Unit 1: Legacies of the Maya

Narrator: The Maya. They're considered one of the most advanced civilizations to have existed in the Americas before the Spanish conquest. But who exactly were the ancient Maya people, and what led to the collapse of their civilization?

As early as 1800 B.C., the Maya had begun settling in established villages in what is today Mexico and Central America. Maya civilization peaked from 250 to 900 A.D.—during what archeologists call the Classic Period.

More than 40 cities flourished throughout the region, with populations as large as 50,000.

The Maya built magnificent urban centers consisting of stone structures, including pyramid temples that were central to Maya religious practices.

In addition to these impressive city structures, agriculture played a key role in Maya civilization. Corn was one of the predominant crops. The Maya creation story tells of nature gods—the basis of Maya religion—who created humans out of yellow and white corn.

The Maya also made significant advancements in mathematics and astronomy. They invented the concept of zero, and they developed an accurate calendar system. Used to guide the Maya agricultural cycles, the calendar was based on observations of the sun and sky over thousands of years.

The Maya also developed the only known system of writing in Mesoamerica—hieroglyphs. In fact, much of what we now know about ancient Maya civilization comes from deciphering hieroglyphic characters inscribed on pottery, stone slabs, and other ruins discovered at ancient sites.

Hieroglyphs have revealed that, despite the Maya's ingenuity and agrarian lifestyle, conflict was prevalent among some Maya city-states, as they battled for control of the region.

Throughout much of the Classic Period, the city-state of Tikal (located in modern-day Guatemala) reigned as the closest thing to an empire in Maya history. But for a period of roughly 130 years, the Tikal people were overtaken through force and diplomacy by the Kaanul, a rival kingdom.

Toward the end of the Classic Period, around 900 A.D., most Maya cities had collapsed.

Among the theories are warfare, a volcanic eruption, and, perhaps most likely, drought. However, archeologists still debate why as new evidence continues to emerge.

Despite the decline of ancient Maya civilization, the Maya people have by no means disappeared. More than seven million Maya are estimated to be alive today in their indigenous homelands and around the world. While they participate in modern global life, they continue to follow agricultural and ceremonial practices of their ancestors.

Unit 2: Soloing Safely

Matt Maddaloni: Everything about the sport said danger.

Oh my god!

As a young guy, I was totally excited about that. If I even sneeze, I was dead. Exciting, to say the least.

Narrator: To some climbers, the act of climbing without the rope, free soloing, is reckless and irresponsible.

Matt Maddaloni: Not having a rope—any mistake at all, and it's a death fall to the ground, so even easy terrain became difficult, mentally.

Narrator: The vast majority of climbers would never seriously consider ditching the rope. The rope, clipped into successive pieces of removable gear placed in cracks, is the climber's safety net. The climber slips, the rope catches him or her. For as long as climbers have been using ropes, they've also been making the decisions to go without them. Solo climbers who push their limits—they never get a chance to learn from their mistakes.

Matt Maddaloni has been working on ways to make climbing without the rope safe. Or, at least, relatively safe.

Matt Maddaloni: I wanted to push it harder. Physically, mentally, I wanted to get that grade as difficult as it could be, so I discovered a sport called deep water soloing where you're climbing without a rope but this time over water, so if you fell off, you had that as your safety net.

Narrator: Falling became acceptable. Matt decided to take this fringe niche of the sport back to solid earth. The next test would be a feat of engineering.

Matt Maddaloni: Okay, let's try Young Blood without a rope. Oh my god, I don't know. It's a long way down. God. It's like almost too much, the adrenaline.

Narrator: Matt took a page from the circus.

Matt Maddaloni: There is no instruction booklet on how to set these things up, so all of this creates a challenge that pushed it into a realm that we had no idea what we were getting ourselves into.

Oh, so nice!

Narrator: A trapeze net would take the place of the rope.

Matt Maddaloni: If the net failed, it would be like your rope breaking.

Narrator: Out of each successful engineering project comes the idea for the next creative endeavor.

Matt Maddaloni: Learning is the most exciting thing about life, and as long as we're learning, we're living. You know, it's definitely not gum and paper clips, and jumping off a cliff and see if it all works. There is a method to my madness, for sure. Am I fringe? Do I stand out as one-and-only, doing the stuff that I do within the sport? No. But I'd say for the main group of climbers that exists, yeah, I'm definitely a bit of an oddball, for sure.

