



Transcript for *Shark Lady* by Jess Keating (Sourcebooks Explore)

Introduction (approximately 0:00 – 4:37)

Hi everyone! It's Colleen from the KU Natural History Museum, and I'm so excited for today's Story Book Science. I do want to wait for some folks to join us. So while we wait, I want to talk a little bit about the book we're reading and who we are reading about.

So this book is about Eugenie Clark, and her photo is on my wall. Eugenie Clark was a Japanese American ichthyologist from New York. So what that means is she studied fish. Now Eugenie Clark studied many different types of fish, but she's most well-known for her work with sharks. Now growing up and doing science, Eugenie wanted to teach people about sharks and how amazing they are because a lot of people just thought sharks were mindless monsters. A lot of those same people also thought that women like Eugenie shouldn't be studying sharks, let alone doing science! But Eugenie powered through, and she continued to do amazing scientific work! And because of that, she was able to educate us about sharks and just how cool they really are!

Now, just like all of the different fishes that Eugenie studied, there are a lot of different sharks. And different sharks have different shapes of teeth. So for example, a sand tiger – or I'm sorry, just a tiger shark. This is a photo of a tiger shark. Its teeth are serrated. So they look like this. They have these bumps and these ridges, and they're very sharp. So it kind of almost looks like a knife that we might use in the kitchen. There are sharks like the Port Jackson shark. Now this shark, it has teeth that look a little different than what we think of when we think of shark teeth. This is what the Port Jackson shark jaw looks like. And its teeth are very dense and compact, and they're really good for crushing things. And then we have a lemon shark. Now a lemon shark has teeth that are long and narrow. So they look like this.

So I showed you these pictures of shark teeth, but what I want you to think about while we're waiting for folks to join us and also while we read the book is why do different sharks have different shaped teeth? Why do they need these different shaped teeth? So think about that.

Alright! So it looks like folks have joined us. So let's get started!

First and foremost, we need to go over our guidelines for Story Book Science. We are not in the museum, but we are going to act like if we were in the museum. So what that means is if you have a question or you have a comment, you should feel free to share. But you need to make sure that you use kind and considerate words. If you respond to someone's question or comment, you also need to make sure you use kind and considerate words. We want to make sure that the words we use are kind so that we can be welcoming and inclusive. Can you make sure to use kind and considerate words for me? Excellent! Alright!

So for today's Story Book Science, we are reading the book *Shark Lady*. This book is written by Jess Keating, and it's illustrated by Marta Álvarez Miguéns. And it is published and being read with permission from Sourcebooks Explore. Now I'm so excited to share this book with you. Eugenie Clark, who this book is about, is one of my favorite female scientists! And she did so much throughout her life to educate us about sharks and how amazing sharks are. And that's important for us to know because a lot of people, they didn't like sharks.

They were afraid of them. And it just goes to show you that some people are afraid of things they just don't understand, which is why we need to learn and take in as much information as we possibly can.

Now I have two other things before we get started. The first is if you have a question or comment, please feel free to write those, just know I may not be able to see it until the end and also, only if there's time. Additionally, if you need a partial transcript of this reading it will be made available later today on the museum's website.

Now, I think it's time for us to get started!

Shark Lady.

Reading from *Shark Lady* (approximately 4:38 – 12:27)

Shark Lady includes copyrighted materials, and we do not have permission to include the written text of the book in this transcript.

Conclusion (approximately 12:28 – 22:18)

Alright, and that is the end of the story. So we are going to talk a little bit more about Eugenie Clark and sharks!

Now we know that Eugenie Clark was a Japanese American ichthyologist. So she studied fish. And she studied fish all over the world. Now I wanted to show you some of the places where she studied. So this is just a map of what the world looks like. And all of this blue all over the map, that represents ocean water. It covers a lot of the earth! So Eugenie got to study in a lot of different places.

So one place where she studied was Palau. Now Palau is a series of islands. It's north of Australia. This is where Palau is located in the Pacific Ocean. And it looks really different than some other places where you'd find ocean. This is an example of what areas in the Palau islands look like.

Eugenie also studied in Mexico. So here is a map of Mexico. And she studied on an island, right here. And that island was Isla Mujeres, and this is what that island looks like.

Eugenie also studied in the Red Sea. So she went to Egypt, which is right here. It's on the continent of Africa. And she studied in the Red Sea, which is this area right here on the map. And I wanted to show you what the Red Sea might look like if you were standing on the shore. So there's a photo of the Red Sea.

Now in all of these places, Eugenie studied fish. And there are a lot of fish. And we can look at those fish and categorize them based on their characteristics or their features. So for example, some fish have jaws. Some fish do not have jaws. If a fish does not have a jaw, we can place it into a category called jawless fish. A lamprey is a really good example of a jawless fish.

