Podcast: Imagine This

Episode: Why do shooting stars fall out of the sky?

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[Sounds of night time in the wilderness; crickets, owls hoot, dogs bark]

Bri: Hello, my name's Bri. Tonight on, Imagine This we're looking up into the night sky to do some stargazing. And it's always more fun to stargaze with our friends. So our friend Lisa Harvey-Smith is with us tonight. Lisa is an astronomer, so she's done lots of stargazing. Hi Lisa.

Lisa: Hey there.

Bri: Wow. There are so many stars out here tonight.

Lisa: Yes. There's lots of them, but tonight we're looking for something a bit special in the night sky, aren't we?

Bri: Yep.

Lisa: Something that can shoot across the sky.

Kids: Shooting stars.

Bri: Yep. We're looking for shooting stars and if I see one, I'm going to make a wish.

Lisa: Really?

Bri: Yeah! Someone once told me that you can make a wish on a shooting star. So I don't know if it'll come true, but I want something to hope for. Do you want to make one too?

Lisa: Okay.

Bri: Great. And while we're out here, we can answer tonight's question from Amelia.

Amelia: Why do shooting stars fall out of the sky?

Bri: Hmm, what makes a star fall out of the sky?

Kids: They're not falling out of the sky.

Bri: No? Then what are they doing?

Kids: They are just shooting across the sky.

Bri: What makes them shoot?

Kids: They get on fire and then they fly in the sky.

When they shoot, lots of little stars come out of it.

Shooting stars go really fast because it's windy. And when the wind blows, they make lines in the back of them.

Bri: They do have these lines of light that trial behind them. But is it really the wind that blows them across the sky? And are they made of other stars? What do you think, Lisa?

Lisa: Not really.

[Innocent piano music]

Lisa: It looks like a star is falling through the sky. That's why people call them shooting stars, but they're not actually stars. They're something else.

Bri: A shooting star is not a star?

Lisa: No.

Bri: So what could it be?

Kids: Maybe that the shooting stars are made out of little pieces of other stars.

Bri: Yeah, maybe they're not a whole star, they're just little bits of a star.

Lisa: It looks like it, but no.

Kids: Something like may bit of water.

I think that this little bit of drops.

Bri: Ah, like little drops of water. Is it that?

Lisa: Nup.

Bri: Is it a bird with a torch?

Lisa: No, it's not a bird.

Bri: Oh! I know it's an aeroplane in the night sky

Lisa: No, it's not that either.

Kids: I think it might be made of little bits of little rocks which are formed in space.

Lisa: Yes. It's actually a tiny piece of dust or rock.

Bri: Where does it come from?

Kids: They might be coming from the moon.

Bri: They might be, or they might be coming from somewhere else.

Kids: In space.

In space.

Lisa: Yes.

[Momentous orchestral music]

Lisa: The dust and rocks are floating in outer space.

Bri: Well, how do they come to earth?

Lisa: The earth is moving through space, and the dust and the rocks are moving through space too. Sometimes they crash through the sky.

Bri: So why do they light up?

Lisa: It's something to do with friction.

Bri: Friction? Do you know what friction is?

Kids: No.

Bri: What's friction, Lisa?

Lisa: Well, if you rub your hands together really fast, they get hot.

[Hands rubbing together]

Bri: Oh, let's try it. Put your hands together and rub them really fast. What do they feel like?

Kids: Warm!

Warm.

Mine are warm.

Bri: My hands are warm too.

Lisa: That's friction. Friction is when two things rub together.

Kids: Friction.

Friction.

Lisa: And when those meteors fly into the Earth's atmosphere, there's a lot of-

Kids: Friction.

Lisa: Yeah. They're moving really fast. So fast, that they rub against the air, and they get so hot that they burn up with a streak of light.

Kids: I think they look like lots of little pieces of fire.

It looks like fire.

Bri: It does look like fire shooting across the sky. Do scientists have a name for the little bits of dust and rock the burn up in our atmosphere?

Lisa: Yeah. We call it a meteor.

Kids: Meteor.

Meteor.

Bri: So a shooting star is a meteor.

Lisa: Yeah.

Kids: Meteor.

Lisa: And when it hits the ground, we call it a meteorite.

Bri: A meteorite?

Lisa: Yes.

Kids: Meteorite.

Meteorite.

Lisa: S ometimes scientists find meteorites on the ground and break them up and see what they're made of.

Bri: Lisa, are they big meteorites that crash to earth?

Lisa: Long, long ago, there used to be huge meteorites, but now most of those are gone. And the small meteors that we see today burn up in the atmosphere.

Bri: How small are they?

Lisa: Some of them are so small, they're smaller than a grain of sand.

Bri: That's tiny.

Lisa: Yeah.

Bri: And they make so much light.

Lisa: It's like a free firework show from the universe.

Bri: You mean it doesn't cost us any money to see a shooting star?

Kids: No. They're free.

Bri: I can't buy one?

Kids: You can't buy them because they come out from space. So you can't just fly up and get them.

Bri: So how will I see one way?

Kids: We see them in the night. This blue sky is on the other side of the, then space comes in to show the stars.

Lisa: Yes. Meteors are happening all the time, but we see them in the night time.

Bri: Okay. Well here we are. And the sky is clear and I can see the stars, which way should I look?

Kids: Up.

Up.

Bri: Okay, I'm looking up. Umm...I don't see any.

Lisa: Bri, you've got to keep waiting.

Bri: Okay. I'll wait.

Bri: I haven't seen one yet.

Lisa: Just keep waiting.

Bri: Okay.

[Sound of a shooting star zooming by]

Lisa: Bri, there's one!

Bri: Where?

Lisa: It was over there!

Bri: I was looking over here.

Lisa: No, it was over this way.

Bri: Aw I missed it.

Lisa: Bri, look again. Keep looking.

Kids: You have to be quick, so they don't go away.

Bri: Well how do I know which way to look?

Kids: To make sure you don't miss them, you could just keep your eyes where they are.

Bri: Okay. I'll keep my eyes on the whole night sky.

[Regal classical music]

Kids: Oh what's that?

Everyone look quick! There's a shooting star.

Bri: Wow. It's amazing.

Lisa: Wow.

Kids: Wow.

Bri: Quick, make a wish.

Kids: It's so beautiful and cool.

Bri: It is so beautiful and so cool.

Lisa: Yep, they're pretty incredible.

Kids: Wow.

Bri: So Amelia, a shooting star is actually a small piece of dust or rock called a meteor, and when that meteor flies into the earth's air, it gets very hot.

Kids: Friction!

Bri: So hot that it burns up in a shoot of light.

[Sound of a shooting star zooming by]

Bri: So the next time you're stargazing with your family and your friends, look up into the night sky and wait. And you might be lucky enough to see a shooting star fly across the night sky.

Kids: Wow.

Bri: And if you see one, you can make your very own wish on that little piece of rock. Imagine This is a coproduction brought to you by ABC Kids Listen and The Conversation. A special thanks today to Professor Lisa Harvey-Smith from the University of New South Wales, Bryce Halliday for mixing, and all the kids who had their say on today's show. I'm your host and producer Brianna Peterson. And this is the very last episode of season three, but you can find more episodes of Imagine This on the free ABC Kids Listen app or find them wherever you get your podcasts.