ANA-VICTORIA: You're listening to *Brains On!,* where we're serious about being curious.

KID 1: Brains On! is supported in part by a grant from the National Science Foundation.

[WAVES CRASHING]

AQUAMARINE: Captain's log day 384, no sight of land for weeks now. [INHALES DEEPLY] I'd give anything to see another living creature-- a human, a sea lion, even one of those hungry-looking seagulls. Alas, here I float adrift, unmoored forever on the rolling waves of eternity. [SIGHS]

[SQUEAKING]

Who's there?

[SQUEAKING]

Show yourself.

[SQUEAKING]

Don't come any closer. I'm an action figure.

RUBBER DUCKY: [SQUEAKS] Hi.

AQUAMARINE: A rubber ducky?

RUBBER DUCKY: I'm not just any rubber ducky. I'm a limited edition toy from the feature film*Duck Duck Ghost.*

AQUAMARINE: Well, I'm the aquamarine, master of the deep and defender of the seven seas. See? [PULLS STRING] Hail denizens of the deep.

RUBBER DUCKY: So that's why you're all the way out in the middle of the Pacific Ocean, defending the seven seas?

AQUAMARINE: No, I fell out of a fast food kid's meal, got washed into a storm drain, and eventually ended up here in the ocean (SINGING) all by myself.

RUBBER DUCKY: Happens to the best of us. I fell off a container ship with 300,000 of my best buddies. [WHIMPERS]

[SQUEAKING, WHIRRING, METAL CLANKING, MUFFLED SPEECHES]

AQUAMARINE: Wait. What's that?

RUBBER DUCKY: Some friends I'd like you to meet.

AQUAMARINE: What is all this? There's floating shoes and plastic bottles and fishing nets and--

RUBBER DUCKY: And baby dolls and model airplanes and plenty of plastic Barbies. There's even some friends who might recognize me.

AQUAMARINES: Hail denizens of the deep.

AQUAMARINE: Oh my gosh, other aquamarines. Oh captain, my captains, am I glad to see you.

[MUSIC PLAYING]

MOLLY BLOOM: You're listening to *Brian's On!* from APM Studios. I'm Molly Bloom, and I'm here with Ana-Victoria from Austin, Texas. Hey, Ana-Victoria.

ANA-VICTORIA: Hi, Molly.

MOLLY BLOOM: So Ana-Victoria, you wrote to us after you learned about the plastic pollution in our oceans, specifically the Great Pacific Garbage Patch, and I'm wondering, how did you first learn about it?

ANA-VICTORIA: I was actually in my eighth-grade science class when the topic was first brought up to me, and ever since, I've been really interested and how we can help change the patches from growing and expanding more throughout the ocean.

MOLLY BLOOM: So after you did learn about it, and you're like, I want to help, how did that affect what you did, or how you tried to help?

ANA-VICTORIA: I definitely tried to be more conscious about how I can save plastic from getting into the ocean, like putting it in the trash, because some kids at my school would put plastic in the trash can, and I was like, no, you can't do that. You can't. It has to be put in the recycling at least to prevent it from getting in the ocean.

MOLLY BLOOM: And do you remember when you've been to the beach or in the ocean seeing plastic?

ANA-VICTORIA: Yes, I have, and it's really sad. Like, I see even the coastline, so it's really sad.

MOLLY BLOOM: We're going to learn about how we can help with that a little bit later in the show. Are there things that you've replaced in your life or maybe things that have just been so hard to replace because plastic is everywhere, and there's not necessarily good options sometimes?

ANA-VICTORIA: I definitely started using reusable water bottles more and not using the plastic water bottles as much and stopped using those to help out.

MOLLY BLOOM: One of the reasons we see so much plastic pollution is that we're surrounded by plastic.

ANA-VICTORIA: My shampoo bottle's plastic. My beloved cheese comes wrapped in plastic.

MOLLY BLOOM: My glasses are plastic. My yoga mat, plastic.

ANA-VICTORIA: There's even plastic in our clothes.

