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

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

GUS: Bob, over here! Wow, you made it.

BOB: You sound surprised.

MOLLY BLOOM: Well, when we planned to have a socially distant picnic in the park, we weren't sure you'd feel comfortable.

BOB: Oh, I'm very excited to see you all. And don't worry. I brought my measuring tape to be sure we stay six feet apart. So I'll set up right here.

MOLLY BLOOM: So how have you been?

BOB: Well, I haven't been out much, safer at home.

GUS: Right, but you were taking walks for a while, right?

BOB: Yeah, that fizzled out. You know what I've been doing lately is making popsicles.

MOLLY BLOOM: Oh, of course. What flavors?

BOB: Well, since I'm staying home, I've just been using things I have around. So pasta water popsicles.

GUS: Wow. That sounds kind of bland, Bob.

BOB: Well, I prefer to think of it as soothing. Another one of my favorites is toothpaste.

MOLLY BLOOM: That sounds awful.

BOB: Oh, it is, not recommended. I was feeling funky last week. So I made a couple with cheese rind flecks. I might add coffee grounds to my next batch for some texture, too.

GUS: Bob, you might want to think about getting out a little more. Some new ingredients might be good.

BOB: I mean, I know. But I'm doing OK with the ingredients I have. And I just feel so worried about being around people.

MOLLY BLOOM: Yeah, it's a lot to handle. If you want, I can drop off some new ingredients for you next time I go to the store. You can send me your requests, and I'll leave them on your doorstep so we can keep far apart, too.

BOB: Oh, Wow. That'd be great, Molly. Imagine the possibilities, rhubarb, nectarine, vegetable bouillon. Mmm. Yum!

MOLLY BLOOM: You're listening to *Brains On!* from American Public Media. I'm Molly Bloom, and we're back today with our co-host, Gus.

GUS: Hi, Molly.

MOLLY BLOOM: Hi, Gus. Gus lives in Seattle. And he has been our co-host for all of our episodes about this pandemic we're living through. So Gus, how is it going?

GUS: I'm doing fine.

MOLLY BLOOM: So does summer feel different?

GUS: Well, not really. I mean, the only differences are here in Seattle, it was rainy for most of the summer until now. And I don't have any summer camps. So those are the only differences.

MOLLY BLOOM: So what have you been doing to have fun and keep busy?

GUS: Well, sometimes, I go to my back yard and whack sticks against stuff. I got a blister from doing that the other day. And I like to ride bikes, and I'm doing more screen time than usual.

MOLLY BLOOM: Tell me about the whacking sticks against stuff.

GUS: Well, I have this bamboo stick that I've had for a few years. And I just-- yeah.

MOLLY BLOOM: So you just whacking it against stuff.

GUS: Yeah.

MOLLY BLOOM: So Gus, what is some of your favorite things to hit with this stick?

GUS: Well, my favorite thing for sure is dandelion stems because when you hit those with a stick, it comes off so clean that it looks like you literally snipped it with scissors. They're really stiff, but really easy to chop down. So it's really satisfying when you whack 'em.

MOLLY BLOOM: Excellent. So what does it sound like?

GUS: Yeah, it makes a [WHOOSH] beat!

MOLLY BLOOM: So besides your newfound love of stick whacking, does the summer feel any different than the school year when you were doing distance learning?

GUS: No. There's no difference at all.

MOLLY BLOOM: So it's just like you were in May in the school year. And now, you're in July in the summer. And they're the same.

GUS: Exactly.

MOLLY BLOOM: Sp your bike riding, where has your bike riding taken you?

GUS: Well, I do it within a nine block radius, sometimes 12 blocks. I just bike in a weaving pattern around these 9 or 12 blocks in my neighborhood.

MOLLY BLOOM: What has been hard about this summer?

GUS: Oh, mostly just not seeing friends. But I also like not seeing friends at the same time. I like not seeing people, but I don't like not seeing friends.

