Podcast: Imagine This

Episode Title: BONUS: Marine Biology in the Imaginarium!

Duration: 9’ 53”

*[ABC Kids podcast sting – This is an ABC podcast]*

We hear submarine ambience – deep water whooshing, clicks and beeps from the sonar, some bubbling, whirring lab equipment

Nij: Hello, I’m Nij and this is Imagine This!

*[sonar beeps]*

Well, kinda…

*[Classical music starts]*

Today we’ve taken the Imaginarium in a submarine under the sea!

You know, we’ve had so many questions come in about marine biology. That’s the science of life in the ocean! So, I thought it would be great to invite our friend, marine biologist, Tooni Mahto back to help us answer more questions.

*[There’s a tap on thick glass and the sound of scuba breathing apparatus]*

Ahh! Tooni’s at the window in a scuba suit!

*[We can hear Tooni’s muffled voice and the bubbles from her scuba gear]*

I can’t hear a thing, mate! Hang on, swim up to the hatch and I’ll let you in.

*[We hear Tooni against through the metal walls of the submarine and Nij cranking the hatch open. An alarm goes off and we hear a big splash as Tooni jumps in and then a robot voice over a loudspeaker]*

Robot voice: Breach detected. Water has entered the cabin. Draining commencing.

*[Sucking noise like a water going down a sink hole. Tooni peels off her goggles]*

Tooni: Cool submarine.

Nij: Thanks, the imaginary features are the best

*[Draining sound ends on a single neat drop]*

Robot voice: Draining complete

Tooni: *(laughing)* Cool!

Nij: Tooni, it’s great to have you here to answer more marine biology questions

Tooni: Of course! I’m happy to help

Nij: We’ve had so many, I thought, instead of just one, maybe we could try to answer many as possible!

Tooni: Sounds great. Fire away!

Nij: I’ll patch them through

*[Typing on a computer and sound of a printer spitting out question]*

Here we go…

Child’s voice: How do fish swim underwater?

*[Playful tropical music starts]*

Tooni: You get a great view of all the fish swimming around from down here.

Nij: Yeah! It’s amazing

Nij: There are quick fish that move in zig zags. And fat ones that blob around like colourful clouds. Ooh! That one’s swimming down into some coral!

Tooni: One of the really cool things about life under the sea is that it can move in three directions. On land we can only really move in two. We can go forwards and backwards, and we can go side to side. But in the water, animals have up and down to work with too

Nij: If I jump as high as I can, I can go up and down too

Tooni: Yeah, about 30cm! But fish can swim hundreds of metres below the surface

Nij: How do they do that?

Tooni: They go forward by sweeping their tails side to side. They use their fins to help them turn left and right and keep stable, so they don’t shoot off in any direction. And to go up and down, fish have something very special called a swim bladder

Nij: To wee?

Tooni: It’s a different kind of bladder! It’s a pocket of air they can fill up, and that helps them swim up toward the surface. Or they can empty it to help them swim down

Nij: Like a little balloon?

Tooni: Yeah, sort of. Air floats in water, so if you imagine their swim bladder as a little balloon - when it fills with air, it wants to float up to the surface. But an empty balloon doesn’t float very well, in fact it sinks, so fish can swim deeper down

Nij: That’s so clever

*Computer beeping. Song ends and printer starts whirring*

Nij: Oh, here comes another question!

Jensen: Hi, I’m Jensen and I’m six. I would like to know why octopuses have three hearts

Nij: Three hearts!? Is that true?

Tooni: Yeah! But they basically do the same job that our one heart does.

*Gentle classical music starts*

Nij: Right, well our heart beats –

*[The sound of a heartbeat]*

- to send blood and oxygen all around our bodies

Tooni: Exactly. Octopuses have one big heart that pumps the blood around their bodies and down into all their eight legs, just like our heart does. Then, they have two smaller hearts to pump blood to their gills. They have one heart for each gill.

Nij: Why do they need three? We’re much bigger than octopuses and we’re just fine with just one.

Tooni: That’s true. The reason is, they don’t carry oxygen around their bodies the way we do. We have red blood because that’s full of iron. Iron is really good at carrying oxygen. But octopuses’ blood is blue, that’s because its full of copper. Copper isn’t as good at moving oxygen around the body, so they need a bit of extra help and a couple of extra hearts

*Computer beeping. Song ends and printer starts whirring*

Nij: Oh great, another octopus question!

Eli: Hello, I’m Eli and I’m 5 years old, my question is how do octopuses squirt ink?

Tooni: Well, the simple answer is… out of their bums!

*[Playful tuba song starts}*

Nij: *(laughing)* What!? Out their bums?

Tooni: Yes, it’s a very useful trick to get away from predators. Not all octopuses can do it, but some can, and some squid and cuttlefish do it too.

