Podcast Name: Imagine This

Episode Title: How do echidnas breathe underground?

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[ABC Podcast sting - This is an ABC Podcast]

Bri: Hello, I'm Bri. And today on Imagine This, we're looking for a very special animal.

[sound of the bush, birds tweeting]

Bri: If you sit quietly in nature, you might see one or hear one crawling on the ground.

[Rustling]

Bri: This little animal has spikes.

Kids: A porcupine!

 Hedgehog!

 Hedgehog!

 Porcupine! I knew it was a porcupine!

Bri: Porcupines and hedgehogs do have spikes, but this little animal is found in Papua New Guinea and all over Australia. It's called an echidna.

Kids: Echidna.

 Echidna.

Bri: Have you ever seen an echidna before?

Kids: Mmmm... No.

 I don't know.

 Me!

 I have an echidna book.

 Once in a video, I saw, there was an echidna in the water.

Bri: So you might've seen an echidna in a book or on a video, but they can be very tricky to see in the wild. Today's question is from Isabella who actually has an echidna in her backyard.

Isabella: Hi, my name is Isabella, I live in Phillip Island and we have an echidna in our garden. I was watching it digging into the ground through solid dirt, and I wondered how does it breathe when it’s digging?

Bri: Isabella has seen that an echidna digging in the ground, and she wants to know how does it breathe when it's underground? So today's expert is Dr. Christine Cooper from Curtin university. Christine has studied how echidnas live and survive in the wild and she's even cuddled an echidna. Hi, Christine.

Christine: Hi there.

Bri: So, what's it like to cuddle an echidna?

Christine: They're really cute, but they're very spiky. So I usually were gloves.

Bri: They are spiky. So what is an echidna exactly?

[Curious music]

Christine: An echidna is a small animal that is covered in sharp spikes and it has strong legs for digging. And it's got a long snout that it can use pushing into the ground.

Kids: It's an animal that lives in a ball with spikes on it.

Bri: How big is an echidna?

Christine: A bit bigger than a football. Like a little spiky football.

Bri: What colour is it?

Kids: A bit brown, black and grey.

Christine: Yes. Echidnas have a little furry face with little dark eyes and then a long snout with the nostrils at the very end.

Kids: It's a big nose.

 Yep its a big long circle nose.

Bri: Yep. And they don't just have long noses. They also have really long claws. Have you ever seen something with long claws before?

Kids: When I went to the nail shop to get my nails done, I saw a lady that got different nails and they were really long like claws.

Bri: Ah yes, echidnas' claws kind of do look like those long fingernails that haven't been cut.

Kids: Her nails were this long.

Bri: Wow. That's so long. Take a look at your fingernails. Are they long like an echidna's claws?

Kids: Not quite.

 No!

 My fingernails are long.

 But I have a nail clipper that can clip your nails. They're very sharp.

Bri: Ah, so you clip your nails.

Kids: Yeah!

Bri: What do you use your fingernails for?

Kids: Picking things up with your fingernails if they’re really big.

 Or picking up puzzle pieces.

Christine: I use them for picking up small things and scratching.

Bri: I use them for picking my nose. I'm really trying not to.

[kids giggle]

Kids: I do!

Bri: So echidnas have really long nails and really long noses. Christine, do they use their nails to pick their nose?

Christine: Nope. Echidnas do not do that.

Bri: So what do they need those big, long nails for?

Christine: Echidnas have long claws and they can use that for digging into the ground.

Bri: Ooo I wonder what they're digging for.

Kids: Treasures.

 Coins!

[Excited classical music]

Bri: Echidnas could be looking for coins or treasures, but what else do you think they would be digging for? [Rustling] That's underground.

Kids: Crystals!

 It's trying to get some food.

 You could eat insects.

 And they can actually get their food on these holes like this.

 Dig dig dig dig dig!

 And they stick their tongue out and pop their tongue in there.

Christine: Yes, echidnas have a really long tongue that they use for looking out at some termites.

Bri: So they're digging for their food?

Christine: If they're looking for food, they can smell their food [sniffing] and they'll dig where they can smell it.

Bri: Ants and termites. Yum, yum!

Kids: Sticky yucky.

 Yucky.

 Yucky!

Bri: Okay, no ants or termites for you.

Kids: No!

Bri: But those echidnas aren't just digging for food. They also dig for other reasons.

Christine: Yes. Echidnas dig holes to hide from danger. And they'll also dig burrows to sleep or resting.

Bri: So they really like being underground.

Christine: Yes. Echidnas dig underground because that's a safe place for them.

Bri: But they look like they're stuck in their little holes. How do they breathe in there?

Kids: I don't know. Maybe his nose might be special for underground.

 Maybe doing this [inhales] ...maybe he’s doing that.

Bri: Ah, they could be holding their breath in there, but then how would they breathe, Christine? How do they do it? How do they breathe underground?

Christine: Echidnas don't use much energy so they don't need to breathe as much as we would do when we were digging. And they've also got a low temperature. So they're not needing as much oxygen as we do.

Bri: So even if they don't need a lot of air, surely they need a little bit of fresh air in there.

Christine: Absolutely. If an echidna needs a bit more air in the hole,

[Adventurous music]

there's a few things that it can do. They can use their front legs to move the soil and let some fresh air in. They wriggle their bodies and they wriggle their legs to flush air into that hole.

Bri: Can you wriggle like an echidna?

Kids: Wriggle, wriggle, wriggle, wriggle, wriggle.

Christine: Yep, wriggle around!

[Kids giggle]

Kids: Can an echidna be stuck?

Bri: I hope that an echidna is not stuck. It's a very small space. How do they get out of there?

Christine: They do like a forward roll. They want to turn around.

[Drum roll]

Bri: Echidnas can do a somersault in that little hole?

Christine: Yes.

Bri: That's so cool.

Christine: Aha. Echidnas are small and slow, but they have superpowers.

Kids: Ba-bum!

[Triumphant horn]

[sound of the bush, birds tweeting]

Bri: So Isabella, that little echidna in your backyard, digging holes is probably looking for ants or termites or maybe it's digging a burrow to hide in and it can dig way down into the earth because it has super strong = arms and really sharp long claws.

[eerie classical music]

Bri: So even though it looks like they can't breathe in those holes, remember echidnas don't need as much air as we do because they don't use as much energy. They only need a little bit. So when they've got their heads in those holes and they need a little bit more air, they wiggle and they wriggle and they move the dirt around to flush some air in. And while those spikes might look a little bit scary, echidnas are really quite nice! So next time you're out in nature, take a moment to be very still and quiet. And if you're lucky, you might just see one!

[Rustling sounds]

Bri: Imagine This is produced by me, Brianna Peterson, and is a co-production between The Conversation and ABC Kids listen. Additional sound and mastering for this episode is by Bryce Halliday. You can catch the new episodes of Imagine This every Wednesday. And after that, anytime on the ABC kids listen app or wherever you get your favourite podcasts. But if you can't wait till every Wednesday, check out the weekly News Time podcast every Saturday morning with our host, Ruby. Hi Ruby!

Ruby: Hello Bri.

Bri: Hey Ruby. What is the news?

Ruby: The news is all about telling true stories, real things that happen in the real world. The news can be about big things that affect lots of people, or it can be about little things that happen in our neighbourhood. When we listen to the news, it helps us learn about what's going on around us and what's happening in other places all around the world.

Bri: Ooh, I want to know.

Ruby: Well, I'll tell you about our favourite news stories of the week very Saturday in the news time podcast.

Bri: Sounds good, Ruby.

Ruby: Thanks Bri. See you later!

Bri: For all this and much more, download the ABC Kids Listen app.