MOLLY BLOOM: So you're OK staying home, but you would like to see your friends.

GUS: Yes.

MOLLY BLOOM: Have you been doing any distance visits with anyone? Or are you pretty much just staying home?

GUS: Yes, I actually have been. In the winter, me and my friend, Jack, would do rain walks together. And these days, I play games with my friend, Henry, in his backyard.

MOLLY BLOOM: It's been almost five months since our first episode about this new coronavirus that's had a big impact on the whole world.

GUS: And, sometimes it feels like we're all alone. It helps to remember that literally everyone is dealing with this in some way right now. Teachers.

MOLLY BLOOM: Bakers.

GUS: Stunt car drivers.

MOLLY BLOOM: Pineapple farmers.

GUS: Hot sauce testers.

MOLLY BLOOM: Magicians.

GUS: Accountants.

MOLLY BLOOM: Beyoncé.

GUS: Everyone, so none of us are truly alone.

MOLLY BLOOM: And scientists around the world are doing amazing work. They're learning so much and sharing it with each other to help protect us all from this virus. We've learned a ton in a short amount of time. Of course, you all have been sending in your questions, too. And a lot of them have to do with how this virus spreads.

SANTO: My name is Santo from Philadelphia. My question is, how do the coronavirus germs travel?

SAMUEL: Hi, my name is Samuel from California. And my question is, how does coronavirus spread?

LUCY: My name's Lucy from Minneapolis, Minnesota. And why do we have to wear a mask?

ANNA: Hi. My name is Anna.

LUCY: And my name is Lucy. And we're from San Diego, California. Our question is, how do masks prevent the coronavirus from spreading?

MOLLY BLOOM: Producer, Menaka Wilhelm, looked into the latest info to help us answer these questions.

MENAKA WILHELM: I did. And first, I want to say, knowing what to do about coronavirus these days can feel confusing and frustrating. It can seem like the information keeps changing on us. But there's a good part of that, too. It means that we're learning more. In a way, we're watching science happen live. Teams of scientists all around the world are studying and learning and checking each other's work, and that's how science has worked for centuries.

To give you an example, let's talk about the sun and the planets. We know now that the Earth and all the planets move around the sun. But in the early days of astronomy, lots of people thought that the sun revolved around Earth.

SPEAKER: Well, the sun rises on one side and sets on the other. So it must go around us.

MENAKA WILHELM: As more and more people observed the sky and interpreted what they saw, it became clear that the Earth moves around the sun and not the other way around. A lot of different people did a bunch of work to figure that out. And they had to miss a couple of shots before they could get to the slam dunk facts that we know now about space.

So that's what scientists are doing now as the world watches. Researchers are looking at what's happening with the coronavirus and interpreting what they see.

GUS: And when they learn things, we are learning about them too.

MENAKA WILHELM: Yeah. Every time new information comes out, we're getting a more complete picture of the virus, what it does, and how to protect ourselves and the people around us. So it may feel hard to keep up, but all of these updates are good. They're a sign that we're learning.

MOLLY BLOOM: So what have scientists learned about how this coronavirus spreads?

MENAKA WILHELM: The main thing researchers have found is that this coronavirus spreads from person to person. It doesn't seem to spread in food. And while it can live on surfaces, touching things doesn't seem to be a big way that people get sick.

MOLLY BLOOM: So we should still wash our hands though, right, to be safe?

MENAKA WILHELM: Oh, definitely. Yes. It's good hygiene and a great way to protect yourself from germs in general. One scientist I talked to about this coronavirus is Linsey Marr. In her lab at Virginia Tech, she studies how viruses move around in air. And she says that's a big way that this virus gets around.

LINSEY MARR: When people talk or cough, they release droplets. Sometimes, you can see the large ones. But there's also hundreds of times more that you can't see because they're too small. And those can contain virus if someone is infected.

