> <td>X</td> </tr> <tr> <td>Self-Evaluation Student Self Evaluation Form</td> <td>X</td> <td>Notes Trash to Treasure Brainstorm Sheet</td> <td>X</td> </tr> <tr> <td>Peer Evaluation PowerPoint Presentation Evaluation</td> <td>X</td> <td>Checklists/Observations Team Work Rubric</td> <td>X</td> </tr> <tr> <td>Online Tests and Exams</td> <td></td> <td>Concept Maps 3-R's Graphic Organizer</td> <td>X</td> </tr> <tr> <td rowspan="3" style="background-color: yellow;">Reflections:</td> <td>Survey</td> <td></td> <td>Focus Group</td> <td></td> </tr> <tr> <td>Discussion Blank Puzzle Piece</td> <td>X</td> <td>Task Management Chart PowerPoint Presentation Planning Guide</td> <td>X</td> </tr> <tr> <td>Journal Writing/Learning Log Daily "Go Green" Journal Log</td> <td>X</td> <td>Other Group Contract</td> <td>X</td> </tr> </table>	Rubric(s) I Will Use:	Collaboration Collaboration Rubric	X	Written Communication		Critical Thinking & Problem Solving		Content Knowledge		Oral Communication Oral Presentation Rubric	X	Other		Other Classroom Assessments For Learning:	Quizzes/Tests		Practice Presentations PowerPoint Presentation Evaluation	X	Self-Evaluation Student Self Evaluation Form	X	Notes Trash to Treasure Brainstorm Sheet	X	Peer Evaluation PowerPoint Presentation Evaluation	X	Checklists/Observations Team Work Rubric	X	Online Tests and Exams		Concept Maps 3-R's Graphic Organizer	X	Reflections:	Survey		Focus Group		Discussion Blank Puzzle Piece	X	Task Management Chart PowerPoint Presentation Planning Guide	X	Journal Writing/Learning Log Daily "Go Green" Journal Log	X	Other Group Contract	X
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Map The Product:

Students will prepare PowerPoint slides (maximum of 6) showing the process and steps needed to create a new product made from at least 50% recycled materials.

Product: PowerPoint Presentation evaluated by [Oral Presentation Rubric](#).

Knowledge and Skills Needed	Already Have Learned	Taught Before the Project	
1. Keyboarding skills		X	
2. How to create a PowerPoint presentation		X	
3. Work in cooperative groups	X		
4. Assess with rubrics	X		
5. How to use a digital camera			
6. How to upload a photo to PowerPoint			

Resources:

School-based Individuals:

Classroom teachers
 Title I teacher
 Special Ed. Teacher
 Media Teacher

Technology:

Computers
 Microsoft Word
 Microsoft PowerPoint
 Digital cameras
 Projector
 Printer

Websites:

www.crazycrayons.com (crayon recycling program where students can send in unwanted crayons)
www.elmersgluecrew.com (Elmer's glue bottle recycling program)
<http://www.nationalgreenweek.com/educational-resources.html> (National Green Week and Green Thumb Challenge, materials, books and videos)
www.need.org (energy awareness resources and curriculum materials for educators)
<http://www.nikereuseashoe.com> (Nike reuse-a-shoe program-how shoes are used to create playground surface material)
<http://planetpals.com/earthday.html> (Earth day activities, teaching aids, computer activities, interactive games, recycle clip art, recycle word wall, and posters)
www.scholastic.com/actgreen (green tools/ printable to encourage going green)

Community:

Solid Waste Authority Personnel or Department of Natural Resources Personnel
 Parents
 Local Recycling Facility

Materials:

Recycled materials:
 (Cereal boxes, containers, cans, plastic bottles, egg cartons, newspaper, cardboard, etc.)
 Art materials:
 (Scissors, glue, markers, paint, paint brushes etc.)
 Books on recycling
 Websites on recycling
 Rubrics for assessments

Books:

