



## Trashmagination Podcast #20 – TrashAnatomy Shark

Welcome to Trashmagination, a podcast about reimagining trash. I'm Carla Brown.

Have you heard of Shark Week? It is an annual event started by the Discovery Channel which features a week of shark-themed shows. At least here in the United States, Shark Week has become something people talk about even if they don't watch television. People throw Shark Week parties. This year, Shark Week begins on July 23. I decided this was a great time to talk about my trash-themed shark project.

This story is great for people who are interested in sharks, but also for those interested in product development. If you ever had a calling to make something, but it takes months or years to evolve, this is a story for you.

In 2012, my daughter asked for an anatomy model of a shark for Christmas. I purchased a plastic model that was made overseas. It had a plastic stand for holding up the shark. The gift was a hit, but unfortunately during the very first week, a piece of the plastic stand broke off. I was frustrated and my first thought was that I should have made her a shark model instead of buying one made of plastic. So I started to imagine what that might involve.

Early on, I imagined making the shark's body from a clear plastic bottle. But I struggled to figure out how to attach the fins and tail. I didn't want to glue things on because I wanted the model to last unlike my plastic model.

More than a year later, I had a dream of a glove that slid over the bottle, rather than sticking items on the bottle. I had some felt made from recycled soda bottles. In fact, this type of felt has become easier and easier to find, even in mainstream craft stores. I could make the shark while supporting the recycling industry.

I sewed a shark body shape that included the elements that would make the shark recognizable, such as the fins. The body area would be cut away in the front so the internal organs would be visible in the bottle. I also made impressive shark teeth by cutting a string of teeth from a plastic milk jug, punching holes for my sewing needle and sewing the teeth into the mouth.

This was also when I thought of the name TrashAnatomy. I double-checked to make sure it was not already being made by someone else.

The shark body took shape in a few hours, but then I struggled with how to represent internal organs. I wanted the organs to be made from trash to continue the creative reuse theme.

The easiest organ to figure out was the intestine. In many shark species, the intestine is quite different from a human intestine. Ours is like a very long hose. In a shark, it is more like a spiral in a tube. This gives a lot of surface area for the intestine to absorb nutrients without taking a lot of space in the shark's body. I noticed that the spiral pump inside liquid soap bottles had that spiral shape. The pump was the perfect size to fit inside my new shark model.

You might wonder how I knew about shark intestines. I attended an unusual high school in British Columbia called Lester B. Pearson College. One of my subjects was Environmental Science and I had a lot of hands-on experience out on the ocean. One day my teacher Gary Fletcher showed us a real shark intestine. We all got to hold it. We poured water into it and watched how the water swirled through it.

But other than my awesome shark intestine, it was very difficult to find trash items that were the right size and which looked like shark organs. I studied so many dissection lesson plans. I did find objects that I thought approximated the function. For example, a prescription bottle was kind of like a stomach in that it could hold stuff. But none of it really worked. It was a big jumble in there. It looked more like those photos of the internal contents of sea life who have died from eating trash. This was confirmed when I showed it to people and they didn't really get what I was talking about.

At this point, I was frustrated. I decided to research who might be an audience looking for a shark anatomy. That might influence how it was made. I surveyed elementary school teachers but found that anatomy is not actually taught in elementary school. They focus on life cycles. Anatomy doesn't really happen until high school, and they might not be looking for anatomy models anyhow. I also took my model to a summer camp with elementary school students. I brought a big box of clean trash items, and encouraged them to make their own shark anatomy models. But what I found was that the kids just made an outline of a shark with the trash. It led me to believe that developmentally, kids are not ready to process the concept of anatomy, and definitely not through the abstract medium of trash objects.

So I didn't work on this project for a long time. I kept thinking about it but my thoughts went in circles.

A few months ago, all within a week, I saw the work of three artists who were doing anatomy-related work. They were not making those items from trash, but were using felt, yarn and sewing, so I was excited. The three artists were:

1. Hiné Mizushima (<http://hinemizushima.com/>) – She made a felt sculpture of a squid and a deep water clam showing their insides.
2. Emily Stoneking (<https://www.etsy.com/shop/aKNITomy>) – She knits and embroiders anatomy art. The first piece I saw was a dissected frog.
3. Robert Mahar – (<http://robert-mahar.com/shop/>) - He sells embroidery kits of printed human anatomy drawings that he had printed on Spoonflower, which is a service where you can print images on fabric.

I loved all this work. It made me want to work on my TrashAnatomy again. So a few months ago, I did prototype number two. I used the same shark body, but I changed three things:

- 1) I tried a different tactic for the internal organs. Rather than making them from trash items, I sculpted them from felt. I noticed that it is getting really easy to find felt made from recycled plastic bottles. The felt was still consistent with my mission of reducing what gets sent to landfills.
- 2) I attached a factoid on a little card to each organ. This way people would be able to tug on the card and learn about what they were seeing.
- 3) I secured the organs to a flat card that would hold the organs in place, rather than having them fit together like a puzzle. It lost some of the interactivity of the model, but I figured I would address that later.

Unfortunately, I was not satisfied with prototype #2. Working in the 1 Liter bottle size, the organs still looked too small, too jammed up. The cards hanging from the organs looked like a tangled mess.