MENAKA WILHELM: So basically, when we laugh, or exhale, or sing, anytime air comes out of our mouths or noses really, a bunch of these little tiny droplets fly out of our faces. They're too tiny to see. But it's like a super small spray from your schnoz, or a cloud emanating from your cake hole, or dinky little drizzles of drool, or itty bitty spit storms. Oh, I'm getting carried away.

Anyway, all of these little bits from our breath, our spit, and our snot make an invisible cloud around us. I'm going to call that our mouth mist.

GUS: And some of the bits in our mouth mist are spit, but they're a mix of other things too, right?

MENAKA WILHELM: Yeah, some of the droplets you exhale out come from all the way down in your lungs. They'll have proteins and salts in them, things that came from inside of your body. And so scientists have found that if someone has the coronavirus, it can hang out in their mouth mist.

MOLLY BLOOM: So every time we exhale, little bits from our insides make it out into the world. And those bits seem to be the main way that coronavirus spreads from person to person.

MENAKA WILHELM: Right. And the coronavirus also has a major trick up its sleeve. It can spread from people who don't feel sick. Some people feel just fine, and they still have virus bits in their mouth mist. But now that we know both of those things, we can figure out ways to stop the coronavirus from jumping from person to person.

First, we can keep distance from each other because if you're right next to someone who happens to be infected, you might end up breathing in little bits of their mouth mist.

LINSEY MARR: But as you get farther away from them, that becomes much more diluted. If you're close to a smoker, you're going to breathe in more of that cigarette smoke. But if you get farther away, you'll breathe in a lot less.

MENAKA WILHELM: So keeping distance from other people is a very good idea. If someone is feeling a little close to you, it's totally OK to just say nicely, hey, could I have a little space? The coronavirus eventually shrivels up and dries out if it can't find a human's nose, mouth, or eyes to jump into. So by keeping distance, you're not giving it anywhere to go if someone exhales it, or coughs it, or sneezes it out.

Another good idea is spending time outside. If you're headed to a socially distant hang with someone, it's way safer to spend time together outdoors. Sunlight and heat make the coronavirus shrivel up and dry out quicker. But mostly--

LINSEY MARR: It's a much huger space. We have the whole sky that the droplets can move into, versus indoors they can just be trapped and sit there and build up.

MENAKA WILHELM: Sometimes, we do still have to be inside. And being inside with your family is totally fine. But if you're indoors with people outside of your family, like at a store, everyone's mouth mist can hang out in the air, which is not good. What is good is opening windows and doors so that fresh air can blow some of that mist away.

And if you do need to be inside, there's a great way to keep our mouth mist to ourselves all the time-- covering up our face holes.

LINSEY MARR: So masks, cloth masks, especially, can be very good at blocking droplets that come out of your mouth.

MENAKA WILHELM: But we thought about this differently early on. So this part can definitely feel a little bit confusing.

MOLLY BLOOM: Yeah, when we did our first *Brains On!* episode about the coronavirus back in March, experts were still recommending that only health care workers wear masks.

MENAKA WILHELM: But now, as researchers are learning more about how this virus works, it's clear. Masks can really help keep this virus from spreading. Masks definitely help you keep your mouth mist to yourself. And they might even give you some protection from other people. Plus, when we see people in masks, it seems to help remind us to keep distance in between us. So the more people who wear masks, the safer we'll all be.

[PHONE CHIMING]

GUS: Molly, is that your phone?

MOLLY BLOOM: Oh, my gosh. Sorry. Yeah. I should have turned it off before we started taping. I'm so sorry. But oh, wow. It's our virus pals, Kara and Gilly.

MENAKA WILHELM: Oh, wow. I loved their latest episode of the *Going Viral* podcast. What are they up to?

MOLLY BLOOM: It looks like they're promoting their new single? Here, let's check it out.

GILLY: Hello, humans of the planet. We are so happy to share our talent.

KARA: I'm Kara.

GILLY: And I'm Gilly.

KARA: Here with our debut track.