Unit 3: Energy Entrepreneur

Sanga Moses: I made a journey to go visit my mother, and on my way home, I met my kid sister carrying wood. When she saw me, she started crying. She was tired of missing school at least twice a week to go gather wood for my family. Kids carry wood in Uganda because that's what their families use to cook. Education has changed my life, so seeing my sister the verge of losing the only opportunity she had to improve her life hit me hard.

She inspired me to think about an alternative source of fuel. I quit my job. My boss thought I was crazy. My mom thought I was under a spell. I came back to Kampala, and then went to a university professor. He made me stand in front of his class and said, "This young man is crazy enough to think that he can fix the energy crisis in this country, but he doesn't know how to do it. Who wants to help him?" And everyone's hand went up.

I had $500, and we run through it in two months. I decided to sell my TV, my bed, and my sofa set. After I sold my stuff, my girlfriend slammed the door and said, "If you want to waste your life, waste yours alone."

Now, I'm the CEO of Eco-Fuel Africa. It's amazing what can happen if you believe in your dreams and act upon it. We figured out how to turn farm waste like sugarcane waste, coffee husks, corn waste, into clean cooking fuel that burns cleaner, burns longer, and is 65 percent cheaper.

We put our product in the market, and people loved it. That's when the journey began. We work with a network of twenty-five hundred farmers. We have four hundred and sixty women retailers who sell this fuel back to their communities. Currently, we reach ten thousand households. But we want to reach sixteen point six million households in the next 10 years.

By bringing clean cooking fuel to users, we are stopping deforestation, stopping indoor air pollution, and enabling farmers and women to earn a living. More kids are in school getting the education they need.

And me, I fell in love again with a wonderful woman. Now she's my wife and, together, we have a beautiful baby girl. I only look at myself as an everyday community guy trying to make his community a little bit better.

Unit 4: Hurricanes

Narrator: Cyclone, typhoon, hurricane—all of these names are used around the world to describe the most powerful storm known to man.

Hurricanes are unpredictable, but scientists have a thorough understanding of how hurricanes form and sustain their power.

In the Atlantic Ocean, hurricane season peaks during the late summer months when tropical waters are the warmest.

Hurricanes form from a cluster of thunderstorms that suck up the warm, moist air, and move it high into Earth's atmosphere. The warm air is then converted into energy that powers the hurricane's circular winds.

These winds spin around a low-pressure center called "the eye," which can provide a 20-30-mile radius of eerie calm.

Encircling it is the "eyewall," a towering ring of clouds with some of the fastest wind speeds of the hurricane.

Surrounding the "eyewall" are curved bands of clouds, "the rainbands," often tens of miles wide, releasing sheets of rain—and sometimes tornadoes.

When a tropical storm's winds reach at least 74 miles per hour, it becomes a hurricane. The hurricane then receives a category ranking of 1 to 5 on the Saffir-Simpson scale, based on its wind speed and potential damage.

But wind speed isn't always the most dangerous component when hurricanes come near land—it's storm surge.

Storm surge is caused when winds from an approaching hurricane push water towards the shoreline up to 20 feet above sea level and can extend 100 miles. 90 percent of all hurricane deaths are the result of storm surge.

While hurricanes can cause mass devastation, just like other natural disasters, they serve a higher purpose within the global ecosystem.

Hurricanes help regulate our climate by moving heat energy from the equator to the poles, keeping the Earth's temperature stable.

Over time, science has helped us to better understand hurricanes and predict their paths, saving lives through early warning systems and helping us build better infrastructure to protect our cities.

The more we study these complex storms, the better we can prepare for them and minimize their impact on human lives.

Unit 5: Eco-Detectives

Narrator: This house is a typical three-bedroom home in a nice suburban neighborhood. But lurking beneath this innocent facade is an energy-eating monster.

Houses and buildings account for more than half of all energy consumption in the United States. And many homes waste more energy than they actually use.

Environmental visionary Amory Lovins has brought a team of eco-detectives to investigate the Cohen house.

Amory Lovins: So this innocent-looking thing here, when it is on, eats a whole lot of money. When I feel this much cold on the outside of the freezer, the insulation is really not as thick as we would like.

Oh, what have we here?

Climate change is a problem we don't need to have, and it's cheaper not to.

Narrator: Lovins demonstrates that we needn't give up the conveniences we want—a warm room or a cold drink—in order to save energy. It's all about how efficiently we use it.