MOLLY BLOOM: Yeah, if your clothes are kind of stretchy, that's because at least some of the fabric in there was made from plastic.

ANA-VICTORIA: Plastic really is everywhere. The sponge in my sink is plastic.

MOLLY BLOOM: And the glitter on this birthday card I was going to send to myself is also plastic.

ANA-VICTORIA: Wait. You're going to send yourself a birthday card?

MOLLY BLOOM: Future me loves surprises.

ANA-VICTORIA: Oh, gotcha.

MOLLY BLOOM: So yeah, plastic is all around us, but there's a reason it's everywhere. It's a very useful material.

[MUSIC PLAYING]

ANA-VICTORIA: It's lightweight, hard to break, and it can be stretched into almost any shape imaginable.

MOLLY BLOOM: When plastic was first invented in the early 1900s, it was a pretty big deal because it was the first material to be made only using chemicals. And it was seen as an awesome solution to people using too many natural resources, like wood.

ANA-VICTORIA: And plastic has been very helpful to us humans. We use it in important things, like bike helmets and eyeglasses. It also helps keep medical equipment sterile, and it makes our cars lighter, so they use less gas.

MOLLY BLOOM: But one of the things that makes plastic really useful is also one of the reasons why it's a problem.

ANA-VICTORIA: Plastic lasts for a really, really, really long time. And even though we often think of plastic as recyclable, most of it actually isn't.

MOLLY BLOOM: Which means it often ends up in landfills, where it sits and sits and sits. Or it gets burned up in a big furnace, which releases air pollution.

ANA-VICTORIA: Or it ends up in the ocean.

MOLLY BLOOM: Right. Have you ever seen a plastic bag or bottle on the side of the road? Well, when a storm comes, it can wash that plastic trash into the sewer.

[THUNDER RUMBLES, WATER SLOSHES]

From there, it can end up in a creek, then a river, and all rivers eventually lead to the ocean.

[WAVES CRASHING]

ANA-VICTORIA: Scientists estimate that the equivalent of one garbage truck full of plastic enters the ocean every minute of every day.

MOLLY BLOOM: And that number is growing. If we don't do something about it, the amount of plastic entering the world's oceans could almost triple in less than 20 years.

ANA-VICTORIA: Ugh, and a lot of it will end up in the Great Pacific Garbage Patch.

MOLLY BLOOM: The Great Pacific Garbage Patch is this floating soup of plastic out in the ocean. And when we say "great" here, we definitely don't mean, though, wow-that's-awesome kind of great. We're talking about the really big kind of great.

ANA-VICTORIA: And while it is very big, the pieces of plastic that make up the patch are teeny tiny.

MOLLY BLOOM: These teeny tiny pieces of plastic are called microplastics. They're made when bigger pieces of plastic break down over time.

ANA-VICTORIA: Molly, I really, really want to help get this plastic out of the ocean.

MOLLY BLOOM: Me, too. So why don't we take the ExPLORERR and go check it out?

ANA-VICTORIA: The Extremely Practical Land and Ocean Rover Exploring Remote Realms. Yes.

MOLLY BLOOM: Let's go to the Pacific Ocean, specifically to the swirling patch of plastic garbage.

[EXPLORRER STARTS, REVS]

[WATER SPLASHES, SLOSHING]

[WAVES CRASHING]

ANA-VICTORIA: Molly, are you all right?

MOLLY BLOOM: (SICKLY) Oh. Yeah, I just-- ugh, these waves are really wavy. I think I'm just feeling a little seasick.

ANA-VICTORIA: Oh, that's no fun.

MOLLY BLOOM: Yeah, I'll be fine. Don't worry.

ANA-VICTORIA: OK. So where were we?

MOLLY BLOOM: Well, we were in the studio, but now we're in the middle of the ocean, this bumpy, wavy ocean.

ANA-VICTORIA: No, I mean, where were we? Like, what were we just talking about?

MOLLY BLOOM: Oh, right. We were talking about the Garbage Patch.

