



Teek and Tom Explore Planet Earth

Episode 5: Our Planet is Changing and We Can All Help!

TRANSCRIPT

Teek

Hi, I'm Teek. I live on planet Queloz. For my final class project my teacher said,

Teacher Puna

Find a planet in this galaxy and explain how its atmosphere works.

Teek

So with my trusty spaceship BARY...

BARY

That's me!

Teek

I headed to Earth. That's where I met NOAA scientist Tom.

Real Tom

You've come to the right person.

Teek

Now, he's showing me how awesome Earth is.

Cartoon Tom

It's so beautiful.

Teek

I can't wait to learn more. Let's go!

Real Tom

BARY, send Teek a message: Teek, good luck on your presentation. You GOT this! I know you do!

Teek

Aww, thanks Tom. Okay, everyone, get your popcorn ready, let's learn about Earth!

Teek

...and that's why I love Earth. And hopefully you've learned a bit about how Earth's ocean

affects the weather, even in places thousands of miles away. Oh and don't forget the difference between weather and climate! As my climate scientist friend Tom put it...

Cartoon Tom

Weather is what you experience when you go outside. Climate is made up of *all* the weather you experience. It's what you imagine the weather to be like when you close your eyes, eer...eye, and imagine a normal summer day.

Teek

He always forgets I only have one eye! Haha. I also told you about how Earthling scientists use fancy (for them) technology to observe their planet and use this data to predict what's coming. This information is fed into their computer models, which simulate the Earth like a video game. And you now know why this matters. Because extreme weather and climate can cause massive destruction. Also, I introduced you to s'mores. Which I am uploading to your fabricators now. You're welcome.

Students

Mmmmm, Mmmmm, Yummy, Yum, Mmmmm, Yum,

Twilerp

Yum, these are so good. Teek, you gotta give me the recipe.

Gertnuf

Mmmm. Delicious!

Teek

But, for how cool all this is, Earth is in crisis because its climate...is changing! And humans are the ones doing it.

Students

[gasps]

BARY

Oh dear!

Gertnuf

[whispers] Oh, no! They're in real trouble!

Teek

Now, hold on everyone. Calm down. There's still hope. But first, we need to talk about how they got into this mess in the first place! How *does* climate change on Earth? Earth gets its energy similar to how we do on Queloz—from the sun.

BARY

When heat from the sun enters Earth's atmosphere, some of that reflects back into space, while greenhouse gasses that are mixed throughout the air, trap part of the heat like a blanket, regulating the Earth's temperature.

Cartoon Tom

These gases have naturally kept our planet just toasty enough for life to survive, without them it'd be freezing cold.

Teek

The levels of those greenhouse gases changed naturally throughout Earth's more than four billion year lifetime. But then, humans started burning a bunch of ancient dead plants called fossil fuels for things like electricity, heat, and transportation, releasing more greenhouse gases into the atmosphere. This was like...

BARY

...Making that atmospheric blanket thicker—and so the heat can't escape, causing the globe to warm.

Teek

At first, humans didn't realize this was causing Earth to warm, but then scientists began putting things together and warning the world.

Cartoon Tom

And NOAA is the place to go to see how our Earth is changing now, predict how it will change in the future, and how those changes will affect all life on Earth.

Teek

Now, this may seem odd to us on Queloz where the daily temperature we feel is individually programmed. But on Earth, the last 140 Earth years of data shows that the planet is warming. Ocean temperatures are going up and up. Ocean heatwaves are getting hotter and lasting longer. The strongest hurricanes are getting stronger and heavy rains are getting even heavier, leading to flooding. Their warming planet is also causing the ocean to rise by this much or to humans on average, 8 inches in the last century. I learned about all this at the beach.

Cartoon Tom

That may not seem like a lot of water, but if you live on the coast, it may mean the difference between walking to school in sneakers, versus your galoshes. The water would be all the way up to here!

Teek

Galoshes are these really dope boots for their feet, but they work well with tentacles too! It's not just hotter temperatures and a rising ocean that Earthlings have to worry about. Their beautiful salty ocean is warming, causing some animals to move north towards the cooler water they

prefer. In the North Atlantic, species like the American lobster are shifting farther north, making them harder to find in places like Maine.

Cartoon Tom

Those Maine lobsters are shifting north towards Canada. What's that about, eh? Ha, that's a really specific North America reference...I'm sorry.