Nij: So, is it like poo?

Tooni: No, it’s a black mucus that’s kept in a little sac next to their bottoms and when they get scared, they squirt it out of their bums with a big jet of water.

Nij: Very cool

Tooni: And very effective! The mucus creates a dark cloud in the water, so it gives the octopus a chance to swim away and hide without being seen. Plus, if it gets into a predator’s eyes, it can blind them for a little while and it messes with their sense of smell too.

Nij: Wow, so they can’t sniff them out either.

Tooni: Pretty good if a shark is on your tail.

*Computer beeping. Song ends and printer starts whirring*

Nij: Oh, our next question!

Gus: Hello my name is Gus and I’m six years old and my question is, how do fish sleep if they don’t have eyelids?

Nij: *(alarmed)* Hang on – fish don’t have eyelids?!

Tooni: There’s no need for them.

*[Classical harp music starts]*

We have eyelids so we can blink and keep our eyes from drying out. But fish live underwater, so their eyes stay wet all the time

Nij: Oh yeah

Tooni: Fish don’t really sleep – at least not in the way that we do. They don’t curl up in bed or snore for 8 hours a night, or importantly, close their eyes! But they do rest and have down time. Parrot fish actually make themselves a little mozzie net of sorts

Nij: A mosquito net!?

Tooni: Out of mucus!

Nij: Ugh gross!

Tooni: They blow a big snot bubble to rest in at night! We think it’s for a bit of extra protection – if a predator disturbs the bubble, the parrotfish will feel it and have a chance to swim away. It also protects them from parasites, just like the mosquito nets we use at night.

Nij: That is amazing. I wish we could use our snot like that

Tooni: If only

*Computer beeping. Song ends and printer starts whirring*

Nij: Here comes another one

KIDS: Hi I’m George and I’m 5 years old. I want to know how do angler fish find food and swim in the ocean?

Tooni: Shall we dive down, and see?

Nij: Great idea!

*Level cranks and buttons beep. The submarine sinks deeper as a mysterious song starts*

Tooni: The surface is called the sunlight zone, it’s where phytoplankton float turning sunlight into oxygen…

Nij: Oh yeah, you taught us about phytoplankton. They’re the microscopic plants that create oxygen in the ocean.

Tooni: Exactly. Most life in the ocean lives in the sunlight zone

Nij: Hey look, it’s getting dark out there

Tooni: Looks like we’ve just passed into the twilight zone. This is about 200m below the surface. Light from the sun can’t reach as far down here, so the twilight zone is pretty dark. Here you’ll find creatures like sperm whales and giant squid.

*Whale song echoes in the background*

Nij: How deep does the twilight zone go?

Tooni: About a kilometre down. When there’s absolutely no light left, it’s so dark it’s pitch black. That’s when we’ve reached the midnight zone.

Nij: Eee! I’m just gonna turn my night light on

*[Lamp clicks on]*

Phew! That’s better. Is this where we’ll find anglerfish?

Tooni: In the deep sea, you get some really strange fish

*[Curious classical music starts]*

Because it’s so dark down here, it’s incredibly hard to find food!

Nij: I couldn’t find the fridge with my eyes closed. How do they know where they’re going?

Tooni: Well, they’ve adapted to the dark. When it comes to anglerfish, the females all have a glowing lure on their heads. It looks a bit like a fishing rod, funnily enough. And the bait on the end of the rod is a bright glowing light. In the dark, small fish can only see the light, not the rest of the anglerfish’s body. So, they come up close to check it out and snap, get gobbled up!

Nij: So, they just wait for food to come to them?

Tooni: Basically, yeah. It would use up too much energy to swim around in the dark. An anglerfish’s life is mostly spent waiting for food to come to it. They have enormous mouths - they can swallow a meal twice their body size!

Nij: Woah! Hey Tooni, can we go to back to the sunlight zone now? Anglerfish are cool but it’s too dark for me down here.

Tooni: Yeah, let’s head up.

*Nij tinkers with submarine and we hear the metal groan and bubbles float past as they ascend. The submarine surfaces and Nij opens the hatch into the air. We can hear the shore in the distance]*

Nij: Here we are, back in the sunlight zone with all our fishy friends!

Tooni: This is where I get off! I’m gonna check out the coral reef. I’ll see you next time!

Nij: Thanks, Tooni! Bye!

*Tooni dives into the water with a big splash as music continues*

Nij: Imagine This is an ABC Kids listen podcast written and produced by Soumia Bella with sound design by Que Nguyen, senior producer is Emma Gibbs. For more great podcasts to play, music to move, and stories and soundtracks for sleep, download the ABC Kids listen app, free from your app store