ANA-VICTORIA: Ah, yes. Even though it's called garbage, it isn't like the garbage you would find in a landfill. Landfills really stink. I mean, have you ever smelled hot garbage in the summer? Moldy fruits and vegetables, decaying meat, mildewy wet clothes.

MOLLY BLOOM: Ugh. Yes. [GRUNTS] Does it just get wavier here? Whew. Anyway, paper or metal or glass or food-- those will all naturally break down over time.

ANA-VICTORIA: Eventually, little pieces of those materials, what we call their molecules, become part of the environment again.

MOLLY BLOOM: Bacteria, fungi, and insects play a big part in that process. They can eat and digest natural materials, like wood and paper.

ANA-VICTORIA: But most living things can't eat plastic, and humans haven't figured out how to recycle all of it, either.

MOLLY BLOOM: Which means there's a lot of plastic out there that we don't know what to do with.

ANA-VICTORIA: Look closely. See how the water looks all cloudy?

MOLLY BLOOM: Oh yeah, it has all kinds of tiny things floating in it.

ANA-VICTORIA: These are the microplastics you were talking about. But they weren't always as small. There are ones part of bigger pieces of plastic.

[MUSIC PLAYING]

MOLLY BLOOM: When plastic enters the ocean, the sun and water do break it apart over time. But instead of totally decomposing into soil and going back into the Earth like plants or food would, it just chips into smaller and smaller pieces as it gets sloshed around by waves and shined on by the sun.

ANA-VICTORIA: And those tiny pieces are what make up most of the garbage patch, or should we say patches.

MOLLY BLOOM: Yeah, there are actually two patches-- an eastern one off the coast of California and a western one off the coast of Japan. And these two patches are connected because they're part of the same gyre.

ANA-VICTORIA: A gyre is a system of ocean currents that swirl around in a circle, sort of like a really big, really slow whirlpool.

MOLLY BLOOM: This one is called the North Pacific Subtropical Gyre, and it's the biggest of the five major gyres on Earth. They're all pushing around plastic trash, big and small, around the ocean.

ANA-VICTORIA: Even though most of the garbage patch is just a big soup of microplastics swirling around, there is some bigger stuff out here, like that old laundry basket or this bottle cap.

MOLLY BLOOM: And look, there's part of an old fishing net. Let's grab this stuff before it breaks down, too. Man, I can't believe how much trash is out here.

ANA-VICTORIA: Speaking of out here, where exactly are we? The ExPLORERR got us here so fast I didn't really look around.

MOLLY BLOOM: That's a great question. A lot of people picture the North Pacific Gyre as being in the middle of nowhere, but actually--

[WATER SWASHES]

JAMES MORIOKA: You're in Papahanaumokuakea.

MOLLY BLOOM: James, I thought we might run into you out here. Ana-Victoria, this is my friend, James Morioka. He leads the Papahanaumokuakea Marine Debris Project.

ANA-VICTORIA: Nice to meet you.

JAMES MORIOKA: So Papahanaumokuakea, if you were to stretch it across the continental US, would stretch between Las Vegas, Nevada, and New Orleans, Louisiana. It's like 1,300 miles. There are over 7,000 marine species that call Papahanaumokuakea home.

Also, Papahanaumokuakea is incredibly important to Native Hawaiians because Papahanaumokuakea are considered the ancestor islands or the kupuna islands. And so they are the old islands and the spirits which have given birth to the main Hawaiian islands and the realm of the living. And so where we live, in the main Hawaiian islands, is considered the realm of the living, and then Papahanaumokuakea is the realm of the dead or the realm of the spirits.

MOLLY BLOOM: And this sacred space is filling up with plastic trash from the garbage patch.

JAMES MORIOKA: Yeah. It can be disheartening at times. The beaches are completely covered in plastics. You won't take a step on the beach without hearing a crunch of a piece of plastic underneath your foot. But in Hawaii, we have a very special word. It's called "kuleana," and it means responsibility. And so we feel like it's our own responsibility to take care of those around us and the wildlife and the habitat around us.

