



**Transcript for *At the Mountain's Base* (Kokila Books, an Imprint of Penguin Random House) Preview Video**

**Preview (0:00 – 9:21)**

Hi everyone! It's Colleen from the KU Natural History Museum. And I want to remind you about tomorrow's Story Book Science, here on Facebook Live at 10am. Tomorrow, I'll be reading the book *At the Mountain's Base*. This book is written by Traci Sorell, and it is illustrated by Weshoyot Alvitre. And we are going to be reading it with permission from Kokila, which is an imprint of Penguin Random House. So thank you to them for the permission to read this book!

Now, this book is about a small community. And before we talk about that community, I want to talk about a book we read earlier this month, which was *What Can a Citizen Do?* And in that book, we talked about what a citizen is. And a citizen is a member of a community. And we know that a community can be really, really big, like a country, or it can be really small. And a small community includes a family or a group of friends.

Now, like I mentioned, in this book, *At the Mountain's Base*, we'll be reading about a small community. So we're going to be reading about a family. And this family is waiting for the return of a family member who is a pilot, specifically a female pilot.

And the pilot in the story is based on a real woman, and that woman is Ola Mildred, or Millie, Rexroat. Now, a pilot, like Ola Mildred Rexroat, they fly planes. And they fly other aircraft. And Ola Mildred Rexroat, she was a female pilot during World War II. She was an Oglala Lakota woman, and the only Native woman to serve in the Women's Airforce Service Pilots, or WASPs, during World War II. So she was flying planes during World War II. And then after the war, she continue, continued her work with the Air Force.

Now, when you fly a plane, or if you think about flying a plane, what do you think you would have to pay attention to? What do you think you'd have to look out for?

Do you think that maybe you would need to look out for different types of weather? I think so. It might be hard to fly a plane, if there's a thunderstorm. So, weather is one thing a pilot would need to pay attention to.

What other things do you think a pilot needs to pay attention to? Maybe you think a pilot needs to pay attention to other sorts of things flying, so other planes or aircraft, or even animals that fly, like birds! That's something that a pilot would need to pay attention to while they fly.

A pilot is also going to need to pay attention to how a plane flies, and the things that a plane needs in order to fly. So, in order to start our understanding of how a plane flies, we need to understand forces. So we're going to put that vocabulary word, on the wall. Force.

What is a force? A force is a push or a pull. So let's put that definition, right next to the word, force. A force is a push or a pull.

Now it can be a little hard to think about that. What does a push look like? What does a pull look like? So I have a little something to help us out. This is a piece of paper, and I can move this piece of paper in the center.

So I can apply a force to this object. So we know a force is a push or a pull. So if I want to apply a force to this object, I could push it. And that moves the piece of paper away from me. Now, I can also apply a force to this piece of paper, and I can pull it. So, if I pull it like this, I'm making the object move closer to me. So, we have a force applied to this piece of paper. A push, and when I push it, it goes away from me. And when I pull it, it comes back towards me. So that object is moving.

Now, one of the things I want you to think about with forces is, what happens if there are two forces applied to an object at the same time? So, what if there's a push and a pull at the same time? What do you think's going to happen?

Well, it depends! Let's say we have a really, really big push on an object and a very, very small pull. What's going to happen is we have this really, really big push. So it's moving the piece of paper away. And then the small pull is trying to bring it back, but it's still going away from us. And one way to better understand that is to think about, arrows. So we have a really, really big arrow. And this arrow represents the push. So it's going away from me. And we have a very, very small arrow. And this very, very small area, arrow represents the pull that's coming towards me. So, if we have a big, big push and a small pull, what's going to happen is the push is still bigger. So it's going to go away from me.

Now, what if the pull is really, really big, but the push is just small. So if we have a really, really big pull, the object comes back towards me. And even if there's a push, it's still coming towards me. So, the way to think about this with the arrows, is we have a really, really big pull. So the object is going to come towards me. And a really, really small push, which would make the object go the opposite way. But because that pull is so big, it's going to move the object towards me. Alright?

Now, what if the push and the pull, what if they're equal? What if the same amount of push is given and the same amount of pull is given? What do you think's going to happen?

Well, if the push and the pull, if they're the same amount, we know that they're going in opposite directions. So, if you have a push and a pull, and they're the same amount but going in opposite directions, they kind of cancel each other out. And so what happens is the object doesn't move at all! And we call this, balanced forces. So, we're going to put that on the wall.

These balanced forces are when the forces that are opposite are equal. And the objects that these forces are acting on, it doesn't move. So, if we want to look at our tool that helps us understand forces, if we have a push and a pull that are equal, the object just doesn't move because the forces are balanced. Alright?

Now, tomorrow, we're going to talk a little bit more about the forces that are acting on an airplane. So the forces that we need to understand to better understand flight and how planes fly. Now, I don't want to talk about those now. We'll talk about those tomorrow. But I want you to think, what could those forces be? What are the pushes and pulls that are acting on a plane and that influence how it flies? So, we're going to talk about those forces, and I want you to think about what you believe they could be. I'll give you a hint: there are four forces of flight in total we, we will be talking about tomorrow. And I want you to think of what some of them could be. Alright? Okay. Excellent!

So, I will see you tomorrow, here on Facebook Live At 10am. We are going to read the book *At the Mountain's Base*. We're going to talk about female pilots like Ola Mildred Rexroat, or Millie. And we'll even talk about forces and the four forces of flight. So I'll see you tomorrow! Alright? Bye!