GILLY: Where we're going to drop facts.

KARA: And today, we decided to tell you about--

BOTH: --things coronaviruses hate.

[MUSIC PLAYING]

KAREN: (SINGING) So first on the list of things a virus hates.

GILLIE: Can a virus live with soap?

KAREN: Say it with me, big nope. Soap on the scene makes the virus go away. Soap, soap, soap-soap, soap-soap, soap-soap, soap.

GILLIE: Let's go viral.

KAREN: Soap, so-soap, so-soap, soap-soap, soap-soap, soap-soap, soap-soap. So-so-soap, soap, soap, so-so-soap, soap-soap.

GILLIE: So the virus like to sunbathe?

KAREN: Uh-uh, that's a no way.

GILLIE: What is the thing that coronavirus hates?

KAREN: Sunbathe, sun rays, sunlight always. Sun, sun, sun-sun, sun-sun, sun-sun, sun-sun, sun, sun, sun, sun, sun. Go sneeze. Sun-sun, sun, sun, sun, sun-sun, sun, sun-sun-sun, sun, sun, sun, sun-sun-sun.

GILLIE: Does the virus like to feel the wind in its hair?

KAREN: No, wind in the air blows the virus out of there.

GILLIE: How can we get to where we're going if the wind is blowing, blowing, blowing, blowing?

[MUSIC PLAYING]

KAREN: So what makes coronavirus harder to spread?

GILLIE: Air flow, flow, flow, flow, flow, flow, flow, flow, flow flow, flow, flow, flow, flow. Mic drop! Flow, flow, flow, flow, flow, flow, flow, flow, flow, flow, flow, flow, flow, flow, flow, flow.

[MUSIC PLAYING]

KAREN: OK. So that's the jam. Three things to make coronavirus scram.

GILLIE: Which humans seem to want?

KAREN: (SINGING) Soap, soap-soap, soap, soap, so-soap, so-soap, soap, soap, soap. Sun, sun-sun, sun-sun, sun-sun, sun-sun.

GILLIE: Air flow, flow, flow, flow, flow, flow, flow. To all the virulinos, we thank you.

KAREN: Your love is infectious. You know it's true.

GILLIE: She is Karen. I am Gillie.

KAREN: Now go ahead and pay us tamales!

MOLLY BLOOM: Wow! That was unexpected and surprisingly good for two viruses.

GUS: I wonder when their album comes out.

MENAKA WILHELM: Soon, I hope. Maybe one day, they'll get so famous that they'll have a website and a merch store. And I'll finally be able to buy a trucker hat with their faces on it. I mean, if viruses had faces.

You know what? I need to go see if they have any other songs out. I'm going to scoot. Molly, can you send me that Karen/Gillie link?

MOLLY BLOOM: Sure.

[SWOOSH]

GUS: Bye, Menaka.

MENAKA WILHELM: Later, skaters. Sun, sun, sun, sun, sun, sun, sun, sun, sun.

[ROBOTIC SOUNDS]

ROBOT: *Brains, Brains, Brains On!*

MOLLY BLOOM: OK, Gus, it's time for the--

WOMAN: Shh.

[MYSTERIOUS SOUND]

CHILD: (WHISPERING) Mystery Sound.

MOLLY BLOOM: You ready, Gus?

GUS: Yeah.

MOLLY BLOOM: OK. Here it is.

[RATTLING]

Oh, that's a very short one.

GUS: Ooh, that's a hard one.

MOLLY BLOOM: I know. OK, let's give it another listen.

[RATTLING]

GUS: Hm. That's a tough one.

MOLLY BLOOM: Walk me through your thought process.

GUS: Maybe a paper cutter, or a copy machine, or a robot?

MOLLY BLOOM: Well, we're going to hear it again a little later in the show and give you another chance to guess.

[MUSIC PLAYING]

We're working on an episode about stars, and we want to hear from you. There are so many stars out there. And some of them have been given names by humans. Some have poetic names like Betelgeuse, which comes from the Arabic for hand of the giant. Or Bellatrix, which is Latin for female warrior.