MOLLY BLOOM: Ana-Victoria and I are going to help, too. All of us helped create this big plastic problem, and we should all try to help fix it. Thanks so much, James.

JAMES MORIOKA: Aloha, and a hui ho.

[WATER SWASHING]

MOLLY BLOOM: Man, it is such a bummer to look out and see all this plastic floating around-- bottles, plastic bags.

JOHNNY TRASH: (SINGING) Million days, I'm stuck on plastic island.

MOLLY BLOOM: And a little singing plastic figurine?

JOHNNY TRASH: Hello, humans. Mind if I hitch a ride on that groovy tour bus of yours?

ANA-VICTORIA: [GASPS] He talks.

MOLLY BLOOM: Scoop him up.

[WATER SLOSHES]

JOHNNY TRASH: Well, I do thank you very kindly. Hello, I'm Johnny Trash. [PLUCKS GUITARS]

MOLLY BLOOM: How did you get here?

JOHNNY TRASH: I think I can best answer that with a song. [PLAYING GUITAR] (SINGING) A current is a really strong thing. And it makes a watery ring. Carried by water so dire, I fell into this endless gyre. I fell into the North Pacific Gyre. I went down, down, down because the river came up higher. And it churns, churns, churns, Pacific Gyre, Pacific Gyre.

ANA-VICTORIA: So you got here from a river?

JOHNNY TRASH: Yep. Most trash that gets into the ocean hitches a ride on a river. You see that mini soda bottle over there?

SODA BOTTLE: I'm your biggest fan, Johnny.

MOLLY BLOOM: Have we been on the ocean too long, or did that bottle just talk?

ANA-VICTORIA: It definitely talked.

SODA BOTTLE: Encore, Johnny, encore.

JOHNNY TRASH: Love you, little guy. [PLAYING GUITAR] (SINGING) He was thrown out of a car window onto a busy street. Stayed there a few days, but his trip ain't complete. He fell into the storm drain when the rain came in sheets.

SODA BOTTLE: That rainstorm was something-- carried me through the sewer system right into a creek, then to the river, and well, you know the rest.

JOHNNY TRASH: More than 3/4 of the plastic here in the ocean started on land.

MOLLY BLOOM: What about the rest?

JOHNNY TRASH: The rest comes from people leaving stuff behind in the water, like fishing nets, traps, and even my trusty guitar strings here. I found this old piece of fishing line tangled up in some algae a few weeks ago, and now it has a new life as my guitar string. Listen to this. [STRUMS GUITAR]

ANA-VICTORIA: Johnny, you and that soda bottle are coming with us. We don't want you floating out here forever. What do you say?

JOHNNY TRASH: Well, that's music to my ears. [STRUMS GUITAR]

MOLLY BLOOM: Oh, speaking of sounds, it's time for the--

[DISCORDANT FUTURISTIC SOUNDSCAPE]

KID 2: (WHISPERING) Mystery Sound.

MOLLY BLOOM: All right, are you ready, Ana-Victoria, for the mystery sound?

ANA-VICTORIA: Yes, I am.

MOLLY BLOOM: Here it is.

[MYSTERY SOUND PLAYING]

What do you think?

ANA-VICTORIA: It sounds like-- at the beginning, it's like someone stacking something and then putting it in some sort of machine to break it down. That's what I think. Yeah.

MOLLY BLOOM: That is very good. Very good ears. Well, we are going to hear it again after the credits, get another chance to guess, and hear the answer.

[MUSIC PLAYING]

We're working on an episode about how creatures would evolve on other planets, so we want you to do a little dreaming with us. Imagine you find life on another planet. How would that life greet you? What would it sound like in their language to say hi? Would they even have language, or would they greet you another way? Ana-Victoria, if you found a living creature on another planet, how do you imagine that they would say hi?

ANA-VICTORIA: I think maybe they'd use a sound or something, like not actually say hi but use some sort of noise, like a high-pitched shriek or something like that.

