Podcast Name: Imagine This

Episode Title: How does a tiny seed grow into a huge tree?

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[ABC Podcast sting - This is an ABC Podcast]

Bri: Hello, my name's Bri. And today on Imagine This, I'm wondering…

[Curious brass music]

Bri: if you can imagine something that goes from little to big.

Kids: I don't even know.

Bri: What about you?

Kids: Yes

Yeah.

[Kids giggle]

Bri: How do you grow from little to big?

Kids: From babies to big.

You need to eat lots of food.

Bri: Yes. You need food.

Kids: And sleep! And dinner! And water. Then you grow bigger.

Bri: You think there's anything else that would help us grow bigger?

Kids: And vegetables and fruit.

Bri: Vegetables and fruit.

Kids: And on your birthday you have cake. And then on your birthday, you grow bigger too.

Bri: Ah, yes. Every birthday you grow a little bit bigger.

[Chime]

Kids: Yeah.

Bri: Today on Imagine This, four-year-old Ambrose wants to know about something that goes from little to big.

Ambrose: How does a tiny seed grow into a huge tree?

[Outside soundscape, birds chirp]

Bri: How does a tiny seed grow into a huge tree? Now I don't know about you, but I've heard that some people think that trees are boring.

Kids: The trees do nothing.

Yeah.

Yeah, but trees can't move. Trees can only stay still!

Bri: Well it might not look like there's a lot going on, on the outside of a tree but there's a lot going on, on the inside.

[Romantic orchestral music]

Bri: So this episode could just change your mind about trees forever. Today. Dr. Christopher Braque from the Australian National University is going to help us find out how a huge tree can grow from a tiny seed. Hey Chris, when you and that tree have had a good hug, why don't you come over here and say, g'day?

Chris: G'day.

Bri: Now Chris is a professor of trees. How many trees have you met in your life, Chris?

Chris: Oh, millions. Millions and millions.

Bri: So you know a lot of trees?

Chris: Yes. So I've met a lot. I've hugged a lot. I've climbed a lot. I've flown drones over a lot. I've seen a lot of trees.

Bri: And all of those big trees that you've met have started from one tiny thing. What is it?

Kids: A seed.

A seed.

The seeds?

Chris: Yep. That's right. A tiny seed.

Bri: So what's inside the seed?

Chris: Well, it contains all the plans for the future tree, as well as a tiny bit of food to get it started. It's kind of like an unborn tree. It's waiting to be born, but it needs a few things.

Bri: What's the first thing a seed needs?

Chris: It needs a place to start.

[Bush rustling]

Chris: It needs to be on the ground or on a nice bed of leaves.

Bri: So, when the seed has found its home, then what does it need?

Chris: It needs a bit of water, a bit of moisture.

Bri: Where would a seed get water from?

Chris: Yeah, water? Like, like rain.

[Rain pours]

Bri: So the little seed just sits there, patiently waiting for rain to come or someone to water it. And when that water touches the outside of the seed, then what happens?

Chris: For most seeds, once water touches the outside.

[Excited string music]

Chris: That's the signal to start growing. And on the inside, everything starts getting bigger and getting ready to burst out.

Bri: So everything inside the seed starts getting bigger, and bigger, and bigger. And then...

Chris: So the seed splits and the root creeps out.

Kids: There's something moving there.

Bri: That little root moves all by itself.

Chris: The root's really clever. It knows where down is. So it goes down into the ground. It doesn't matter which way the seed was sitting on the ground, it knows where the ground is.

Bri: So what are those roots looking for?

Kids: Dirt?

Water.

Water.

[Water flowing]

Chris: Yes. Trees can't walk across to the nearest river, so they have to grow their roots to where the water is.

Bri: Deep down in the ground they're going to find some water. But they also go down into the ground to help hold the trees steady.

Chris: Yeah. The roots need soil. Something to hold themselves up in. You can grow them in the sand, but soil's much better because they won't fall over.

Kids: I don't like sand or dirt.

Me either. I do not like dirt.

Yeah.

Bri: Well, you might not like sand or dirt, but trees love it. It's their home and it keeps them alive. So once that little root starts drinking the water, then what happens?

Chris: Once the roots got its feet in the ground, then the shoot pops up at the top.

Kids: It started growing.

It's starting to grow.

It's going to grow taller.

Chris: The shoot at this stage is just a little green thread almost. A little green stick.

Bri: And something is about to grow out of this little green shoot. What do you think it is?

Kids: Leaves.

Leaves!

Baby leaves.

Chris: This is the really fascinating part.

[Curious classical music]

Chris: The leaves pop out of that shoot.

Bri: Which way will the baby leaves grow?

Kids: Want to grow up to the sky.

Up, up, until the world stops the sky. The sun.

Chris: Yes. That's right. Once that little leaf's in the sunshine, the warm sunshine shines down on the leaf.

Bri: They'll have to eat all their dinner if they want to grow big and tall. Do trees eat mashed potatoes?

Chris: No!

Bri: Do their mums, make them food.

Chris: Their mums don't make them food.

Bri: Their dads?

Chris: Their dads don't make them food.

Bri: So who makes the tree food?

Chris: Trees are really clever. They make their own food.

Bri: What? They make their own food?

Chris: That's right. The leaf uses that sunlight and some air it pulls in to make the bread to the tree.

Bri: So maybe a tree's favourite food is sunshine?

Chris: Yes. So the leaves need that sun. So they need to be up high to make sure nothing's blocking the sun. So they grow the stem of the tree, and the branches of the tree, and they lift the leaves up so they can see the sun all the time.

Bri: So the tree keeps growing taller and taller towards the light. How tall is the tallest tree?

Kids: This tall.

This tall.

Bigger than you.

Bri: Bigger than me? That's pretty tall.

[Reflective ballet music]

Chris: The tallest tree we know of is 120 meters tall. And that started from a tiny seed.

Bri: It must have taken that tree a long time to grow that tall.

Chris: Yeah. That's how it goes. Sometimes little things can do big things.

Kids: That takes patience.

Yeah.

Bri: Ah, it takes patience to grow.

Kids: That's it.

Bri: So Ambrose, these tiny seeds have everything inside them to start growing into a big tree.

[Rain pours]

Bri: And when the water hits the seed, the root cracks out and goes down in the ground to look for more water. While the shoot pops up the top to grow the leaves towards the light. And the tree keeps doing this all by itself. Have you ever imagined that you're a tree? Put your feet on the ground and imagine your roots growing into the earth and stretch your arms up high into the sky like branches towards the sun. Can you sway in the breeze like a tree? I think you just got a little bit taller.

Bri: Imagine This is produced by me, Brianna Peterson and is a co-production between ABC Kids Listen and the Conversation. For more episodes of Imagine This, plus a range of music and stories for young children, download the ABC Kids Listen app.