Amory Lovins: I think once people understand that climate protection puts money back in your pocket because you don't have to buy all that fuel. Political resistance is going to melt faster than glaciers.

You see that little red light? Down in the corner?

Cohen: Yes.

Narrator: And you'd be surprised by just how much energy your home is wasting, even while you sleep.

Amory Lovins: If you have all kinds of appliances, you know, your TV, your VCR, your DVD, etc. that have that little light on—they're using electricity. It's called vampire loads.

A hundred and nine watts. Almost 60 bucks a year, just sitting there, turned off.

Narrator: If every household in the U.S. did away with their vampire loads, we could eliminate a minimum of 18 coal-burning power plants.

Lovins leads by example. He designed his own home in Aspen, Colorado. He employs a mix of high technology and good old common sense.

Amory Lovins: We're at 70, 100 feet here. It can go to -47 F, get frost any day of the year. We could get 39 days of continuous mid-winter cloud.

Narrator: Winters are extremely cold here, but Lovins's house doesn't need a furnace. The house gets all the electricity it needs from the solar panels on the roof. And there's energy to spare. The entire house runs on 120 watts. That's just slightly more electricity than a single light bulb uses.

Amory Lovins: Energy-efficiency is the biggest, fastest, cheapest way to solve the climate problem, to save money, and to make a safer, richer, fairer, cooler world.

Unit 6: Life on Ice

Jonathan Coddington: Museums are really the archives of scientific knowledge. We think that the future of meeting the needs of 21st century biology will be about frozen tissues—life on ice. The Smithsonian has just built the largest natural history biorepository in the world. Biologists are going to be spending a lot of the next few decades sequencing the genomes of many kinds of life on Earth.

We're in the field, out at Edgewater, Maryland, which is The Smithsonian Environmental Research Center, and we are here to start working out the methods for how you put life on ice. You might ask, "So why do we do this?" Well, as a scientist, the main reason is that I want to understand the history and diversity of life on Earth.

For 300 years, we've been studying the morphology of animals, the behavior of animals, the ecology of animals. What we've discovered in the last 20 is that all of those things leave signals in their genomes. So there are a couple of really hard problems we haven't been able to solve with classical data, and we think that genomic data is the way to solve all those problems.

Dana De Roche: Got him. See, and he's in there. That looks like a *leucauge*. Yeah.

Jonathan Coddington: That's one. We'll be catching spiders live and then plunging them directly into liquid nitrogen which, by the way, is a very fast and painless way to go. It's instantaneous. Ready? So, this is sacrificing the spiders. You hear that?

Dana De Roche: Boiling away!

Jonathan Coddington: Why care about spider genomes? It's two obvious reasons—there's silk and poison. They have some of the most elaborate and precise poisons of any organism on Earth. They're widely used in neurobiology research so that they can see the mechanism of how the poison affects cells, say, in a human body. So we think nature is a library of solutions that are waiting to be discovered.

Amy Driskell: Museums are repositories of all sorts of information that people have used in the past and haven't used yet. So we're adding to it, to a museum collection, in a different way than has been traditional. And basically, you know, museums will have specimens in ethanol, they'll have specimens that are dried and pinned, they'll have specimens that are in drawers, and they'll have specimens that are in the biorepository in liquid nitrogen. So, to me, it seems to be a normal thing for a museum to be doing, which is to be adding to its collection.

Jonathan Coddington: The liquid nitrogen tanks hold tens of thousands of samples at -190°. At the moment, liquid nitrogen is the gold standard for long-term and, by long-term, the Smithsonian's in the forever business.

Chris Huddleston: Now we're starting to centralize our frozen tissue collections. So we're somewhere between 200,000 and a half a million samples. The reason we do this is people like to do genomic work, they do biogenetics, they do toxicology work with our samples. So researchers request samples, and we actually go in and we pull samples out, we cut a small piece of it, and send them out to the researchers.

Jonathan Coddington: Every time science jumps to a new phase, the museums will follow. Because the technology of doing genome sequence is advancing rapidly. By building a library of frozen tissue where you can do genomics of life on Earth, we'll be doing what museums have always done, which is to concentrate life into a collection that will support research.

Unit 7: A Giant Step

Frank: I'm a T-6 paraplegic. I was injured in a motorcycle accident on December 6th, 1998 that left me paralyzed just below the chest down.