MOLLY BLOOM: I love that idea. Can you give us a little example of what that might sound like?

ANA-VICTORIA: Like an "ee-yoo." Something like that.

MOLLY BLOOM: Oh. Yes. Yeah, I kind of think-- I like to imagine that there's some planet where they communicate by smells. And they would greet you and somehow release a chemical that smelled like your-- something very pleasant.

ANA-VICTORIA: Like chocolate?

MOLLY BLOOM: Oh, yes, I would love to be greeted by a chocolate smell. Well, listeners, we want to hear how you imagine an alien creature would say hi. Record yourself and send it to us at BrainsOn.org/Contact. While you're there, you can also send us mystery sounds, drawings, high-fives, and questions.

ANA-VICTORIA: Like this one.

OLIVIA: Hello, my name is Olivia. I'm from Elgin, Illinois. My question is, are rainbows solid, and where's the end?

MOLLY BLOOM: You can find an answer to that question on our*Moment of Um* podcast. It's a daily dose of facts and curiosity you can find wherever you listen to *Brains On!* Again, that's BrainsOn.org/Contact.

ANA-VICTORIA: And keep listening. You're listening to*Brains On!* from APM Studios. I'm Ana-Victoria.

MOLLY BLOOM: And I am Molly. And we're back in the studio with all the garbage we picked up on our trip, sacks and sacks of garbage. Most of it's pretty garbagey garbage, but there are a few gems. There's Johnny Trash.

JOHNNY TRASH: Hey.

ANA-VICTORIA: A talking soda bottle.

SODA BOTTLE: I love you, Johnny. Will you sign my soda bottle cap? [WHIMPERS]

MOLLY BLOOM: A collectible rubber ducky.

RUBBER DUCKY: Quack.

ANA-VICTORIA: A sweet aquamarine action figure.

AQUAMARINE: Good day.

MOLLY BLOOM: And the most amazing find of all, a vintage Clambert Shellington, Attorney at Sea action figure.

ANA-VICTORIA: A lawyer action figure?

MOLLY BLOOM: Oh yeah. I've collected them since I was a kid-- Brenda P. Gruffin, Bear Lawyer, Dr. Servo, Professor of Robot Law, Squawks McKenzie, Parrot Prosecutor. Oh, Squawks McKenzie is so cool and so good at cross-examining. You know what? This is not the right time to get me started on action lawyers. I really could go on for hours. But this Clambert Shellington figure is one of the last ones I need for the complete 32-figure set. And you know what the best part is?

ANA-VICTORIA: Tiny lawyer accessories?

MOLLY BLOOM: I do also have a drawer full of little briefcases and tiny filing cabinets. But no, each one has a catchphrase that plays when you pull the string on their backs. OK, let's see. [PULLS STRING]

CLAMBERT SHELLINGTON: Hello, Molly.

MOLLY BLOOM: Ah, what? That's not the catchphrase.

ANA-VICTORIA: Molly, I think Clambert is actually talking.

CLAMBERT SHELLINGTON: Ana-Victoria is right.

MOLLY BLOOM: Whoa. What did the ocean do to you, toys?

CLAMBERT SHELLINGTON: I noticed that you're speaking into a microphone. Would you mind?

MOLLY BLOOM: What do you--

CLAMBERT SHELLINGTON: [CLEARS THROAT] (VOCALIZING) Do, re, me, fa, so. Unique New York, unique New York. OK, I'm ready.

ANA-VICTORIA: Ready for?

[MUSIC PLAYING]

CLAMBERT SHELLINGTON: Hi, I'm Clambert Shellington, Attorney at Sea. Do you know that millions of animals in the Pacific Ocean have been harmed by plastic trash? If you or someone you know has been injured by this hazardous material, you need Clambert Shellington, Attorney at Sea. Are you a sea turtle who has mistaken a plastic bag for a delicious jellyfish, an albatross who has fed plastic pellets to her sweet babies, a sea lion tangled in a nasty old fishing net?