Now if fish have jaws, they can be placed into one of two categories. They can be bony fish or cartilaginous fish. Bony fish are fish with jaws that also have a skeleton made of bone. So bony fish include ray-finned fish. And cartilaginous fish are fish with jaws that have a skeleton made of cartilage. And our cartilaginous fish include sharks, skates, and rays.

So we know that sharks are cartilaginous fish, and they have jaws made of cartilage. So let's look at a shark jaw together!

Alright! So this is a shark jaw! Now this shark jaw, we're looking at it from the front. So right here, we have a series of teeth. And we also have a series of teeth at the top. Now those teeth are called functional teeth. So if a shark uses its teeth to eat, those are the teeth that it's using to do the eating. But sharks have a lot more teeth than just what we can see looking at the front of the jaw. So I'm going to turn this around. And now the teeth we were just looking at, those are on the very, very back row. What you'll probably notice is that there are many, many, many rows, many series of teeth all along the bottom jaw and also, the top. Now these teeth are called replacement teeth. So they replace the functional teeth when the shark loses its teeth, and sharks tend to lose a lot of teeth! So if a shark loses a tooth, what happens is a replacement tooth, it takes its place. So it moves up, and all of the teeth below move up as well. So sharks replace their teeth!

I'll give you a moment longer just to look at those replacement teeth. Alright. I'm going to put this jaw down. Now before we started this reading I asked you about different shaped teeth that sharks have. There are a lot of different sharks, and they have different shaped teeth. Why do you think different sharks need different shaped teeth? Well, it's because different sharks eat different things.

So we looked at a picture of a tiger shark earlier, and a tiger shark has serrated teeth. So they have these ridges and bumps that are good for cutting through things. And they need these teeth in order to cut through prey.

The Port Jackson shark we looked at a little earlier, it had teeth that were flat and dense and really good for crunching things. This is what those teeth looked like. These teeth are needed by the Port Jackson shark to crunch and crush up the food they eat. They eat things like crabs and crustaceans and other animals that have hard bits and shells. So these teeth are good for crunching and crushing all of those things.

And the lemon sharks. These teeth of the lemon sharks are sharp and narrow, and they look like this. And they're needed by the lemon shark to catch their prey, which are bony fish that move quickly through the water. So they need something to catch their prey.

Now I have two shark teeth that I want to share with you. And they're kind of small, and I'm going to show them to you one at a time. So this is the first tooth. And what I want you to do is I want you to look at it. Look at the features. What do you notice about this tooth? And it is a little small and hard to see, but right here, you'll see some of those serrations, those ridges and bumps. So take a moment longer to look at this.

And now I'm going to grab the second tooth. This is from a different shark, but here is the second tooth. What do you notice about its shape? It's also pretty small, but it's a little easier to see than the other tooth. What do you notice about it? How would you describe this tooth? I'll let you look at it for just a moment longer. Alright.

So now what I'm going to do is I'm going to show you those two teeth again. And I want you to make an observation. With all of the things that you might already know about sharks, things that you've just learned about sharks, I want you to look at the teeth and think what shark, what do they eat? If they have a certain tooth shape, what is it that they're eating? So I'm going to hold up the teeth again. Alright.

So we'll first look at this tooth. What do you think the shark that this tooth came from eats? If you thought that it eats food that it has to cut through, you would be correct! This tooth comes from a tiger shark. So we know the tiger shark has these serrated teeth that have these edges that they can use to cut through prey like we would use a knife to cut through food.

What about this tooth? If you thought the shark that this tooth came from eats bony fish, you would be correct! This tooth came from a sand shark. So it has long, narrow teeth that it can use to catch bony fish that move quickly through the water. Alright.

Now I had an amazing time getting to read with you about Eugenie Clark and talking about sharks, and I hope that you also had a good time. But what I want to know is what do you think is cool about sharks? What things do you love about sharks? Alright.

So it is the end of Story Book Science, and I do want to let you know that next week we're going to do things a little differently. Next week, someone on the Public Education team is going to share with you a science activity based on the books we're reading this month. So we talked about the ocean today and some of the animals that live there. So next week we'll have an activity about animals that live in the ocean, specifically sea turtles! Now there will be an activity guide posted on the website. So you can follow along, and you can watch the video and learn more about sea turtles. And you can also join me later this month when I read a book about yet another amazing female scientist who explored the oceans, Sylvia Earle. We'll be reading the book *Life in the Ocean*, and we'll learn more about oceans and some of the amazing women who have explored them.

So join me on Facebook at 10am on Wednesdays, and you'll learn more about oceans and the amazing people who've researched them. So I'll see you then! Bye!