

COYOTE SCIENCE 2 – EPISODE SUMMARIES

Our Great Blue World

One Sentence: Isa, our awesome youth host, welcomes us to Our Great Blue World – and did you know the Oceans make up 70% of Mother Earth!

Three Sentences: Water is sacred. The ocean provides much of the world's oxygen – without the ocean we couldn't breathe very well. We honour water as Science Questers take part in a water ceremony and find out how vital the ocean is to living on earth and how we must respect water. Kai shows the effects of acidification on ocean life and we learn about harvesting herring roe from Jesse Hemphill and the Gwa'sala-'Nakwaxda'xw People .

Paragraph: Isa, our youth host, shares how water is sacred and water is life. Join our Questers as they give thanks to the ocean, with a water ceremony led by T'uy'tanat-Cease Wyss and Senaqwila. And we meet 'Qátu'was Jessica Brown, who brings Indigenous science to the field of oceanography. Shayla Stonechild is concerned about the damage we're doing to the ocean with all the plastic we throwaway. And DJ Salmon reminds us to never, ever litter, while Anostin and Quinn encourage Indigenous youth to be leaders as stewards of the ocean. Kai shows the effects of acidification on ocean life and Jessie Hemphill, from the Gwa'sala-'Nakwaxda'xw Nations, takes us on a herring roe gathering journey. Commander John Herrington explores what we know about where all this water happened on earth.

Life By The Ocean

One Sentence: We meet with Indigenous fishermen who teach us about respectfully living by the ocean.

Three Sentences: Isa invites us learn more from the ocean and how Indigenous people have made their villages and towns by oceans. We meet Indigenous fishermen who live and work by the ocean while respecting fish and habitats. Kai makes a tide diorama and Commander John Herrington tells us why he likes sharks.

Paragraph: Many Indigenous people live by the ocean and gain knowledge about the ocean, as well as about weather, tides, currents, navigation and marine animals and plants. Join our Questers as they meet Indigenous Scientists and Knowledge Holders who live and work near the ocean, like Elder Jamie Dixon from the shishalh Nation, who are caretakers of their territory, learning about tides, currents and fish life cycles so they can live in harmony with the land and water. Elder Woody Morrison knows something about about navigating by the stars. Kai makes a tide diorama to demonstrate the flow of these water levels and DJ Salmon spreads the message about the negative effects of salmon farming on wild salmon. Meanwhile, fishermen Rosemarie Georgeson and Lindsey Wilson take our friend Nathaniel Arcand out on their fishing boat. Commander John Herrington talks about the evolution of sharks and how they contribute to the well-beings of our oceans – and about the Greenland shark – the oldest living animal on earth.

Skateboard

One Sentence: Isa introduces us to the world of skateboarding and our Science Questers learn how physics, force, energy and gravity are in motion while skateboarding – while having fun doing ollies!

Three Sentences: Physics play a big part in skateboarding. Science Questers hop on their boards and talk to a physicist about how force, energy and gravity are in motion while skateboarding. Kai turns his skateboard into a rocket with the ‘Cola Geyser’ - and Isa meets with pro skater Rose Archie to get some skateboarding tips.

Paragraph: Skateboarding is almost like surfing on the land—just ask our Hawaiian relatives, the inventors of surfing! It’s fun and keeps you active. But did you know that physics play a big part in skateboarding? Science Questers hop on their boards and head to the skatepark with fellow Indigenous Skateboarders to find out why. Physicist Percy Paul explains how force, energy and gravity are in motion while skateboarding. Hummerton the Hummingbird shows off how he uses gravity and motion to go faster than any human, and Anostin and Quinn ask, “What's an Ollie?” Professional Skateboarder Rose Archie tells you what you need to skateboard safely while Kai turns his skateboard into a rocket with the ‘Cola Geyser’. Commander John Herrington has walked in space not once, not twice, but three times! He explains what spacewalking is, and the training that astronauts undergo to learn how to maneuver in space.