At the law offices of Clambert Shellington, Attorney at Sea, we represent a wide range of ocean species. Clambert Shellington, Attorney at Sea, will prosecute pernicious plastic pollution. Plastic must no longer be allowed to escape human hands into our ocean. If you or a sea creature you know have been affected by the Great Pacific Garbage Patch, call now 1-888-LAW-CLAM. The Great Pacific Garbage Patch won't be great for long with Clambert Shellington, Attorney at Sea. Again, that's 1-888-LAW-CLAM.

ANA-VICTORIA: Wow, that's so inspiring that you're out there fighting for the animals, Clambert.

[PHONE RINGING]

CLAMBERT SHELLINGTON: Oh, excuse me. That must be my new client. [PICKS UP PHONE] This is Clambert. What? No, no, never take the first offer.

MOLLY BLOOM: So glad Clambert is fighting the good fight. But dang, plastic is really bad for all the sea creatures.

ANA-VICTORIA: Humans have got to step up. Our plastic got us into this mess. We need to figure out how to get our planet out of it.

MOLLY BLOOM: We can, and we will. We just have to figure out where to start.

[STEPS APPROACHING]

ROSIE DUPONT: I'm happy to report there are lots of people working on this, and we can help, too.

MOLLY BLOOM: Oh, it's producer Rosie DuPont. Hi, Rosie. What are you up to?

ROSIE DUPONT: I just got back from a trip to Red Hook, Brooklyn.

ANA-VICTORIA: In New York?

ROSIE DUPONT: Yes. I'm glad I went. See, I've been really bummed out ever since I learned about the Pacific Garbage Patch.

MOLLY BLOOM: Us, too.

ROSIE DUPONT: I was losing sleep over it, counting plastic sheep in the Great Pacific Garbage Patch of my mind.

MOLLY BLOOM: Oh, that doesn't sound good.

ROSIE DUPONT: So I said, Rosie, enough with this waterlogged anxiety. Go do something about it. So first thing the next morning, I grabbed my audio gear and headed to PS 15, an elementary school in Red Hook, Brooklyn.

[STEPS TREADING]

I wanted to go to PS 15 because I heard they were having one of their monthly Plastic Free Lunch Days. It's a project they started with help from the group Cafeteria Culture.

ANA-VICTORIA: Is Plastic Free Lunch Day just what it sounds like?

ROSIE DUPONT: Yeah, it's making simple changes to your lunchtime routine, like bringing metal forks and spoons from home, using water bottles instead of disposable cups, and having your school prepare a lunch that doesn't involve any plastic. It sounded like a brilliant and delicious idea to me, so I headed straight to the cafeteria to check it out.

[CHILDREN CHATTERING]

When I got there, I asked some of the kids why they thought Plastic Free Lunch Day was important.

SUBJECT 1: To keep the Earth safe and the sea animals safe.

SUBJECT 2: You get a challenge for today not to use plastic, and that's really fun. And while you're doing the challenge, you're also helping the Earth.

SUBJECT 3: It's fun because you're seeing that you're a person that's helping the Earth instead of hurting the Earth.

SUBJECT 4: A lot of times, people have thrown plastic all over the world, like in the oceans, on the ground, and we have to clean it up to help the world.

ROSIE DUPONT: They could see how small changes in their day-to-day behavior could make a difference on a grand scale and that it was fun to do.

MOLLY BLOOM: It does sound cool. But there's so much plastic in the ocean. Can a small change like this really make a difference?

ROSIE DUPONT: [GROANS] Woof. It's a good question. If you band together with your friends and community, you can make a splash. The first Plastic Free Lunch Day at PS 15 cut their school lunch waste by 99%.

ANA-VICTORIA: Whoa, that's a lot.

ROSIE DUPONT: Yeah. In the hallways of PS 15, I ran into Rhonda Keyser, the education director for Cafeteria Culture. She told me about another one of their big wins-- replacing Styrofoam trays with compostable ones in New York City schools. This led to a number of other awesome changes.