Teek

Because of everything I learned about Earth, this scared me. Earth is awesome. And Earthlings are pretty cool too. They get amazed at the most simple things. Like space...almost all of them have never been there! Life will get more difficult for humans and other Earth creatures. But, my scientist friend Tom isn't giving up. He is hopeful and motivated, and still weird in a good way, like our Queloizian heroes who solved this problem together a few generations ago. Here's a message from Tom that gave me hope for Earthlings.

Cartoon Tom

We are already doing a lot to tackle climate change! The NOAA Sea Grant program is working with coastal communities to build systems that will help them bounce back after a big storm. NOAA's Coral Reef Conservation Program, meanwhile, is working on projects that grow super corals that can survive a warming ocean. This stuff gets me so giddy! I mean, I haven't even mentioned the U.S. Climate Resilience Toolkit or NOAA's Office for Coastal Management or the Climate Program Office. Oh, geez OCM's SLR viewer is so important. Then there's NCEI's RCCs. OAR's GFDL, PMEL, AOML, ARL and really *all* of the labs. It's just O.K. LOL. There's also...

Twilerp

Uh, Teek. Your Earthling scientist friend Tom seems super smart and all, but I think humans are going to need less letters and more motivation if they're going to take action.

Student Y

Yeah! Everyone needs to take action! Teachers, parental figures...even kids can make a difference!

Twilerp

Like me! I gave up eating lozquads last year. As tasty as they were, going plant-based is a lot better for the environment. And kelp burgers are sooooo good!

Student X

I earned an action badge for planting corals!

Student Z

Oh, cool badge! I talked to my parental figure and we started composting our leftover sea veggies!

Twilerp

Yesss! Every individual action makes a difference! But that's not enough! Earthlings need to work together to reimagine their world in order to make big change!

Student X

Right on, Twi! Our Sustainability club did a fundraiser for a new wave power system at our school! Now other schools are using our design too!

Gertnuf

Yay! Wave power! Everyone do the waaaaaave!

All Students

Woohoo! Wooooaa!

Student Y

I started to swim to school every day with my friends! Now, it's become a fun competition. Everyone at school wants to see who can swim the most!

Student Z

I'm taking extra science classes so I can better understand Queloz. I wanna become and become a climate scientist...just like Tom!"

Gertnuf

I wear dirty socks to save water instead of doing laundry! Now, my whole family stopped washing our clothes!

Students

[laughter]

Student Y

Hehehe, eww Gertnuf, gross!

Teek

You're all so right! Earth is such an amazing place and it's the only home humans have! So, of course they need to take good care of it! And everyone needs to use their voice to inspire friends, family, and people in charge—to act now!

Twilerp

I use my voice all the time about how we can make life better on Queloz for *everyone!*

Teek

...we know...AND WE LOVE THAT ABOUT YOU!

ALL

Go Twi! Go Twi! Go, go, go Twi!

Teacher Pika

Great job everyone on your projects. You really knocked it out of the galaxy!

Teacher Puna

As a reminder, if you interacted with any creature on your planet, they should have had their memories wiped by now. Has that been done?

Class and Teek

Uhh, Yes, Teachers Pika and Puna

Mission Control Announcer

All systems are go to send NOAA's GOES-U satellite into space to keep a watchful eye on the western hemisphere.

Symone

Hey, Tom!

Real Tom

Oh, hey, Symone!

Symone

Hmm, Is that a cartoon drawing of you with a one eyed sea creature?

Real Tom

Oh, that's my friend Teek, they're from the planet Queloz. Uh, sorry, I mean my son, Michael drew that. Pretty neat, huh? Wild imagination.

Symone

Yeah, Michael has some great artistic skills. But could you imagine if that was real?

Real Tom

Yup

Symone

Woh! I'll see you at NOAA Studio, Tom.

Real Tom

Take care Symone. Imagine if that was real...imagine.

Twilerp

Bummer we had to wipe the memories of our creatures, huh Teek?

Teek

What? Oh, right.

Twilerp

Well, bye Teek. See you at the bowling alley.

Teek

BARY, activate intergalactic teleportation. Bring Earth creature Tom to Queloz!

BARY

Now Teek, Teachers Pika and Puna said—

Teek

I know. We'll only bring him here for a couple hours so he can see how cool Queloz is and then we'll send him back and wipe his memory. Promise.

BARY

Okay, activating intergalactic teleporter in 3, 2...

Real Tom

Huh? Whoa. Ohhhwowwww. Wuhhooooo. Whoaaaaa. Whyyyy. Whoa—

Mission Control Announcer

T minus 10, 9, 8, 7, 6, 5, 4, 3, 2, 1.

Teek

Aww, no. Whee! Haha.

Real Tom

Whoaaaaa! Whoaaaaa! Ahhh

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