Bethel, Ellie. *Michael Recycle*. Worthwhile Books, 2008

Gibbons, Gail. *Recycle: A Handbook For Kids*. Little Brown Young Readers, 1996
Green, Jen. *Why Should I Recycle?* Barron's Educational Series, 2005.
Inches, Allison. *The Adventures of Aluminum Can: A Story about Recycling*. Little Simon, 2009
Inches, Allison. *The Adventures of a Plastic Bottle: A Story about Recycling*. Little Simon, 2009
Roca, Nuria. *The Three R's Reuse, Reduce, Recycle*. Barron's Educational Series, 2007
Ross, Kathy. *Earth-Friendly Crafts: Clever Ways to Reuse Everyday Items*. Millbrook Press, 2009

Manage the Process:

Step 1:

Entry Event: Members from the Solid Waste Authority or Department of Natural Resources will get students excited how they can make a difference in the environment through a presentation on the 3 R's (Reduce, Reuse, Recycle). The organization representatives will also bring products made from recycled materials for the students (example: pens and pencils made from blue jeans and old tires, piggy banks made from dollar bills and Frisbees and water bottles made from recycled plastics) After their presentation they will challenge the students to create a model of a new product using 50% recyclable products.

Step 2:

Students will record knowledge learned in their [Daily "Go Green" Journal Log](#).

Step 3:

Students will be assigned to a heterogeneous group of 4 or 5. Groups will be determined according to work habits, student personalities, strengths and weaknesses of the individuals. Each group will give themselves a team name such as "Treasure Seekers", "The Green Team", "The Recyclers", etc. Students will understand roles and responsibilities of the group and will sign a [Group Contract](#).

Step 4:

Student groups will illustrate (using colored markers) on a [Blank Puzzle Piece](#) what environmental education means to them. Individual puzzle pieces will be connected together to show that everyone needs to work together to help the environment. The completed puzzle will be displayed in the classroom.

Step 5:

The teacher will share resources with students that will be helpful in researching ideas for the project. Students will record the information in their [Daily "Go Green" Journal Log](#).

Step 6:

Students will work together to use resources (books, internet sites, items from Solid Waste Authority presentation) to get ideas for their product. Use the [Collaboration Rubric](#) to evaluate their teamwork. The [Team Work Rubric](#) may be used by the teacher as a guide for group observation.

Step 7:

Student teams will brainstorm and collaborate with each other what product they will create and what materials they will need to make their product (50% recyclable materials) using the [Trash to Treasure Brainstorm Sheet](#).

Step 8:

Students will develop and create a model of a new product made from recycled materials. They will record the steps and process used to develop their product using PowerPoint (maximum of 6 slides) and will record their progress on the [Power Point Presentation Planning Guide](#).

Step 9:

Students will practice presentation in their individual teams, referring to the [Power Point Presentation Evaluation](#).

Step 10:

Final Project Presentation-Students will work as a team to present the model of their new product and show the steps and process used to create the product through a PowerPoint presentation. This presentation will be presented to classmates, parents, teachers, and Solid Waste Authority or Department of Natural Resource personnel. It will be evaluated by the students using the [Power Point Presentation Evaluation](#) and by the teacher using the [Oral Presentation Rubric](#).

Step 11:

If possible, students will take a field trip to a local recycling facility to learn more about the recycling

	process.
Project Evaluation:	Students will complete Daily "Go Green" Journal Logs and at the completion of the project a Student Self Evaluation Form . These forms will enable students to reflect on the content of their project, presentation skills, and how they cooperated in a group. Students will also be able to reflect on what they may do differently if presented with the project again.
Resource Files Uploaded	<p style="text-align: center;">Resource Files</p> <ul style="list-style-type: none">● UP3512WS2.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS2.doc)● UP3512WS3.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS3.doc)● UP3512WS4.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS4.doc)● UP3512WS5.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS5.doc)● UP3512WS6.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS6.doc)● UP3512WS7.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS7.doc)● UP3512WS8.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS8.doc)● UP3512WS9.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS9.doc)● UP3512WS10.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS10.doc)● UP3512WS11.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS11.doc)● UP3512WS12.doc (http://wveis.k12.wv.us/Teach21/CSO/Upload/UP3512WS12.doc)