RHONDA KEYSER: So Styrofoam was completely eliminated from New York City public schools, and then, a couple of years after that, there was a Styrofoam ban in New York City and then, just in 2022, in January, Styrofoam ban in New York State. So this is the kind of hyperlocal action that can really make a huge difference. You're demonstrating that you can do it on the local level, and then the question turns from why to why not?

ROSIE DUPONT: And it's not just PS 15 who's doing this. Cafeterias around the US have stopped using Styrofoam trays, and on April 19, 2023, schools across the country are celebrating National Plastic Free Lunch Day.

ANA-VICTORIA: They're like parties for the planet. [BLOWS PARTY HORN]

MOLLY BLOOM: That's awesome. By using less plastic, these kids are tackling the source of the problem because if there's less plastic being used, there's less of it going into the ocean.

ROSIE DUPONT: Exactly. But as you and I both know, a lot of plastic is still finding its way into our waters. I wanted to find out how to capture plastics once they're sloshing around in our lakes and rivers. So on my bus ride home, I was googling around and discovered these awesome things called Trash Wheels, which stop plastic from entering the ocean via rivers. Baltimore, Maryland, has four of them.

ANA-VICTORIA: So what does the Trash Wheel look like exactly?

ROSIE DUPONT: Baltimore has made theirs pretty cute. They all have googly eyes and big gaping mouths, and they have these floating barriers that scoop up trash as it floats towards them on the river. Then, using the current of the river and solar power, they rake the trash into their mouths, up a conveyor belt, and into their tummies, which are just big dumpsters.

ANA-VICTORIA: So how much trash can they pick up?

ROSIE DUPONT: Baltimore's first Trash Wheel was introduced in 2014, and since then, the wheels have collected around 2,300 tons of trash.

MOLLY BLOOM: Wow, that's like 2,300 walruses worth of trash.

[WALRUS BELLOWING]

ROSIE DUPONT: Or 4.7 million pounds of trash.

ANA-VICTORIA: Or about 1,000 dumpsters full. It seems like an awesome way to catch trash before it floats out to sea. But what do we do about all the junk that's in the ocean right now?

ROSIE DUPONT: It's tricky, but scientists are hard at work developing technology to clean up our oceans. Some are developing special sticky nets made out of bacteria that collect microplastics. Others are testing different gels that clump together with these pieces of plastic, and some scientists are even using shellfish to filter microplastics out of the water.

MOLLY BLOOM: Amazing.

ROSIE DUPONT: Yes, but here's the thing. Most of the trash leaving rivers gets pushed onto beaches. So one of the best things we can do is clean up our beaches before that trash gets swept out to sea. Even if you don't live near a beach, picking up trash along rivers and streams will help, too.

ANA-VICTORIA: Cleaning up can be pretty fun. I like to put on my favorite music and groove around while I'm cleaning like I'm having a dance party.

ROSIE DUPONT: [GASPS] Me, too. And picking up trash might feel like a small thing, but it can make a difference. I spoke to Marcus Eriksen, a researcher of the 5 Gyres Institute, an organization exploring the impact of plastics on the ocean ecosystem. And he says there's power if we all band together.

MARCUS ERIKSEN: My answer is get organized, find other people like you. When you get organized, and you start running campaigns at your school, in your community, when you start going into businesses as a group, asking them, can we choose a different packaging besides plastics? You're powerful.

MOLLY BLOOM: Yeah, what if we got the whole *Brains On!* team together this weekend for a trash cleanup/dance party?

JOHNNY TRASH: Can we come, too?

MOLLY BLOOM: You bet, Johnny. The more, the merrier.

ROSIE DUPONT: [GASPS] Dream team.

JOHNNY TRASH: Well, let's go. (SINGING) Bum, bum. Bum, bum, bum, bum. Bum, bum. Bum, bum, bum, bum. Bum, bum. Bum, bum, bum, bum. Bum, bum. Bum, bum, bum, bum. Bum, bum. Bum, bum, bum, bum.