But there are lots of stars out there without proper names, so we want to hear from you. If you had a chance to name a star, what would you name it, and why?

You can share your answer at brainson.org/contact. While you're there, you can send us questions, mystery sounds, and drawings too. Or maybe you just want to say hi.

GUS: Whatever it is, you can send it to us at brainson.org/contact.

MOLLY BLOOM: That's where we got this question.

LYKA: Hi. My name is Lyka, and I'm from Concha, California. My question is, why do sharks die if they stop moving?

GUS: We'll answer that question during our *Moment of Um* at the end of the show.

MOLLY BLOOM: And we'll read the most recent group of listeners to be added to the *Brains* honor roll.

GUS: We also have one more exciting thing to tell you about.

MOLLY BLOOM: We wrote a book! It's called *If Alive,* from neurons and narwhals to the fungus among us. It's a fun and fact-filled journey that will introduce you to the mind-blowing living things that exist on this planet.

It comes out September 8. But you can pre-order it now. Just head to brainson.org to learn more.

GUS: And keep listening.

[MUSIC PLAYING]

[RECORD SCRATCHING]

ALL: *Brains On!*

SPEAKER: Are you tired of coughing--

SPEAKER: [COUGHING]

SPEAKER: --sneezing?

SPEAKER: Achoo!

SPEAKER: --and breathing tiny particles out into the world?

SPEAKER: Blech!

SPEAKER: Do you want to be extra sure to keep all your fluids to yourself? Now you can. With a cloth mask.

[SPARKLY SOUND]

[MUSIC PLAYING]

Play, walk, and even talk. With a cloth mask that fits closely over your nose and mouth, you'll be sure to keep more of your particles to yourself.

But that's not all. Cloth masks will help keep the people around you healthy--

[BELL DINGS]

--whether you're swinging on swings, strolling through the grocery store, picking up takeout, going to the eye doctor, trying to put tiny dog clothes on squirrels at the park, just wear a mask.

[MUSIC PLAYING]

Masks come in all kinds of shapes and materials, so you can find one that works for you. Or you can make one yourself from the comfort of your own home. A mask with multiple layers will trap more particles.

So feel free to double that fabric up. Be sure your mask is comfortable. The best mask is one you can keep on your face, not over your neck--

[BUZZER]

--or over the top of your head.

[BOING]

Right over both your nose and mouth. That way, those pesky droplets and particles that are always exiting your face holes will have to make it through a wall of fabric first.

[MUSIC PLAYING]

SPEAKER: Won't a mask trap in all the carbon dioxide that I exhale?

SPEAKER: No, it won't. Cloth has tiny holes in it that gases can travel through. It's larger particles and droplets that get trapped, so you'll be able to breathe easy.

SPEAKER: I mean, how can my mask do anything if my pants can't even keep my fart smells in when I toot?

SPEAKER: Fart gas particles are actually even smaller than some of the droplets you breathe out.

ALL: Oh.

SPEAKER: So farts getting through your pants has nothing to do with masks trapping droplets. If you toot, just say excuse me.

[PRRT]

And put on your mask.

[MUSIC PLAYING]

Wearing a mask is perfect for any person who plans to share space with others. But remember, you should always keep your distance for extra protection. Masks.

[BELL DINGS]

All the benefits of avoiding other people's droplets and particles, along with the gift of keeping your face fluids to yourself. Act now. The masks of the world can't wait to meet your face.

[MUSIC PLAYING]

GUS: You're listening to *Brains On* from American Public Media. I'm Gus.

MOLLY BLOOM: And I'm Molly. Gus, are you ready to hear that mystery sound again?

GUS: Am I ever.

MOLLY BLOOM: Here it is.

[RATTLING]

I'm going to give you a hint before you guess this time.

GUS: Yeah.

