

# HOW TO MAKE A MIDDEN

BY THE INSTITUTE FOR FIGURING



The Institute For Figuring plastic trash "Midden" 2011.

## Guide to making a Midden and Midden Monsters

A project by  
The Institute For Figuring



## ABOUT THE MIDDEN PROJECT

Every year humanity produces more than 100 million tons of plastic. As an exercise in ecological awareness, Margaret and Christine Wertheim of the Institute For Figuring in Los Angeles decided to keep all their household plastic trash. For four years – from February 2007 to February 2011 – the sisters bagged and stored their domestic plastic waste, creating a *Midden* of their debris.

Contained in the *Midden* is almost every piece of plastic the Wertheims used in the course of their daily home life including plastic bags and wrappings, food containers, cleaning product containers, drink bottles, pill bottles, shampoo bottles, packaging, printer cartridges, outmoded connection cables, shipping peanuts, old shower curtains, and so on. In spite of its scale, this Midden represents a fraction of what the average Western citizen uses, for during the collection period the sisters worked hard to minimize their intake.



The first month of domestic plastic trash collected in the Wertheim household, February, 2007.

*We encourage you to try this exercise for yourself. Try keeping your trash for a week or a month to become aware of your own invisible consumption. Like us, you will probably be astounded at how much you actually use.*

## THE GREAT PACIFIC GARBAGE PATCH



Plastic sand gathered from Kamilo Beach in Hawaii (2008), by Captain Charles Moore of the Algalita Foundation.

Light, strong, and durable, plastic is one of the triumphs of the industrial age, an amazingly useful product that occupies center-stage of our convenience-focused lifestyles. The hyper-real qualities of this material are incompatible with natural ecosystems, for plastic does not biodegrade. Of the

100 million tons that we produce each year, it is estimated that at least 10% ends up in our oceans. Much of this detritus accumulates in vast, rotating gyres, the largest of which--the Great Pacific Garbage Patch--is a floating mass located north-east of Hawaii that occupies an area twice the size of Texas and more than 30 meters deep. While plastic doesn't biodegrade, it breaks up into ever-finer particles, eventually forming a "plastic sand" that periodically inundates Hawaiian beaches. In the ocean, these particulates sink to the ocean floor where they become embedded in the geological strata of our planet, recording ours definitively as the Plastic Age.

## PLASTIC FACTS

- \* Within the region of the Great Pacific Garbage Patch there are six pounds of plastic for every pound of living phytoplankton.
- \* The United Nations Environmental Program estimates there are 46,000 pieces of floating plastic per square mile of ocean.
- \* Each year 250 million pounds of nurdles (plastic pellet feedstock) are shipped around the world. 10% of beach trash consists of nurdles.
- \* 1,000,000 sea birds and 100,000 marine mammals die each year from ingesting plastic.
- \* Of the 15 billion pounds of plastic the US produces each year, only one billion pounds is recycled.

## PLASTIC REDUCTION STRATEGIES WE USED:

- We radically reduced take-out meals.
- We tried to avoid products with multiple layers of wrapping.
- We rationed household cleaning products.
- We avoided bottled water.
- We didn't buy cookies or crackers in plastic trays.
- We strived not to buy meat or vegetables in Styrofoam trays.
- We bought juice in cardboard tubes; this means going with concentrate.
- Neither of us uses much make-up.
- One of us has very short hair and uses no hair-care products. The other has long hair and works to minimize shampoo, conditioner and dyes.
- We always use bar soap, not liquid-soap dispensers.
- We tried hard not to accumulate electronic gadgetry: neither of us owns any "i-things".
- The Midden does not include any of our old computers, our automotive plastic trash, our plastic garden waste (such as pots, compost bags and fertilizer cans), or the plastic waste generated on trips away from home. These are additional sources of plastic in our lives.



Washed plastic trash drying on the line.

One of the biggest inconveniences about keeping plastic trash is the need to wash it. Any bag or bottle or box that has contained food must be washed thoroughly to avoid bacterial growth. During the course of the *Midden* experiment we did a weekly wash of our plastic, which we hung on a clothesline to dry. There's nothing like having to wash rubbish to make you think twice about what you bring home from the supermarket.

## THE SAN DIEGO MIDDEN

Here at the New Children's Museum we invite visitors to get involved in creating a *San Diego Midden*. Working with the NCM's curators, we have designed a series of tall standing "trees" to which visitors can attach their trash. Over the course of the exhibition we hope these trees will become packed with San Diego's plastic, like a forest filling up with toxic fruit.

We want you to bring in your own rubbish and add it to these trees. We encourage you to bring old cell phones, plastic toys, water bottles, juice bottles, shampoo bottles, interestingly shaped plastic packages, old plastic jewelry, plus discarded plastic cups and plates and cutlery.

Please make sure you thoroughly wash any items you bring.



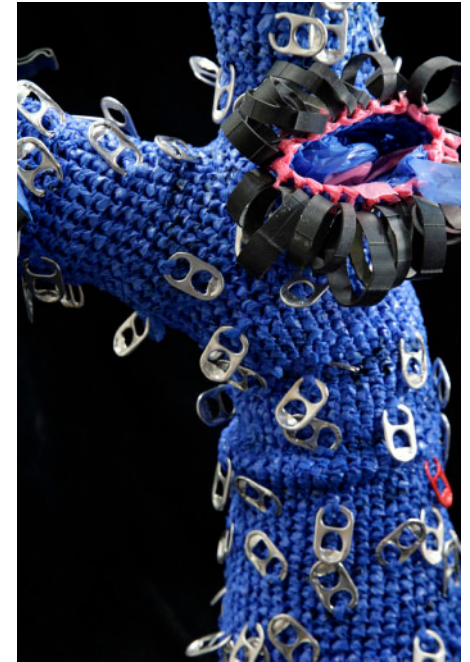
Midden Monsters.

## MAKING MIDDEN MONSTERS

At the top of each trash tree, and displayed on the walls, we aim to place Midden Monsters, hand-crafted assemblages made from trash. We invite visitors to get creative with their collected trash. See what kinds of Midden Monsters you can make at home or school by cutting and pasting and weaving together old bits of rubbish. Working with trash can be a lot of fun, forcing us to think creatively. How can you take a pile of garbage and turn it into something interesting and even beautiful?

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## PLASTIC BAG YARN



Crocheted plastic Anemone tree by Clare O'Callaghan.

One way to make Midden Monsters is to cut up plastic shopping bags and turn it into a yarn that you can use as a material. Such plastic yarn is known as "plarn". To make plarn, simply take a couple of shopping bags and cut them into inch-wide strips. Tie the strips together to make a continuous string. Once you have your plarn you can use it like any thread; you can tie bits of plastic onto it and string it up like tinsel, or you can make it into mobiles with select pieces of trash hanging on strings. You can also crochet it, a quick and simple technique for making elegant structures.

The Institute For Figuring is a non-profit educational organization based in Los Angeles. The Institute's mission is to contribute to the public understanding of scientific and mathematical themes through innovative programming that includes exhibitions, lectures, and participatory projects.

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