[MUSIC PLAYING]

ANA-VICTORIA: The Great Pacific Garbage Patch isn't really one patch at all. It's two patches connected by a big current system called a gyre.

MOLLY BLOOM: And instead of the plastic piling up like an endless trash island, it's constantly swirling around like a stew being stirred.

ANA-VICTORIA: And most of the plastic has been broken down in a teeny tiny pieces, like little pepper flakes floating in the stew with some big chunks here and there.

MOLLY BLOOM: Using less plastic is a great start, and making sure the plastic we do use ends up in the garbage and not on the street or in the water. That's it for this episode of *Brains On!*

ANA-VICTORIA: This episode was produced by Molly Bloom, Rosie DuPont, Anna Goldfield, Aron Woldeslassie, Anna Weggel, Nico Gonzalez Wisler, Molly Quinlan, Ruby Guthrie, and Marc Sanchez.

MOLLY BLOOM: Our editors are Sanden Totten and Shahla Farzan. This episode was sound designed by Rachel Brees. Beth Pearlman is our executive producer. The executives in charge of APM Studios are Chandra Kavati, Alex Schaffert, and Joanne Griffith. We had engineering help from Alex Simpson and Jake Perlman. Special thanks to Colin Crocker, Claudia Villegas, Jade Tittle, and Brant Miller.

ANA-VICTORIA: *Brains On!* is a nonprofit public radio program.

MOLLY BLOOM: There are lots of ways to support the show. Head to BrainsOn.org.

ANA-VICTORIA: While you're there, you can send in your mystery sounds, questions, and drawings.

MOLLY BLOOM: You can also subscribe to our Smarty Pass.

ANA-VICTORIA: Super fun ad-free episodes and bonus stuff just for you.

MOLLY BLOOM: OK, Ana-Victoria, are you ready to listen to that mystery sound again?

ANA-VICTORIA: Yes.

[MYSTERY SOUND PLAYING]

I still feel like it's something being stacked, that kind of metally.

MOLLY BLOOM: Mm-hmm.

ANA-VICTORIA: And then being put in something like a machine. I still think that because I hear the machine kind of going.

MOLLY BLOOM: Yeah.

ANA-VICTORIA: That's still in my mind. I feel like they're sheets of metal or something like that.

MOLLY BLOOM: You are on the right track. That is correct. You ready for the answer?

ANA-VICTORIA: Yes.

MOLLY BLOOM: Here it is.

EVA: Hi, I'm Eva from Toronto, Canada, and that was the sound of books going through my book return chute at the public library. The first sound you heard was the books going in till the book was on chute and then [? it ?] [? closing. ?] And then they go down the chute, and then this metal rolling pin starts rolling [? out. ?] That explains the rolling sound.

ANA-VICTORIA: OK, I was pretty-- I guess I was pretty close.

MOLLY BLOOM: You were pretty close.

ANA-VICTORIA: Yeah.

MOLLY BLOOM: Stacking books, which do have sheets-- not sheets of metal, sheets of paper.

ANA-VICTORIA: Yeah, [INAUDIBLE] sheets.

MOLLY BLOOM: But you were very close. And going into the machine. Very nice work. Have you ever used a return like that at the library?

ANA-VICTORIA: Yes. I used to go to the library a lot when I had more time, and I definitely used to do that with my dad.

MOLLY BLOOM: It is the most fun part of returning.

ANA-VICTORIA: Yeah. [CHUCKLING]

MOLLY BLOOM: [LAUGHING] I love that machine.

[BOOKS GOING THROUGH THE RETURN CHUTE]

Now it's time for the Brains' Honor Roll. These are the incredible kids who share their questions, ideas, mystery sounds, and drawings with us.

[THEME MUSIC]

[LISTING HONOR ROLL]

(SINGING) Brains' Honor Roll. [INAUDIBLE].

We'll be back next week with more answers to your questions.

ANA-VICTORIA: Thanks for listening.