Title: Recycling to save the Earth
(Entire unit would be in preparation of Earth Day.)

Subject Area: Science/Writing—Grade 4

Investigative question: What caused the changes of material for bottling coca cola?

PA Teaching Standards:
3.3.4.A1 Earth Structures Processes and Cycles: Recognize that the surface of the earth changes due to slow processes and rapid processes.

1.5.4 Quality of Writing: Write with a clear focus, identifying topic, task, and audience.


1.8.4.B Research: Conduct inquiry and research on self-selected or assigned topics using a variety of teacher guided media sources and strategies.

Objectives: Students will:
- Research designs of bottles and cans throughout time.
- Research recycling.
- Gain a better understanding of recycling.
- Create a bottle design and marketing slogan.
- Write a paper using proper grammar reflecting on their investigation.

Duration: This activity will be approximately 90 minutes.

Materials:
- Computer
- Pencil
- Paper
- Interview video/TV
  - [http://www.loc.gov/pictures/item/96515737](http://www.loc.gov/pictures/item/96515737)
- [http://www.loc.gov/pictures/item/CA0218](http://www.loc.gov/pictures/item/CA0218)
- [http://memory.loc.gov/mbrs/ccmp/colorexp_19t.gif](http://memory.loc.gov/mbrs/ccmp/colorexp_19t.gif)
- [http://memory.loc.gov/mbrs/ccmp/colorexp_30t.gif](http://memory.loc.gov/mbrs/ccmp/colorexp_30t.gif)
Coca-Cola goes green with the ‘PlantBottle’

Additional resources (online):

- [www.recycle.com](http://www.recycle.com)
**Inquiry-Based Learning:**
I will use an Inquiry-Based Learning Model with the following components:

**Questioning**—I will ask the students the investigative question about the changes in materials for bottling Coca Cola products.

**Researching**—I will demonstrate how to research bottle designs through the years, when the changes in bottles occurred, and positives and negatives of recycling on the Library of Congress website as well as other web resources. Then students will research on their own.

**Discussing**—Teacher-led discussion on what students found during the research process.

**Creating**—Students will create a project of new design of a bottle and slogan to represent helping the environment.

**Reflecting**—We will have a class discussion reflecting on our activity. Then, students will reflect by writing a 1 page reflection paper on their investigation and discuss with the class.

**Assessment**—Students will be assessed by using a rubric specific to the project.

**Description of Procedures:**
*This lesson would be the first of the Recycling unit. It will be an introductory lesson into recycling to help the Earth. The unit will be used in preparation of Earth Day.

In preparation for this lesson, I will locate four coloring sheets with different designs of Coca-Cola products and print out copies for the class. The sheets will include both bottles and cans.

As the students enter the classroom, they will be instructed to choose one coloring paper from the front table. Our investigative question will be written on the board. Students will have around 3 minutes to color their paper. To begin the class, I will initiate a discussion about why students chose the design that they chose. We will discuss the different design aspects on the items as well as whether or not one label is better/worse than another. Which label is eye catching and why? I will slowly lead the discussion to the bottling of coca cola products and ask the investigative question, “What caused the changes of material for bottling coca cola?” I will then pull up one of my primary sources, http://www.loc.gov/pictures/item/CA0218, which includes the picture of the Coca Cola bottling company. We will discuss (in short) where it is located and approximately how many employees work there.

The next step of my lesson involves researching. I will begin by saying “Now we are going to look at different bottle designs through the year.” I will give a detailed description of the proper way to research. I will use the projector to give my instruction. I will then give the students a variety of websites that
can be used during their research. They will be required to use the Library of Congress website for at least one source. The students will then pair up to research Coca Cola bottle designs through the years. Throughout the researching process I will ask the following questions for students to explore:

- When has the design changed?
- Why did they change the design?
- When was the change from glass to plastic bottles?
- Why did they change the material?
- What is Coca Cola’s aspect on helping to save the earth/recycling?

When the time is up for research, we will go back to our desks and discuss what was found. I will then move the discussion into recycling and try to understand the students’ idea on Coca Cola and recycling? Next, I will set up my Skype interview with Mr. Scott, the Coca Cola General Manager. The interview guide is attached. During the interview, the students will be required to write down five points that were interesting to them.

After the Skype, the students will be put into groups of four. They will each pick out two of their five items to discuss with the group. Next, they will choose the most interesting topic of the group and share it with the class. They will name the topic and why it was interesting to them.