At that point, I got the idea for prototype number three, which was to increase the size of my model to a 2 Liter bottle. This would give me more space to work. The organs would be bigger. I also decided to sew the names on the organs. I want people to understand at a glance what is the point of this shark model. If they saw names on the organs, they would immediately know it was an anatomy model, even if the organs were more abstract.

I enjoyed sewing prototype number 3. I made a bigger shark body skin to fit around the 2 Liter bottle. I attached Velcro to the organs so it works like a puzzle again, where someone could take all the organs out and put them back in again. This appeals to me because I am a kinesthetic learner, meaning I learn by doing things with my hands.

The audience I imagine for this design is people who are interested in science, maybe specifically sharks, and they like to have objects around their home that reminds them of that interest. This shark is actually kind of cute, so it also appeals to people who want something that looks handmade. It doesn't feel like it is made from trash except the soda bottle because all the components are felt. But I still think it is on mission for Trashmagination because I am supporting companies which make felt from recycled plastic bottles. Still, I might experiment with wool felt at least for the outer shark skin, because it's thicker and it also is a great environmental choice.

One part of this project that I really enjoyed was researching fun facts about shark anatomy. Here are my favorite five:

- Some sharks lay eggs. These tend to be more “ancient” types of sharks. The eggs are sometimes called “mermaid purses” but eggs come in all shapes and sizes depending on the shark species. It makes me want to design shark egg bags in all shapes and sizes.
- Some shark species carry baby sharks inside a uterus. Those who carry their babies in their uterus fall into two categories – some start as eggs in the uterus, and the babies live off the yolks. Others provide nutrients through an umbilical cord. So some sharks have belly buttons! The shark I designed has a uterus.
- The biggest organ in a shark is the liver. It actually fills up to about 90 percent of the space inside a shark. In my model, the liver is not that big or I couldn't show the other organs effectively. The liver is so huge because it contains oil which is lighter than water and helps the shark float.
- Shark eyes are super cool. They have a clear eyelid that closes to protect the eye when they bite prey. The eyes also contain mirrored crystals to help the shark see in low light. On my shark model, I made the eye from the inside of an earbud. I took a defunct earbud – like the kind you stick in your ear when listening to music – and the very center part - the speaker - reminded me of a shark's eye.
- A shark has nodules on its nose called ampullae of Lorenzini, sensing electrical pulses or heartbeats. It uses these nodules to navigate based on the earth's electromagnetic field.

So what's next for the TrashAnatomy shark? My next goal is to prepare the shark to sell it online as either the completed models or as a printable PDF pattern. To achieve that goal, I need to:

- **Designing a little booklet with shark info** – This would attach to the shark and provide interesting facts about how shark anatomy works
- **Designing a stand for the shark** – I made a cardboard prototype and I want to build it from recycled wood next
- **Setting up an online store** – I have not tried selling Trashmagination items yet – but I would love to try! I will need to learn how to photograph the shark better for a store.
- **Designing other anatomy models** – If all that works, I would like to design a frog and a cow!

So hopefully you found that story inspiring in terms of whatever projects you have had bubbling at the back of your mind. [Here's a checklist of activities that you could try, inspired by this podcast:](#)

- If you think the TrashAnatomy shark is cool, please send your input to [trashmagination@gmail.com](mailto:trashmagination@gmail.com). Are you someone who would be interested in buying anatomy models in this style? **Would you be more interested in buying a completed model, or a pattern?** Also let me know your favorite shark facts or species. Which organ do you think is the most interesting?
- One lesson I hope you might hear in this story is that **when you are buying a gift, stop for a moment and consider if you could make them something instead**. Or check on Etsy to see if an artisan is making it by hand. We don't need to buy objects made from molded plastic. I was inspired to make this project partially because I realized that I showed a lack of imagination when I purchased that gift in the first place.
- **Celebrate Shark Week!** – It's a great opportunity to think about a species that is in most cases on the endangered species list. Maybe celebrate by bringing your canvas bags or your own cutlery to outings so we can reduce the amount of plastic disposables in the ocean.

This is episode 20 of the Trashmagination podcast. I have been making this podcast for six months and so far almost 700 episodes have been downloaded. When I imagine having 700 creative reuse with people, I get super inspired!

It would be great if many more people were hearing the podcast. If you have found this podcast helpful, it would mean a lot if you would give it a review on iTunes, Stitcher or wherever you listen to podcasts. This works best from your phone. Here's how you do it in iTunes:

- In the podcast app, search for Trashmagination by clicking on the magnifying glass icon.
- Click the Trashmagination logo.
- A screen comes up that shows Details, Reviews and Related.
- Click the Reviews tab and then click "Write a Review."

It would mean so much to me if you took a moment to let me know you are listening and getting value from these efforts!

Until next time – may you see trash as just another source of anatomy models and shark fun facts in your life.

#### **Additional Resources for this Podcast**

- Trashmagination blog about my first TrashAnatomy Shark - <http://trashmagination.com/trashanatomy-shark/>
- Lester B. Pearson College - <http://pearsoncollege.ca/>
- Shark Week - <https://www.discovery.com/tv-shows/shark-week/>