MOLLY BLOOM: This is something that you've probably done a lot of times in your life and has to do with a way that you can get around town.

[RATTLING]

GUS: Ooh. Ooh, is it kicking up a kickstand?

MOLLY BLOOM: Ooh, I love that guess. That's an excellent guess.

GUS: OK. I think that's my final guess. I mean, I could definitely be wrong, but that's my final guess.

MOLLY BLOOM: I like the guess. Here is the answer.

MAYA: Hi. My name is Maya. And that was the sound of me unbuckling and buckling my seat.

GUS: So that is a seat belt. Seriously? Oh. Oh, oh, I see. Because the clicking sound when you slide the-- oh, I see. But it sounded like a kickstand.

[RATTLING]

MOLLY BLOOM: For more on seat belts, here's producer Marc Sanchez. Hi, Marc.

MARC SANCHEZ: Hi, Molly. Hi, Gus.

GUS: Hello.

MARC SANCHEZ: So Gus, I want to ask you something. When you're in a car, how often do you wear a seat belt?

GUS: All the time.

MARC SANCHEZ: Exactly. Wearing a seat belt is like second nature. Most people don't even think about it. You put on a seat belt to help protect you in an accident.

It's kind of the same with masks. You put on a mask to help protect against spreading this coronavirus. So why do some people skip wearing one?

Well, it turns out, people don't always embrace new habits, even ones designed to protect them. Take a listen to this.

(SINGING) Buckle up for safety. Buckle up.

[MUSIC PLAYING]

ANNOUNCER: The National Safety Council says, if you don't have seat belts, get them. If you do have seat belts, use them. Seat belts can and do save lives every day.

[MUSIC PLAYING]

(SINGING) Buckle up for safety. Everybody, buckle up!

MARC SANCHEZ: That was an ad from 1964, more than 50 years ago. A few years later, the US told car manufacturers that they had to put seat belts in every seat on all new cars. But there was no law saying that you had to use them. And believe it or not, a lot of people just refused.

There were plenty of statistics showing that wearing a seat belt could save your life or reduce your chance of being injured or killed in a car accident. But most drivers back then grew up without wearing seat belts. So a lot of them were like, nah, seat belts are too uncomfortable. And, I'm pretty sure I'm a good driver. Plus, stop telling me what to do!

And some people even argued that it was more dangerous to wear a seat belt because it might hurt you in an accident, even though lots of tests and studies proved this was wrong. It took about 20 years for people to finally make the shift toward safety. And Gus, what do you think might have changed their minds?

GUS: Uh, did-- um, they made cushions? I don't know. They said it was uncomfortable.

MARC SANCHEZ: Good guess. But it was actually money. Well, losing money. States started to pass laws that made it illegal not to wear a seat belt. People could now get a ticket for being beltless, and they would have to pay a fine.

In 1985, only 15% of people used seat belts. That same year, New York put the very first seat belt law into effect in the US. And on January 1, just after midnight, Betty Shufelt had the distinction of being the first person to get a ticket. This is what she told a reporter at the Washington Post.

BETTY SHUFELT: It was a lot of hassle. And I don't like being told what to do.

MARC SANCHEZ: Clearly, she wasn't happy about getting caught. But she did go on to say that she would buckle up going forward. So that's a win for safety.

[CAR HONKING]

So far, people have been quicker to embrace masks than they did seat belts. And that's a good thing. Sometimes, we have to do things that are a little annoying, or uncomfortable, or just different.

Buckling up a seatbelt, getting vaccinated, or wearing a mask aren't the first things on anybody's time-to-party list. But they are very important. They can help you and the people around you stay safe.

GUS: Yes. Wear your seat belt and your mask.

MOLLY BLOOM: Thanks, Marc.

MARC SANCHEZ: You bet. See you later.

