

[SHUBIN:] Tiktaalik was headline news the day it was described in 2006. And I remember going in to drop one of my kids off at school. And the teacher asked me, "You know, I read about your discovery in the newspaper. Can you bring it in to show the children?" So, you know, my office was just down the block, so I grabbed a cast of the fossil and came in to show the fossil to the children, and it was amazing what I saw.

[SHUBIN:] Hey guys, how are you?

[STUDENTS:] Good.

[SHUBIN:] Hi, guys. Hi, Hannah, how are you doing, baby?

[TEACHER:] Hannah, would you like to introduce our guest?

[SHUBIN:] Did I konk your head? I'm sorry, Maurice. I'm such a head-konker. What can I say. Hi, guys, how are you doing?

[STUDENTS:] Hi.

[SHUBIN:] Hello. Did you want to introduce today's special guest?

[TEACHER:] Hannah, would you introduce our guest, please?

[HANNAH:] This is my daddy.

[SHUBIN:] And that's my daughter. Hi, guys.

[SHUBIN:] My name is Neil Shubin. And I'm a scientist. I'm a paleontologist. Does anybody know what that...

[SHUBIN:] [voiceover] The kids listened quietly as I told them about what paleontologists do and how we search for fossils.

[SHUBIN:] So let me show you a puzzle, let me show you something that shows you what I was looking for, and then you're going to try to identify what it is. This is taken from a college textbook, so it's really hard. I want to show you something. See this cartoon? Does everybody see it? Okay, I'll bring it around. All right. What is on top? What do you guys see?

[STUDENTS:] A fish.

[SHUBIN:] That's a fish on top. Now why is it a fish? Why did you say... You guys were all pretty sure that was a fish. How do you know? What do you say? Yes? Why is it a fish?

[STUDENT:] Because it has fins and stuff.

[SHUBIN:] Yeah, it has fins, it has scales. And look at the shape of its head.

[STUDENT:] It's like an oval and they don't really have a neck over here and it doesn't make a big shape.

[SHUBIN:] That's right. Now, what's on the bottom?

[STUDENT:] A dinosaur.

[SHUBIN:] I don't know about dinosaur.

[STUDENT:] A crocodile.

[SHUBIN:] It looks like a crocodile, yeah. It's an early land-living animal. So how do you know it's not a fish?

[STUDENT:] It has legs.

[SHUBIN:] It has legs. What else? What about its head?

[STUDENT:] It's not an oval.

[SHUBIN:] That's right. So I was looking in the fossil record to understand how fish became creatures that walked on land. And in the Arctic, in the North Pole, we found a fossil, and I'm going to show it to you, and I want to ask you what you think it is. Here's the body... all right? There's the body. Everybody see? And here is the head. But don't answer what it is yet! I just want you to look at it.

[STUDENT:] Is it real?

[SHUBIN:] This is a cast of the real specimen. Yeah, the teeth are sharp. All right. Okay. Somebody raise your hand.

[to Hannah] Not you, you know what it is.

[STUDENT:] It looks like a lizard.

[STUDENT:] It kind of has a, like, triangle head.

[SHUBIN:] That's right! That's why we were so interested in it. What do you see on the body?

[STUDENT:] Like, scales.

[SHUBIN:] That's right! Scales! What else? What are these?

[STUDENT:] Like hands on their fins... fin hands?

[SHUBIN:] That's right.

[STUDENT:] Oh, I know what it is! I know what it is! I totally know what it is!

[SHUBIN:] You totally know what it is? What is it?

[STUDENT:] It's like a fish that walks on land.

[SHUBIN:] Yeah.

[laughs] In a word.

[SHUBIN:] [voiceover] What the students picked up on is that this fossil, which we named Tiktaalik, has some features that belong to fish, and some to four-legged animals, or tetrapods.

[SHUBIN:] What's really amazing is that this is an animal that Darwin would have predicted. A real mix of characteristics, both fishlike and tetrapod-like. It's what we call a fishapod. Like a fish it had scales on its back and fins with fin rays. But like an early tetrapod, it had a flat head with eyes on top. And when we look inside the body, we see these huge interlocking ribs that would fit together to probably support lungs during breathing. And when you put the body together with the head, what you see, it has a neck where the head can move independently of the body, allowing the animal to peer outside the water, avoid predators and find prey. This visit had a profound impact on me, because what it showed is a true example, is the power of fossil evidence, that when you give the fossil evidence to children and let them interact with it, they get it. They got seeing a transitional fossil. I didn't have to describe anything. The evidence itself was what it was all about.