



Transcript for *Buzzing with Questions: The Inquisitive Mind of Charles Henry Turner* (Calkins Creek, an Imprint of Boyds Mills & Kane) Preview Video

Preview (0:00 – 8:56)

Hi everyone! It's Colleen from the KU Natural History Museum, and I just want to remind you about tomorrow's Story Book Science here on Facebook Live at 10am. I'll be reading the book *Buzzing with Questions: The Inquisitive Mind of Charles Henry Turner*. This book is written by Janice N. Harrington, and it's illustrated by Theodore Taylor III; and it's being read with permission from Calkins Creek, which is an imprint of Boyds Mills & Kane. So thank you to them for the permission to read this book!

Now after we read about Charles Henry Turner and all of the amazing research he did with insects, we're going to be joined by a KU graduate student in entomology, Rachel Neff. And so she's a graduate student, and what that means is she's a scientist-in-training! And she's going to tell us all about insects, insects you can find here in Kansas, and insects you can find in South America. And she's also going to teach us how we can be entomologists and study the insects that we can find in our backyard. So I hope you stick around for that as well. That will be after the reading.

Now when we talk about Charles Henry Turner, who we're going to read about tomorrow and learn about tomorrow, Charles Henry Turner did a lot of amazing things! Charles Henry Turner was one of the first African American entomologists, and he was a pioneer! And so what that means is he led the way in how entomologists study insects. Not only that, but he also led the way in how entomologists study insect behavior, or how insects act and why insects do what they do. So Charles Henry Turner helped the world better understand insects. Now no matter how hard Charles Henry Turner worked, no matter how many amazing things that he learned and that he shared with the world, and no matter how many amazing things that he did for his community, there were just some people that didn't like him. And the reason they didn't like him was because of what he looked like, because of the color of his skin. And those people, they were prejudiced. And it's not good to be prejudiced.

Now although Charles Henry Turner had to deal with the adversity or the hardships of people who were mean to him because of the way he looked, he was still able to study and research and share so many interesting things with us about different animals and different plants.

Now some of the animals he studied are arthropods. And so what that means is they have segmented bodies, and they don't have a backbone. And there are lots of different arthropods! There are insects. There are crustaceans like crawdads, and there are arachnids like spiders. All of those things are arthropods. So there are a lot of arthropods! But how do you tell the difference between an insect and any other arthropod? Let's go over that together!

So if you have an insect, you would notice that it would have three body segments. So insects are arthropods with three body segments. They have a head, a thorax, and an abdomen, for a total of one, two, three body segments. Not only that, but insects also have a total of six legs. Now they have three pairs of legs, so you can notice that there is a leg and then right across from it is another leg. So they have one, two, three pairs of legs for six legs total. One, two, three, four, five, six. Insects have six legs total.

Now let's test out this new knowledge. Let's see if we can identify an insect from some other arthropods. Now I have a photo here of a Madagascar hissing cockroach, and it's a little hard to see the body segments and the legs. So let's look at a museum specimen to get a closer look! Now this is a museum specimen of a Madagascar hissing cockroach, and it's in resin. So it's in a hard plastic. But we can study this to better understand those features, those things we can look for when it comes to identifying insects. So I'm going to flip this over, and what you can see is you have a head, a thorax, and an abdomen. So there are one, two, three body segments of the Madagascar hissing cockroach. So this specimen, it has three body segments, just like any other insect! Now let's look at its legs, just to double check. So you have one pair of legs, another right beneath that, and then one right below. So you have one, two, three pairs of legs. But let's count all of the legs to make sure we have six total. You have one, two, three, four, five, six. So there are six legs total on this Madagascar hissing cockroach. So is a Madagascar hissing cockroach an insect? Yes! It has three body segments and three pairs of legs for six legs total.

Now what about the centipede? Is this an insect? If you're not sure, let's go over it together. Now when we talk about insects, we're talking about something with three body segments. How many body segments does a centipede have? Looking at this, I'm counting way more than three! There's a head, and then there are all of these body segments, each of which have legs on them. There are more than three body segments. So this centipede has more than three body segments. Additionally, look at the legs. Each body segment has a pair of legs, and I'm counting more than three legs. What about you? Are there more than three legs, or three pairs of legs, on the centipede? Yes! So this centipede, is it an insect? No! Centipedes have more than three body segments, and they have more than three legs. So centipedes are not an insect.

Now I have one more test. This is a photo of a spider. So it's an arachnid. Is an arachnid like the spider an insect? Let's figure it out together! So looking at this photo, I see one, two; two body segments. How many body segments do insects have? They have three body segments. And this spider only has two. Now just to double check, let's look at the legs. So there are legs on the spider, you can see in the photo. How many legs are there? One, two, three, four, five, six, seven, eight. There are eight legs total on this spider, and there are four pairs of legs for eight legs total. Eight is more than six, right? Yes! So an arachnid like the spider with two body segments and eight legs total, it's not an insect.

Now we'll learn a little bit more about insects tomorrow, we'll learn about Charles Henry Turner and all of the experiments he did, and we'll look at a couple more museum specimens. So join me tomorrow for Story Book Science at 10am, so we can read the story and look at specimens. And then afterwards, stay tuned because Rachel Neff is going to discuss even more about insects and the insects you can find here in Kansas and the ways you can be an entomologist. And that will be at 11am. So make sure you stay tuned, and I'll see you then! Bye!