Frank's mother: I didn't accept the fact that he was hit by another person, and he became a paraplegic but, Frank, he has that will and desire to go forward. He has that inner strength.

Frank: There's always a hope in my heart that some way, through science, technology, that I won't be in a wheelchair for the rest of my life.

Narrator: Today, that hope may be answered. Frank is getting strapped into a battery-powered bionic device. If it works, his dream will come true, and Frank will be able to stand and walk.

Doctor Guy Fried: How you doing, Frank?

Frank: Fantastic.

Narrator: Doctor Guy Freid has worked on Frank's rehabilitation since the accident.

Doctor Guy Fried: Today is an absolute milestone for Frank. It's a milestone for me. Today is the first time Frank will be able to take his first step. So the technology has finally met the body.

Narrator: The plan is for Frank to use the walker as he relearns how to move on his feet. The therapist will push a button that activates sensors throughout the leg brace, which lift and bend the knee to let Frank step forward. Push, push, push, push.

First, Frank must make sure he can position his feet to support himself and maintain his balance. But after being in a wheelchair for more than a decade, it's not easy.

Nurse: Let yourself come forward a little bit.

Narrator: Frank is facing tough odds.

Nurse: Don't rush it. Shift.

Narrator: For the first time in years, Frank has pulled himself upright.

Nurse: Okay, now try to find that balance point right in the center.

Frank: Got it.

Nurse: Perfect.

Frank: I got this.

Narrator: He finds his footing, for the moment.

Frank: Feels great. This is awesome! Wow!

Narrator: Just being vertical is intoxicating.

Frank: Feels good.

People with disabilities, people in wheelchairs are constantly looking up, you know? There's something about standing, too. When you stand, you feel like who you are.

Narrator: Now comes the hard part.

Nurse: Ready to walk?

Frank: I'm ready.

Nurse: Push through your hands, stepping right.

Frank: Okay. Wow!

Nurse: Okay, now we're going to shift. To the right, and then forward. Step left.

Doctor Guy Fried: You're walking! You're a natural!

Frank: I'm in the rhythm. Here we go. Got it. Got it. Here we go. Feels good.

Narrator: Step by step, Frank walks again.

Frank: I got this.

Doctor Guy Fried: That's the superhero we need. I'm looking for you to fly at this point.

Frank: This is insane.

Frank's mother: We're reaching the stars right now. It's very overwhelming and, as a mother, it makes me feel like my boy is whole again.

Unit 8: Crane Migration

Nicole Arcilla: This is, I think, without a doubt, one of the most spectacular migrations that you can witness in North America, if not the most spectacular. There's just something really uplifting and inspiring about them, and people all over the world have felt that way. They're kind of impossible to resist.

Kirk Summers: When the cranes arrive, it's the first sign the spring's coming. And then, soon after, the baby calves will be coming and hitting the ground, and the grass greens up. It's the start of the best time of year for me.

Nicole Arcilla: Cranes have been in the world for tens of millions of years, and they've been doing this migration for at least 10,000 years. From what we know, each individual crane will spend about three to four weeks here, and they're doing a behavior that's common with many other water birds called staging. They're kind of fattening up for the rest of their journey, and then they're also kind of meeting up with their friends, with their mates, with family.

Andrew Caven: They start doing certain social behaviors here for the first time. They get up in there. There's a gigantic lift off off the river, and it is actually deafening. So, then they go out and then go to their feeding areas in the cornfields. They're usually, they're gone before we put seed in the ground, so we really coexist pretty well.

Nicole Arcilla: And for the cranes, it's a breakfast buffet all day. All day all-you-can-eat buffet.

Andrew Caven: The cranes have adapted to where the grain is very important to their diet now. We're probably really only leaving about 250 pounds of corn that the combine isn't getting, and then the cows are cleaning up part of that, but the cranes are thriving on that little amount that we're leaving.

Nicole Arcilla: They are some of the world's most successful birds in terms of how long they've been around on this planet, and I think eating—they're eating corn even though it's only been around for a hundred years, which is a tiny portion of their evolution. It's another measure of their resilience and their opportunism—they're taking advantage of a new food source.

Andrew Caven: Today, in the Platte River Valley, about 95 percent of their caloric intake is from corn. It provides them calories, but it does not provide them nutrients or protein and some essential minerals. They get that from these wet meadows.

