Podcast Name: Imagine This

Episode Title: How was the earth made?

Duration: 8’06”

[ABC Podcast sting - This is an ABC Podcast]

Bri: Hello, my name's Bri. If you take a second to have a look around, what can you see?

[Sounds of a busy cityscape; birds chirping, people, traffic]

Kids: People.

 People walking.

 Houses.

 And cars.

 Mobiles.

 I give them talk to people when they get a phone call.

 Hello?

Bri: Everything that you see today is a part of our earth, but have you ever stopped to wonder where the earth came from?

Audrey: Hello, I'm Audrey and I'm wondering how does the earth get made?

Bri: Well, Audrey, that is a big question, and I don't know the answer to that one. So today on the show, we have a special guest, Dr. Niraj Lal, who is a physicist. He can tell us a story about how the earth began. Hi Nij!

Nij: Hello.

Bri: Now, to get ready for a story, I need a comfy pillow and maybe a blanket. Here's a pillow for you Nij, and a comfy blanket too.

Nij: Perfect.

Bri: Okay. Find a space and get ready for the story. I have a feeling that this story might start out in space.

[Adventurous orchestral music]

Nij: Yep. You got it.

Bri: Okay. Then let's imagine that we're floating out in space.

Nij: Long, long ago before you or I even existed, there was space.

Bri: What was out there?

Nij: There were stars…

[magical chime]

Nij: big stars and little stars, old stars and new stars. There was swirling gas and dust.

[swirling sounds]

Bri: So space is really happening?

Nij: Oh yeah. Space is always happening. Then at one point in time, a star exploded.

[explosion sound]

Nij: That's called a supernova.

Kids: Boom!

 Supernova.

Nij: When that star exploded, it sent a ripple of light and energy through space. Everything that that star was made up of, expanded into space. All the dust and gas went swirling and turning.

[Kids mimic swirling sounds]

Nij: Some of that gas and dust swirled together to make our sun. Other bits of gas and dust were moving and swirling together. Then slowly, slowly, over a long, long time, they made the other planets in our solar system. And some of those swirling bits of gas and dust bumped into each other.

Kids: Smash!

Nij: and little bits started to join together.

Bri: How did it all join together?

[Crashing, banging sounds]

Nij: All the rocks and dust crushing and bumping and joining together.

Kids: Boom! Boom! Boom!

Nij: It's swirled and it's spun and it all stuck together.

Kids: Crash.

 Thump!
 Crash!

Nij: Until it was a huge giant molten ball of rock.

Bri: Our earth is a bunch of dust, and gas, and rock that all got smushed together?

Nij: Yep. They all got squished together.

Kids: Squeeze.

 Squish!

 Squish!

Nij: That's a tight hug.

[kids giggle]

Nij: And then a really huge molten rock smashed into Earth.

[Rocks smashing]

Nij: And then a little chunk of that molten rock flew out into space to make the moon.

Bri: Our moon used to be part of the earth?

Nij: Yes. So the earth was just out there, floating in space around the sun.

Bri: What was Earth like back then?

[Sizzling sounds]

Nij: There were volcanoes all over the place with lots of lava and gas and steam. Some rocks full of ice and dust hit the earth and melted. And the water joined up to become the ocean.

[Water flowing, rocks falling]

[Building music]

Nij: And slowly, slowly, over many years, the top layer of earth was cool enough to harden. This is the ground that we walk on today.

[Pedestrian crossing beeping]

Nij: We call it the Earth's crust, but deep, deep down underground, the earth is still full of hot molten rock.

Bri: So how did all the people and the plants and the trees happen? How did they get here?

Nij: Slowly, slowly, the sky and the sea and the land all started to cool down.

[Uplifting orchestral music]

Nij: Then slowly, slowly, over a long, long time, tiny living things started to grow in the water. Plants started to grow.

[Natural soundscape, birds calling]

Nij: And this was the beginning of everything alive that we see today. All the buildings and the cars and the restaurants, the phones and the radio. And even everything that's inside of you. It all started from an exploding star.

Kids: Supernova.

Nij: Billions of years ago.

Bri: Everything that I am today came from a star.

Nij: Yeah Bri, you're made of Stardust.

Bri: I always felt like a star Nij.

Nij: You are a star Bri.

Bri: So are you.

Nij: No, you are.

Bri: No, you are.

Nij: We're all stars Bri.

Bri: Yeah. And we shine bright.

[Magical chime]

Kids: Shine.

 Shine.

[Dramatic orchestral music builds to a conclusion]

Bri: So Audrey, the story of earth began billions of years ago, when a star exploded in outer space and every single thing that has happened since then, over a long, long time has made it possible for you and me and everything that we can see to exist today.

[Music ceases]

Bri: Imagine This is a co-production brought to you by ABC Kids Listen, and the Conversation, a special thanks to Dr. Niraj Lal from the Australian National University, Bryce Halliday for mixing and all the kids who had a chat with us for today's show. I'm your host and producer Brianna Peterson. To hear more episodes of Imagine This you can download the free ABC Kids Listen app or find them wherever you get your podcasts.