Volcanoes

One Sentence: Kai and Anostin visit Iceland to see how geology, chemistry, physics and even creativity go into volcanology – the study of volcanoes.

Three Sentences: Isa tells us about the “Ring of Fire” and the role of tectonic plates for in the creation of volcanoes. Find out how geology, chemistry, physics and imagination go into studying volcanoes. Kai and Anostin learn how Iceland was formed by tectonic plates moving apart and how there are over 130 volcanoes in Iceland. We meet volcanologists in Iceland and Hawaii who study the lives of volcanoes.

Paragraph: In this explosive episode, we find out how geology, chemistry, physics and even creativity go into understanding volcanoes. We learn volcanoes are different ages and sizes and also have labels such as active, dormant and extinct, and cone, shield and composite. Kai and Anostin travel to Iceland - the land of fire and ice! They meet Volcanologist Dr. Rikke Pedersen who explains the volcanology of Iceland and the differences between the types of eruptions. The Hawaiian islands were also created from volcanoes. We talk with Indigenous Hawaiian geophysicist Dr. Jim Kauahikaua who studies volcanic activity in Hawaii, drawing from science, story and history. Commander John Herrington explains how volcanoes are one of the most powerful forces of nature. Kai shows us his rockin’ volcanorock collection, while the Cosmic Surfer visits some famous volcanoes.

What is Underground

One Sentence: We follow Kai and Anostin to Iceland to discover what happens underground and how almost 90% of Iceland homes are heated by geothermal power, plus we visit a traditional pit house with Eliza and Bernadette that uses the warmth of the underground to make brilliantly engineered traditional homes.

Three Sentences: Find out what goes on underground when Science Questers explore the world of pit-houses and geothermal power. Kai and Anostin take a trip to Iceland to see geothermal activity up front, while Kai makes a mini model to show how geothermal energy works. Plus an Indigenous archeologist celebrates the knowledge she gathers about her ancestors, looking underground.

Paragraph: Indigenous Scientists look inside the earth and rock layers to learn about the Earth's history. And Archeology gives us evidence about how our ancestors used to live. Elders say that rocks are the oldest beings and we call them *Grandfather*. In Iceland, Kai and Anostin learn that nearly 90% of Iceland's homes are heated with underground power, aka Geothermal Energy. Our Science Questers in the Okanagan Nation head to a traditional Winter House to meet with Elder Eric Mitchell, who brings us inside to show how their winter house, or, pit house, is structured. Karen Rose Thomas from Tsleil-Waututh Nation can't wait to tell us about her exciting world of archeology digs. Plus, Kai makes a model to demonstrate how geothermal energy works. Commander John Herrington breaks down the anatomy of the earth—it's sort of like an onion! SisterClan shares a beautiful song with us and we share an animation story about Joah and her geologist Grandmother.

Buffalo

One Sentence: We head to Blackfoot Territory on the prairies where the Science Questers learn about the Buffalo Treaty, the restoration of Buffalo and how important to Buffalo are to the eco-balance of the prairie.

Three Sentences: Buffaloes have a big impact on the ecosystem of the plains lands of Turtle Island. Science Questers go on a journey in Blackfoot Territory to learn about the restoration of the Buffalo and eco-balance. Kai makes some quick and tasty pemmican.

Paragraph: Buffalo have sustained many generations and were a key part of the ecosystem of the plains land. Did you know there was once over 50 million buffalo on Turtle Island, before the practice of cultural genocide by colonizers almost wiped out all the buffalo. Our Blackfoot Science Questers visit with Dr. Leroy Little Bear to learn about the science of Buffalo restoration. We meet Environmental Scientist Paulette Fox from Kainai Nation who always dreamed of helping the Buffalo and she shares how she brings Indigenous Science and Elders teachings to her work. Plus, Dan Fox shows what it means to him and his family to bring back the Buffalo. Commander John Herrington teaches us about buffalo rocks also known as how erratics that can tell us stories about the land. Our animation story shares the origins of the Grassdance and Kai makes some quick and tasty pemmican.