Nicole Arcilla: So even though sandhill cranes are doing well, they, of course, face threats just like every other species. The number one threat region-wide for them is the loss of wetland habitat and loss of habitat in general.

Andrew Caven: We really need these meadows, and that we're to a point where we have to preserve the last few percent that remain along the Platte and elsewhere. So, we are working to restore these prairies, and also with multiple objectives in mind, to improve habitat for cranes but also these other grassland and wetland birds.

Nicole Arcilla: With the cranes, they can't really shift away from this river. They really need this river system. These birds are adapted to water, and they need that, and water obviously is affected by climate.

The jury is kind of out on how climate change will affect sandhills, but we know that their migration has advanced. They're arriving about 30 days earlier than they did 20 years ago. That's a very rapid shift. They can deal with all sorts of changes, but they need water, and they need wetlands at the end of the day.

Andrew Caven: I think they're resilient, but I think that it's not really about them. It's about this whole great plains water bird ecosystem that is on the verge of something very dangerous if we don't really put our foot down and stop it.

Nicole Arcilla: So just because the cranes are abundant, it doesn't mean they're not fragile. They were over-hunted, and they lost a lot of habitat going into the 1930s, and the U.S. actually legislated to protect them and other native birds. Sandhill cranes can be hunted. They, in fact, are hunted in almost all states except Nebraska where we are now, but it's always under strict conditions. So, I think the success of these birds is a combination of their own natural resilience and also the fact that humans have acted to help them, to protect them.

They're a symbol of hope because of their own success on their own terms, and they also symbolize what humans can achieve when we work together. Their success is our success.

Unit 9: Infinity Artist

Narrator: Known for her use of polka-dots, Yayoi Kusama is one of the most renowned artists in the world.

She is also the first Japanese woman to receive the Praemium Imperiale, one of Japan's highest honors for internationally recognized artists.

Kusama's iconic polka dots are inspired by a recurring hallucination from her childhood—she described herself as standing in the middle of a vast field of flowers, akin to millions of polka dots that went on for as far as she could see—into infinity.

She recalled, "I felt as if I had begun to self-obliterate, to revolve in the infinity of endless time and the absoluteness of space."

Born in 1929, in Matsumoto, Japan, Kusama moved to Seattle at the age of 27, feeling stifled by the expectations from her family and the cultural censorship at the time.

There, she became increasingly political and quickly gained a reputation in the avant-garde movement, becoming close friends with artist Donald Judd and sculptor Eva Hesse.

Kusama experimented with various mediums such as drawing, painting, sculpture, performance, fashion, writing, and installation. She would sometimes work up to 50 hours without rest, and once had to be hospitalized from overwork.

One of her most popular installations is her infinity mirror room, a room filled with mirrors and neon lights.

In 1973, she eventually moved back to Japan in ill health and checked herself into the Seiwa Hospital for the Mentally Ill.

There, Kusama continues to produce hundreds of new pieces for exhibitions around the world.

Unit 10: Black Holes

Narrator: Black holes are among the most fascinating objects in our universe, and also the most mysterious.

A black hole is a region in space where the force of gravity is so strong not even light—the fastest known entity in our universe—can escape.

The boundary of a black hole is called the event horizon, a point of no return, beyond which we truly cannot see.

Once something crosses the event horizon, it collapses into the black hole's singularity—an infinitely small, infinitely dense point where space, time, and the laws of physics no longer apply.

Scientists have theorized several different types of black holes, with stellar and supermassive black holes being the most common.

Stellar black holes form when massive stars die and collapse. They're roughly 10 to 20 times the mass of our Sun, and scattered throughout the universe. There could be millions of these stellar black holes in the Milky Way alone.

Supermassive black holes are giants by comparison, measuring millions, even billions of times more massive than our Sun. Scientists can only guess how they form, but we do know they exist at the center of just about every large galaxy, including our own.

Sagittarius A, the supermassive black hole at the center of the Milky Way, has a mass of roughly 4 million suns, and has a diameter about the distance between Earth and our Sun.

Because black holes are invisible, the only way for scientists to detect and study them is to observe their effect on nearby matter. This includes accretion disks, a disk of particles that form when gases and dust fall toward a black hole, and quasars, jets of particles that blast out of supermassive black holes.

Black holes remained largely unknown until the 20th century.