(SINGING) Bah, bah, bah, bah, bah, bah, bah, bah, bah, bah, *Brains On!*

[WHOOSH]

MOLLY BLOOM: We've been getting lots of questions from our listeners wondering about the future. When will the vaccine be ready? What will it be like at school? When will things go back to normal?

I and all the adults in your lives have the same questions. We're going to do our best to answer some of these questions in our next coronavirus episode. But they don't have concrete answers right now.

GUS: Trying to look a month or a year into the future is hard.

MOLLY BLOOM: Right. We're used to being able to count down to all sorts of stuff like birthday parties, or school concerts, or sports tournaments, or vacations.

GUS: But we're not exactly sure when we'll be able to do those things again.

MOLLY BLOOM: We call this feeling of not knowing what will happen, uncertainty. And it's hard to deal with.

NAKITA NATALA: When we have a lot of uncertainty, that part of our brain that gets anxious, I think, goes into overdrive. And we just start to worry a lot, especially when things around us aren't really as predictable as they used to be.

GUS: That's Dr. Nakita Natala.

MOLLY BLOOM: She's a psychiatrist at the University of Minnesota. She helps kids with their mental health.

NAKITA NATALA: We all have a little bit of anxiety, and that's all-- anxiety is actually a good thing for us. And it keeps us safe.

MOLLY BLOOM: Anxiety keeps us safe by making us nervous in dangerous situations.

GUS: Yeah. It keeps us from going near the edge of a cliff or touching fire. Anxiety can be useful. It helps us organize the world into things that are safe and things that are threats.

MOLLY BLOOM: But uncertainty about the future can make it hard for our brains to organize things.

NAKITA NATALA: And I think that's what makes it really hard for us to deal with uncertainty, if that makes sense. And then when we can't predict things, then we start to worry about all what-ifs.

MOLLY BLOOM: Our brains like answers because they help keep us safe. So what can we do when we don't have all the answers about what the next few months will look like?

GUS: Nakita recommends focusing on what's happening right now, the present.

NAKITA NATALA: Really kind of examining our lives, like every day. And trying to figure out things that we can enjoy on a day-to-day basis. And trying not to focus as much on the future or what will come. And one thing that I've noticed is-- I've tried to do this more myself, too-- is that I found new things that I like to do.

MOLLY BLOOM: One thing that I found that I like to do is a really simple thing. And it's just to go outside in my backyard and pay attention to all the flowers as they sort of bloom and then fall off. I've been watching this whole cycle of my garden. And it's been really enjoyable because I don't really, generally, have time to do that.

How about you, Gus? What have you found that you like that's new?

GUS: When I do bike around or go on walks, I see bees buzzing around the lavender and stuff. And I like to watch them, especially the bumblebees with their big, snout things--

MOLLY BLOOM: Very cool.

GUS: --when they sip the lavender. And I actually got my own lavender plant. And I'm planning on building a bee nest that's like a buried, upside-down flower pot--

MOLLY BLOOM: Cool.

GUS: --for the most part. And I'm going to make it in the late winter when the newborn queen bees start buzzing around looking for a new place.

MOLLY BLOOM: That is so cool. So you noticed something you hadn't noticed before. And now it's causing you to help our bee friends. That's so cool.

GUS: Yeah.

MOLLY BLOOM: Well, Nakita also says it's important to let yourself feel your feelings and know you're not alone in them. It's normal right now to feel frustrated, or angry, or sad, or all of them at the same time.

GUS: But also think about the moments you have that are fun and the times you feel contentment and happiness.

MOLLY BLOOM: If you're having trouble staying focused on the present, there are some games you can play.

GUS: Like, look around you and make a list in your head of everything you see that is green.

MOLLY BLOOM: Or try to think of all the character's names in your favorite book or TV show.

GUS: It's also great to take deep breaths. Inhale for four counts, then hold that breath for four. Then exhale for four. It feels great.

MOLLY BLOOM: Or you can try distracting yourself by going outside or watching a movie or reading a book.

GUS: And if you're still having trouble keeping your mind off the what-ifs, it's great to talk to your parents or another adult you trust.