Animals

One Sentence: Isa asks why Animal habitats are important and what we can learn from animals and how to be grateful for the food, shelter, knowledge and medicines our animal relatives provide.

Three Sentences: Animals are key providers for food, clothing, shelter and medicines to human beings. Science Questers explore why animal habitats are important and how we can learn from our animal relatives. Kai constructs a colourful bee habitat.

Paragraph: Animals hold knowledge and have their own ways of being, raising families and sustaining eco-systems. Plus they are part of our cultural understandings and we are fortunate they provide humans food, clothing, shelter and medicines. Elder Iggy George from Tseil-Waututh Nation explains why we must respect animals and their environment and habitat, including how to respectfully hunt for food. Nathaniel Arcand gives a shout out to the buffaloes and we meet Emily Missyabit McAuley, a biologist, who took her love for the outdoors and merged it with Indigenous Science. In our animation story, Dr. Winona asks how we must find new ways to build homes and communities that don't destroy habitat, while Kai constructs a colourful bee habitat. Commander John Herrington shares how the wolves were restored to Yellowstone National Park, after being over-hunted decades ago, effecting the entire local eco-system.

City/Food

One Sentence: Isa asks us to consider how we can live in the city and still have traditional plants and medicines and our Knowledge Holders show us how!

Three Sentences: As Indigenous people we have our own medicines and foods. Science Questers investigate how to sustain that connection of culture and food in a busy urban environment. Kai makes quick and easy healthy fruit leather.

Paragraph: As Indigenous Scientists, we learn from our surroundings and ecosystems and how as Indigenous people we have our own medicines and foods. Science Questers meet T'uy't'tanat Cease Wyss who grows traditional foods in a busy urban environment. She teaches how all that comes from the land is sacred and how different plants serve many purposes. Elder Káawan Sangáa Woody Morrison shares knowledge about Cedar, the Tree of Life. Haida Weaver Giihlgigaa Todd DeVries shows ways we can make use of cedar, including baskets, hats and even clothes! Kai makes quick and easy healthy fruit leather. Commander John Herrington acknowledges Indigenous people who are restoring traditional ecosystems and plants.

Solar Power

One Sentence: Our Youth Host, Isa and our Science Questers are inspired by the leadership of T'Sou-Ke Nation and other First Nations bringing Solar Power to their communities and we learn how the abundance of sun energy provides us with life.

Three Sentences: The sun is a huge part in the source of life. It keeps us warm, gives living organisms energy and grows our food. Science Questers investigate how solar power can serve as a clean alternative energy source. Kai makes a DIY solar oven.

Paragraph: The sun gives the Earth an abundance of energy, sustaining life. It keeps us warm, gives living organisms energy and grows our food. Everywhere, Indigenous communities are investing in solar power and clean energy. Science Questers visit the T'Sou-Ke Nation to speak with Educator Trena Sutton about the community's solar power project and Chief Gordon Planes tells us how clean energy is helping future generations. Jessica Bekker inspire us with her journey to become an Electrical Engineer and about the importance of sustainable energy, including wind power in her Nation of Piikani. Meanwhile, Kai makes a DIY solar oven and in our animated story, the Cosmic Surfer saves the day. Commander John Herrington introduces us to the Pueblo peoples, who designed and engineered their own type of house to use the sun's energy.

Rivers

One Sentence: Isa asks what can we learn from rivers while our Science Questers explore how rivers as an important part of food systems and travel today and for our ancestors and we learn that a watershed isn't a building.

Three Sentences: Science Questers explore the importance of rivers, their ecosystems and how to protect them. Anostin, Willem and Charlie have fun demonstrating how a watershed works. And we meet Sto:lo Historian Sonny McHalsie who educates us about the science behind drying salmon by the river.

