OCEAN OF PLASTIC UNIT

By Ellie Kreischer and Dianna Cohen

Grade Level: Kinder-Fifth
Length: 4 Weeks

Objective: To teach students about how reusing plastic bags to make art as well as minimizing their daily consumption of single-use plastics can benefit ocean health.

BACKGROUND INFORMATION:

Dianna Cohen came to the Benjamin Franklin International School as a visiting artist/environmentalist. For twenty years she has created art using plastic bags and has recently founded the Plastic Pollution Coalition. Together with the elementary art teacher, Ellie Kreischer, they developed this unit. By combining the work of the students and with the help of volunteers, the result was an ocean made completely out of hand sewn plastic bags. The piece was hung for World Ocean Day at the Museu Agbar de les Aigües.

Lesson One: What lives in the Ocean?

The classes started by creating a list of animals and plants that they knew lived in the ocean. Through combining collective knowledge the students quickly expanded their minds to the extensive diversity of life that lives in the ocean. The fourth and fifth grade classes were able to also see Disney’s “Oceans” movie which further connected them to ocean life.

PROJECT: Watercolor Resist Oceans

Materials: Crayons, blue liquid watercolor, watercolor paper.

One by one the students practiced drawing ocean animals on the board. Seeing each other draw helps students learn new techniques for drawing. Then the students were given crayons and watercolor paper. They worked
the students were given watercolors to paint over the whole paper. The crayon resists the watercolor and so the drawing shows through. The result is an underwater scene.

**Lesson Two: Where does plastic come from?**

The students were asked where paper comes from and most of them knew trees. Then they were asked about glass and some knew it came from sand. Lastly they were asked where plastic comes from and no one knew where it comes from. Dianna explained that plastic is made from petroleum and petroleum is made from old dinosaurs! The discussion continued into the limited supply of petroleum in the world and the recent oil spill in the Gulf of Mexico. Optional: Pass around paper, glass, and plastic samples to help feel more connected to the materials.

**PROJECT:** Exploration of plastic as an art material!

Materials: Hundreds of collected colored plastic bags, scissors, sewing needles, colored thread, hot glue gun, parent volunteers for glue guns, buttons, and bottle caps.

This was the beginning of the creation process for the final ocean of plastic. The plastic elements were saved to for later in the month when they would be combined together. Students worked to cut plastic bags into ocean animals and plants. It helped students to have books about the ocean as a reference and permanent markers to draw outlines on the plastic to help with cutting. They added details by sewing or hot glueing smaller pieces of plastic, buttons, and bottle caps to their creations.

**CAUTION!** The hot glue guns can be dangerous. Adult volunteers were needed to operate the glue guns safely.
Examples of Student Work:

Lesson Three: Where does our waste go?

People have become very disconnected from where our waste goes. To most children, you simply throw your trash in a bin and it disappears the next day. Through showing slides we explained all the possible places waste can go and each has its own consequences.

Photos courtesy of Andy Ríos
The students then started to have a discussion about possible solutions to reduce waste from being created. Dianna introduced a new “R” to the 3 Rs: Refuse. She explained how by refusing single-use plastics we could generate less waste. The students brainstormed possible examples of when they could refuse plastic:

- Bring canvas bags to the store
- Use real cutlery and glasses whenever possible, even with take-out food
- Carry a stainless steel water bottle
- Buy food in glass or metal
- Buy food fresh with the least amount of packaging (ie. at a market)

<table>
<thead>
<tr>
<th>Where Waste Goes</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>Uses land, is permanent, leeches toxins, and is ugly.</td>
</tr>
<tr>
<td>Incineration</td>
<td>Emits greenhouse gases into the atmosphere, and consumes energy.</td>
</tr>
<tr>
<td>Recycling Center</td>
<td>Consumes energy and plastic can only be down-cycled into a lesser quality material.</td>
</tr>
<tr>
<td>Ground</td>
<td>Becomes litter, never/slowly biodegrades, negatively effects animals/plants, and is ugly.</td>
</tr>
<tr>
<td>Ocean</td>
<td>Becomes pollution by releasing toxins into water, is consumed by animals, accumulates into “garbage patches,” effects every strata of the ocean, and is now found on every beach in the world.</td>
</tr>
</tbody>
</table>

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**PROJECT:** The students continued to work on their sea creatures out of plastic bags. Each classes had their previous creatures organized into bags so they could find their work. This week they were encouraged to make: seaweed, sand, schools of fish, and shells. These pieces were serve to make the plastic ocean more realistic.
If students are struggling to make “something out of nothing” they were allowed to draw onto the bags and then cut on the lines. They were also given books to use as reference and there were many examples around the classroom of successful plastic creatures. Each student was allowed the artistic freedom to work in a way that was successful for them; some students worked together in groups while others preferred to work in three dimensions, and some students worked closely with Dianna to make something.

Lesson Four: Why do we make art?

The information about plastic pollution needed to be tied back to the art classroom and what the students were creating. Luckily with Dianna there they could have an example of someone who has made a lifetime out of using art to communicate about environmental issues. Ellie first asked the students, “Why do people make art?” The student responses ranged from, “it’s beautiful” to “expressing feelings,” “to relax” and “to relay information to other people.” It was impressive how well the students could convey that art had so many purposes in the world and was so valuable. Then the students were asked, “Why are we making an ocean out of plastic bags?” Instantly the students could build on the knowledge they had acquired over the last few weeks and explained how important the ocean of plastic message was: the problem of plastic pollution is hurting the oceans and so they made an ocean out of plastic bags.

PROJECT: Stuffed Fish
Materials: Photocopied fish from the website “ClipArt Etc.” http://etc.usf.edu/clipart/ (Copy them onto one-sided paper to reduce waste of paper), crayons or markers, shredded old paper, and a stapler. Students were eager to bring something home from the art room after working on the collaborative ocean for two weeks. This project allowed each student to make their own “stuffed animal” style fish to bring home.
1. Have students decorate a copied fish paper with crayons or markers. Show images of full-color fish to help the students who want their fish to be realistic.

2. Add a piece of recycled paper to the back and staple around the circumference of the fish. Make sure to leave an opening, like you would when making a pillow.

3. Students will then cut the outside of the paper off.

4. Through the gap left stuff shredded paper until the fish has sufficient volume.

5. Staple the fish closed. This might need to be done by the teacher. Students also had to give their fish a “haircut” as some shredded paper might stick out.

Hang the Ocean of Plastic!

After many hours of sewing the plastic creatures onto the background, the “Ocean of Plastic” was finished. Dianna and Ellie contacted many spaces to request a wall to hang the final piece in Barcelona. The Museum of Water (Museu de las Aigues) agreed to hosting the show for two days. The piece was easily hung using double stick tape.

Now the “Ocean of Plastic” is on tour globally with Dianna and the Plastic Pollution Coalition. It has been mentioned on the TED blog and in the NYTimes. It will also be hung at the National Plastic Pollution conference in the Fall of 2010.

The final piece hanging at the Museu de las Aigues. School administrators, museum directors and students came to see the work on display.