Podcast: Imagine This

Episode: Why do leaves fall off trees?

Duration: 8’31

[ABC Podcast sting - This is an ABC Podcast]

Bri: Hello, my name’s Bri.

[Sound of vibrant wildlife; birds chirping, insects buzzing]

Bri: Today on Imagine This, we're going to imagine that we're outside. The sun is shining. The birds are singing, and I can see something that has a big trunk and lots of leaves.

Kids: A tree!

A tree.

Bri: Yep, it's a tree. Well, our question today comes from Emma, who's also been looking at trees and has noticed something.

Emma: Hi. I'm Emma, and I'm six. I wonder why leaves fall off trees.

Bri: Emma has noticed that sometimes trees have lots of leaves, and sometimes they have no leaves.

[Mysterious piano]

Bri: So today on the show, we're going to solve the mystery of the falling leaves. There are lots of trees outside, and every tree has a big trunk and lots of little sticks coming out of it.

Kids: The part of a branch!

Bri: What is it?

Kids: Branch!

The branches hold on to the leaves.

Bri: How do the leaves hold onto the branch?

Kids: A stem.

Bri: Ah, yes. Leaves have a little stem that helps them to hold onto the branch.

Kids: Yeah.

Bri: So when the leaves grow out from the branches, you have a whole tree full of leaves.

Kids: Yeah!

More than one leaf.

Bri: How many leaves?

Kids: One, two, three, four, five, six, seven, eight, nine, ten.

I can't count.

Hundreds!

Bri: Why would a big tree full of leaves want to drop them all to the ground? To help us solve this mystery, we're going to talk to Matilda Brown, who is a tree scientist. Hi, Matilda.

Matilda: Hello.

Bri: Do you love staring at trees as much as I do?

Matilda: Yes.

Bri: It's just so relaxing.

Matilda: Definitely.

Bri: So Matilda, what does a tree need all those leaves for?

Matilda: So it can use all that sunshine to make lots of food.

Bri: Ah, yes. Trees need sunlight to make their food. But what about in the winter when it's cold, and there's less sunlight. It must be exhausting trying to make food in the winter.

Matilda: Yeah. It takes a lot of energy to make and maintain leaves. Some trees don't need to make food in the winter. They need to rest.

Bri: Ah, they rest. Do you think trees take a nap?

Kids: No.

Because they don't have eyes!

Bri: Oh, yeah. Trees would need to close their eyes, if they're going to take a nap, right?

Matilda: Not really. In the winter, when it gets cold, the tree starts to change.

Bri: How?

Matilda: You might notice the leaves start to change colour.

Bri: What colour are leaves?

Kids: Green.

And then they all change red and orange.

I saw a leaf. It's yellow and red and green.

They change into a lot of colours.

Bri: Yep. We see them go from green to yellows and oranges and reds. What makes them change colour?

Matilda: Well, when the days get shorter and winter's coming, the tree sends a message to the leaves to start shutting down.

Bri: How does the tree do that?

Matilda: First, the tree takes all the good stuff from the leaves back into the tree.

Bri: So the tree takes the good stuff out of the leaves, and that's what makes them change colour?

Matilda: Yes and eventually, they turn brown, and they shrivel up.

Bri: And they fall off?

Matilda: Not quite. Just where the leaf joins the branch, the tree and the leaf decide to split apart. The leaf just hangs there for a little while until a gust of wind blows.

Kids: Windy. The wind blows them off.

[Kids make blowing noises]

Matilda: That's right. A gust of wind blows the leaf down to the ground.

Bri: Oh, look. They're falling, and they're floating in the wind. I wonder where they'll go.

Kids: Down and down and down.

Bri: So now the tree has no leaves at all?

Matilda: Yep. There are no leaves left on the branches.

Bri: What's it doing?

[Lullaby music]

Matilda: Shh... That tree's trying to have a sleep.

Kids: Shh... The tree is sleeping.

Bri: Oh, okay. Will it wake up tomorrow?

Matilda: Ahh, no. It stays like this all winter.

Bri: Wow. It rests for the whole winter?

Matilda: Yes. Even trees need to rest.

Bri: Then goodnight, tree.

Kids: Say goodnight in a whisper.

Bri: Oh, okay. Good idea. Goodnight tree.

Kids: Goodnight, tree.

Goodnight, tree.

Goodnight, tree.

Bri: Umm...do all trees go to sleep in the winter?

Matilda: No. Some trees lose their leaves in winter, and some don't.

Kids: And the ones that stay green, they're called...

Bri: Hmm there's a special name for trees that keep their leaves in the winter, and they're called... Matilda? Do you know?

Matilda: They're called evergreens, because they stay green forever.

Bri: Evergreens.

Kids: Evergreens.

Evergreens.

Bri: Green forever. Why does some lose their leaves, and some keep their leaves?

Matilda: Because every tree is different.

Bri: How?

Matilda: Trees come from all different parts of the world, and they all work a little bit differently. Some lose their leaves, and some keep their leaves. It depends where the tree comes from.

Bri: So after a tree loses its leaves, when do you think it will wake up again?

Matilda: In the spring. And the days will get longer, and the weather starts to get a little warmer.

Kids: Time to wake up, tree.

Time to wake up, tree!

Time to grow your leaves.

Matilda: The tree knows it's time to start growing again.

Kids: Yeah.

Time for the spring time.

Matilda: And it starts to shoot out brand new leaves.

[Dramatic piano]

Kids: Yeah.

Kids: Grow their leaves.

Matilda: Some trees do this every year.

Bri: Emma, some trees lose their leaves in the winter, because it's harder for them to make enough food. It takes so much energy to keep the leaves, that the tree decides to let them go and take a rest instead.

[Beautiful cello joins piano]

Bri: So right where the leaf joins the tree

[Kids make blowing noises]

Kids: A stem.

Bri: They decide to split apart, and the leaves fall to the ground. Some trees keep doing this every year. They say goodbye to their leaves in the winter.

Kids: Bye bye.

Bye.

Bye!

Bri: And they say hello to the new leaves in the spring.

Kids: Hello.

Bri: Trees are really good at letting go. Because even though it can be hard to say goodbye, they know it won't be long until there'll be new leaves in the spring.

Kids: Bye, leaves. See you in the spring time!

Bye, leaves. See you in the spring time!

Bye, leaves. See you in the spring time!

Bri: Imagine This is a co-production brought to you by The Conversation and ABC Kids Listen. A special thanks to Matilda Brown from the University of Tasmania. Bryce Halliday for mixing, and all the kids who had their say on today's show. I'm your host and producer Brianna Peterson. To find more episodes of Imagine This, you can download the free ABC Kids Listen app, or find them wherever you get your podcasts.