MOLLY BLOOM: There are always people who want to help you. And if you're looking for help, we have some resources in the show notes for this podcast and at our website.

GUS: Nakita says a lot of the families she talks with are even seeing a positive side to this time.

NAKITA NATALA: People are getting to spend more time together and not as distracted by every day, kind of that go-go-go that a lot of us experience every day before coronavirus. And so I think people are really valuing that time together. And they're really getting to spend more time thinking about the things that they like to do, recentering themselves, and thinking about how to take good care of themselves.

[THEME MUSIC]

MOLLY BLOOM: This new coronavirus has changed all of our lives, and it's making things feel more uncertain.

GUS: It's normal for uncertainty to cause some big feelings like anxiety. But one way to deal with it is to focus on the present.

MOLLY BLOOM: One thing that's happening in the present is that scientists all over the world are studying this coronavirus and working on treatments and vaccines.

GUS: Scientists are learning new things about it all the time. And we get to watch science in action.

MOLLY BLOOM: One thing scientists have learned is that this virus primarily spreads from droplets that come from our faces.

GUS: So that's why it's important to keep distance from others and to wear a mask. Keep your mouth mist to yourself.

[THEME MUSIC]

MOLLY BLOOM: That's it for this episode of *Brains On!*

GUS: *Brain On* Is produced by Molly Bloom, Marc Sanchez, Sanden Totten, and Menaka Wilhelm.

MOLLY BLOOM: We had production help from Kristina Lopez and engineering help from Andrew Walsh and Johnny Vince Evans. Many special thanks to Phyllis Fletcher, Josh Santarpia, Vicky Krekeler, Rosie Dupont, Alex Flood, Delia Bloom, and to Anna Weggel and Tracy Mumford for being the very best sports.

GUS: *Brains On* Is a nonprofit, public radio program.

MOLLY BLOOM: You can support this show and help us keep making new episodes at brainson.org/fans.

GUS: Now, before we go, it's time for our *Moment of Um.*

ALL: (In succession) Um. Um. Um. Um. Um. Um. Um. Um. Um. Um. Um.

LYKA: My question is, why do sharks die if they stop moving?

[MUSIC PLAYING]

MELISSA CRISTINA MARQUEZ: That's a really good question. Um. Hi, everyone. My name is Melissa Cristina Marquez. And I'm a shark scientist who studies where sharks are and why they're there.

[MUSIC PLAYING]

So sharks have five to seven slits on the sides of their heads or underneath them, depending if they're a shark or if they're a stingray. And those allow the animals to breathe.

Now, all of the sharks and the stingrays, they have this. This is how they breathe. They don't have lungs like you and I do. So what happens is water will actually pass over the gills where there's tiny little blood vessels ready to extract oxygen from the salty water. And then the carbon dioxide waste also passes from the shark's blood out of the body through the gills.

So that's how the sharks breathe. It's constantly having water go through those gills. The big sharks that a lot of people know such as great white sharks, mako sharks, tiger sharks will do what's called ramming. And the ram ventilation is because they're ramming water into their mouths by constantly swimming fast. So they have to constantly keep moving in order for them to breathe.

[MUSIC PLAYING]

But a lot of the smaller sharks such as nurse sharks, wobbegong sharks, Port Jackson sharks, those actually do what's called buccal pumping, which is named after the cheek muscles. And you'll see a bunch of them opening and closing their mouths while they're just resting on the bottom of the ocean. And that's those cheek muscles helping pull water into the mouth and through the gills.

[MUSIC PLAYING]

[UMMING]

MOLLY BLOOM: And now for a breath of fresh air, it's the*Brains* honor roll. These are the incredible listeners who send us their ideas, questions, mystery sounds, drawings, and high fives.

[MUSIC PLAYING]

[LISTING HONOR ROLL]

[MUSIC PLAYING]

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

GUS: Thanks for listening.