When the discussions are finished, I will ask each group to create a new bottle design and marketing slogan. I will tell the students that they should design an eco-friendly bottle that will appeal to a variety of people. I will reflect
on the discussion at the beginning of the class, reminding the students of what appealed to them whenever they chose their coloring sheet. I will then give the groups a poster and markers. Students will have 15 minutes to begin their bottle design and slogan. I do not expect them to complete the project in this one day. For this day, they are expected to come up with a creative slogan and a rough draft of some bottle designs that they may want to use.

The final activity of the lesson for today will be the reflection paper. Before the students break from their groups to begin the paper, we will have a class discussion reflecting on the day. The students will then go back to their seats to begin their paper. I will give them a direction page that explains what is expected of the paper. On the reflection paper, they are expected to reflect on their favorite part of the oral history interview. They are to explain why it was their favorite part and what made that part of the interview stick out from the others. They are then to include at least one question about the entire lesson that they didn’t quite understand. The paper is also expected to be free of grammatical errors. Since there will not be enough time allotted for the students to complete their papers in class, they will be expected to complete it for homework.
### Assessment:

<table>
<thead>
<tr>
<th></th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Researching</strong></td>
<td>Successfully uses suggested internet links to find information and navigates within these sites easily without assistance.</td>
<td>Usually able to use suggested internet links to find information and navigates within these sites easily without assistance.</td>
<td>Occasionally able to use suggested internet links to find information and navigates within these sites easily without assistance.</td>
<td>Needs assistance or supervision to use suggested internet links and/or to navigate within these sites.</td>
</tr>
<tr>
<td><strong>Discussion</strong></td>
<td>Almost always listens to, shares with, and supports the efforts of others in the group. Tries to keep people working well together.</td>
<td>Usually listens to, shares with, and supports the efforts of others in the group. Does not cause &quot;waves&quot; in the group.</td>
<td>Often listens to, shares with, and supports the efforts of others in the group but sometimes is not a good team member.</td>
<td>Rarely listens to, shares with, and supports the efforts of others in the group. Often is not a good team member.</td>
</tr>
<tr>
<td><strong>Bottle Design/Slogan</strong></td>
<td>All assigned details have been added. The details are clear and easy to identify. Overall, the quality of the slogan is excellent.</td>
<td>Almost all assigned details (at least 85%) have been added. The details are clear and easy to identify. Overall, the quality of the slogan is good.</td>
<td>Almost all assigned details (at least 85%) have been added. A few details are difficult to identify. Overall, the quality of the slogan is fair.</td>
<td>Fewer than 85% of the assigned details are present OR most details are difficult to identify. Overall, the quality of the slogan is poor.</td>
</tr>
<tr>
<td><strong>Reflection Paper</strong></td>
<td>No grammatical, spelling or punctuation errors.</td>
<td>Almost no grammatical, spelling or punctuation errors</td>
<td>A few grammatical spelling or punctuation errors.</td>
<td>Many grammatical, spelling, or punctuation errors.</td>
</tr>
<tr>
<td><strong>Reflection Paper Grammar/spelling</strong></td>
<td>Information clearly relates to the main topic. It includes several supporting details and/or examples.</td>
<td>Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.</td>
<td>Information clearly relates to the main topic. No details and/or examples are given.</td>
<td>Information has little or nothing to do with the main topic.</td>
</tr>
<tr>
<td><strong>Reflection Paper Organization</strong></td>
<td>Information clearly relates to the main topic. It includes several supporting details and/or examples.</td>
<td>Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.</td>
<td>Information clearly relates to the main topic. No details and/or examples are given.</td>
<td>Information has little or nothing to do with the main topic.</td>
</tr>
</tbody>
</table>
Interview Guide:

General Background

1. Name of Interviewee
2. Place of birth and date
3. World views

Education

1. College Experience
2. Major Course of Study
3. Sources of Encouragement
4. Year of Graduation
5. Post-Graduation employment options

Professional Life

1. “Explain to us your journey after college.”
2. “Can you share any barriers that you encountered in your career?”
3. “What lead you to be a member of the coca cola team?”
4. “Characterize the benefits of your chosen path.”
5. “Share with us any significant changes that you helped the company make.”
6. “Why were the changes of the Coca Cola product features made?”
7. “Discuss your views on Recycling, and Coca Cola’s view on helping to save our Earth.”

Interview Conclusion

1. Conception of success
2. Advice and hopes for future generations
3. Any significant topics that were not discussed.