Paragraph: Science Questers explore the importance of rivers, their ecosystems and how to protect them. We meet Ernie Victor from Cheam First Nation who explains how the Cheam watershed works and how we must work as a community to protect ecosystems. Canoe Builder Keith Point shares his knowledge on the different designs of Sto:lo canoes and their purpose. Where and how to dry salmon is shared by Sto:lo Historian Sonny McHalsie, while Carrielynn Victor reminds Science Questers to be mindful of rivers and watersheds. The unfortunate effects of littering on a river's living beings are felt by Sturgeon Steve in our animation story, while Anostin and his cousins have fun learning about how a watershed works. Meeting with Commander John Herrington we find out about how dams work and how they have both good advantages and yet how large scale dams can devastate habitat, ecosystems and cultural practices.

Video Games

One Sentence: Isa asks, “What is your favourite game” and our Science Questers take a look at how to design your own video game.

Three Sentences: Do you love games of skill, challenge, fun and learning? Our ancestors understood the science of games as well. Join our Science Questers as they try out computer coding and meet Indigenous game designers.

Paragraph: Our ancestors had many games that required skill and fitness. These games were not only for fun, but helped us become stronger and smarter. Today there are many more games, including video games. Science Questers meet up with a video game programmer to make their own video avatar! At Skybox Labs, our Questers meet Metis Game Designer Aubrey Tenant who shows what goes into making a successful video game. Looking for some game inspiration? Dr. Elizabeth LaPensée tells us how we can get inspired from the Elders and storytellers around us, while Josh Samuels, from Haida Gwaii, tells us about his own personal journey into animation, including working on Black Panther. Stickball is a traditional game from Chickasaw Nation; that’s where Commander John Herrington is from! John Herrington shares history on Stickball’s rules and purpose. And in our animation story, Jimmy designs the best game ever, with help from his coding big sister.

Virtual Reality

One Sentence: Isa introduces us to the world of virtual reality and our Science Questers hang out with Indigenous artists developing their own virtual reality!

Three Sentences: Virtual Reality (VR) is a new way to experience stories, play games and see the world without leaving your house. Science Questers investigate what virtual reality means to our lives and what you need to know to make VR. Kai shows how to make your own zoetrope and Commander John Herrington reveals how he learned to walk in space using VR at NASA.

Paragraph: Not only is Virtual Reality a new way to experience stories and games, but it can be a vital part to education, technology and even medicine. Science Questers look at how Virtual Reality could change the future. Indigenous VR creators are drawing on Indigenous science and the teachings of our ancestors to create VR to serve our communities today. We meet Monica Peters, a software architect from the St. Regis Mohawk Reservation. It's never a dull moment in Monica's world as everyday she's problem solving and developing software solutions. Did you know that animation has been around for hundreds of years? Kai takes us back to old fashioned animation by making a zoetrope. How do we further develop our skills and talents? We practice, of course! Commander John Herrington had to practice before going into space. He explains the importance of Virtual Reality being a part of space mission training.

Astronomy

One Sentence: Science Questers get to ask Commander John Herrington what its like to be an Astronaut while Corey Gray shares what it's like to be part of a science team the proved Gravitational Waves!

Three Sentences: Join us as we look to the sky. Our Science Questers find out about going to space and how being part of a team was one of Commander Herrington's favourite part of being an astronaut. Corey Gray, Blackfoot scientist who works at the Laser Interferometer Gravitational-Wave Observatory (LIGO) takes us on his journey to being part of the team that measured gravitational waves. And Kai uses magnets to hack gravity.

Paragraph: Did you know that anybody can be an astronaut? Teamwork and an excitement for science are key ingredients to being an Astronaut! Commander Herrington believes our ancestors worked together and for future generations – which is an important part of being an Indigenous Scientists. Our ancestors studied the cosmos and had much astronomy knowledge, often told through story. We even build our own forms of observatories. Get a peek into what happens at an Laser Interferometer Gravitational-Wave Observatory (LIGO) with Blackfoot Scientist Corey Gray who studies blackholes and gravitational waves. And he works with his mother, translating science documents into Blackfoot. Speaking of gravitational waves, the Earth is like one big magnet and Kai hacks gravity with some magnets. In our animation story, Kokum shares about how the North Star helped her when she was a young girl. Space is Awesome!