In 1916, using Einstein's General Theory of Relativity, a German physicist named Karl Schwartzschild calculated that any mass could become a black hole if it were compressed tightly enough. But it wasn't until 1971, when theory became reality. Astronomers, studying the constellation Cygnus, discovered the first black hole.

An untold number of black holes are scattered throughout the universe—constantly warping space and time, altering entire galaxies, and endlessly inspiring both scientists and our collective imagination.

Unit 11: Crossroads of the World

Narrator: Turkey sits on the border of Europe and Asia, creating a fusion of Eastern and Western culture. This culminates in the cultural heart of the country, Istanbul.

With a population of around 15 million, Istanbul is Turkey's largest and perhaps most famous city. Its long, intriguing history, together with its unique geographical location mean that the 13 million tourists who visit every year have no shortage of sites to take in.

The Bosphorus strait is a bustling waterway that runs through the center of the city. The strait forms part of the continental boundary between Europe and Asia and divides Istanbul in two. Taking a boat ride along the strait gives a stunning view of the city.

Istanbul's beautiful skyline is a mix of contrasting architectural styles, with influences from a diverse range of historic cultures and time periods. Byzantine churches, decorated mosques, and Ottoman palaces blend together to create a truly unique spectacle.

One of the most dominating sites of the skyline is the Galata Tower. When it was built in 1348, the tower was the city's tallest structure. Modern-day visitors can climb 67 meters to the top and enjoy spectacular panoramic views of the city.

Perhaps the most famous, and arguably most beautiful, building in Istanbul is the Hagia Sophia museum. Built between 532-537 A.D, originally as a church, it was once the largest cathedral in the world and became the symbol of the Byzantine Empire.

Following the Ottoman conquest, the building was turned into a mosque, and the walls were plastered over and decorated in Ottoman-style art. In 1935, the Hagia Sophia became the museum it is today.

The Kizkulesi (Maiden's) Tower is another stunning piece of architecture. Located at the southern entrance to the Bosphorus Strait, the tower was built on a small islet in the 5th century BC as a checkpoint for goods entering and leaving the city.

In the late 1990s, the tower was renovated. Now it has a cafe, restaurant and is a popular setting for weddings. The tower also appeared in the James Bond movie, The World is Not Enough.

No visit to Istanbul is complete without a visit to the Suleymaniye Mosque. This incredible building was constructed between 1550 and 1557 under the command of Suleyman the Magnificent, whose grave is located in the garden behind the mosque. The building is a great showcase of the work of the renowned Ottoman architect Sinan.

Today, the mosque remains one of the world's greatest pieces of Islamic architecture, and is one of Istanbul's most iconic buildings.

Unit 12: The Lure of Lithium

Narrator: Over the course of human history, fuel for industry has come in many forms.

But one of the major drivers of development in the current technological age is a highly volatile element that makes up only 0.002 percent of the Earth's crust.

Such a rare commodity has become the bedrock of industry, and may be the key to the future of civilization.

Lithium, a soft, silver-grey metal, is the third lightest element in the universe.

Originally discovered in 1817, in a piece of volcanic stone, lithium was named after the Greek word for stone—lithos.

Ever since its discovery, lithium has been found to be incredibly versatile, including strengthening glass and refining metal alloys.

But probably the most popular use of lithium is in lithium batteries.

Holding a charge for longer than traditional batteries, lithium batteries are often used to power devices as small as smartphones and laptops and as large as electric vehicles. The versatility of lithium has helped catapult many technological developments, largely due to the metal's unique chemical properties.

Lithium is classified as an alkali metal.

When combined with water, the metal forms alkalis, or chemicals that stabilize acidic solutions. Additionally, lithium is heat-resistant—having extraordinarily high melting and boiling points—causing it to be capable of storing large amounts of energy.

Lithium is also highly reactive in that it readily loses one of its electrons to form new bonds, thereby creating a positive charge.

Altogether, these properties allow the metal to serve as the receiving point of negatively charged particles, helping create a powerful electrical current in lithium batteries.

But because of lithium's reactivity, it does not naturally occur in its pure, elemental metal form.

It's often found as a component of chemical compounds and sourced from hard-rock minerals, seawater, or saltwater reservoirs called brines. Within the past few decades, the presence of lithium in South American countries has drawn the attention of federal and commercial entities from around the world, hoping to extract one of the most sought-after natural resources on the planet.

By extracting a natural resource as valuable as lithium, these entities may fuel and help shape the future of technology and industry.