

One Day in the Desert Part 3
Playas and Criollo
Asombro Institute for Science Education

>>Mr. Ryan: Let's continue exploring the Chihuahuan Desert with Mariana. We're going to learn about some unique desert land features called playas and the types of animals that live there, as well as some desert-adapted Raramuri criollo cattle. Then we'll write postcards to our friends or family describing what we've learned about how plants, animals, and other parts of the environment interact to change and influence each other.

Keep your ears open because this time you're on a mission to listen for information about a shrimp found in the desert. At the end of the video you will be asked to write something that you learned about this special type of shrimp.

>>Mr. Ryan: Hello again everybody! It's Mr. Ryan from the Asombro Institute for Science Education. Today I'm standing in Isaack's Lake, a playa of the Jornada Basin. Now in Spanish playa means beach. But in a desert, a playa refers to a temporary, shallow lake that only forms after heavy rains, then dries up. Isaack's lake is currently dry because it has not rained in many weeks. But during the summer monsoons, playas become important water sources for many Chihuahuan Desert plants and animals.

Now when we were last together reading One Day in the Desert, Mariana and her class were leaving the Chihuahuan Desert Nature Park when their bus became stuck in the mud. While they wait for help to arrive, they have the opportunity to explore a playa. Let's rejoin Mariana and her class and see what cool things they discovered.

>> Mrs. Locke called out to her class, "Everyone gather round. Dr. Garza wants to show us a very special kind of lake while we wait. It's called the playa. It only has water in it when it rains, the rest of the year it's dry."

>> Mr. Ryan: They hiked off the road in single-file toward the playa, a lake that appears and vanishes in the desert. The playa was much bigger and shallower than Mariana had imagined. The water was the color of cocoa. They heard the constant thrum of the cicadas and the call of spadefoot toads that sounded like rapid knocking on a door.

>> Mrs. Locke: Since we're already covered in mud, let's go wading! Be sure to wear your shoes and don't go in above your knees.

>> Mr. Ryan: While some of her classmates shied away, Mariana headed right into the water. The mud squelched and sucked at her feet. Mrs. Locke tossed her an empty water bottle and called,

>> Mrs. Locke: See what you can catch for us to examine.

>> Mr. Ryan: Mariana walked out to where the water was still. She could see small animals swimming near the surface. They weren't fish because they had legs that propelled them through the water. They looked more like brown bugs with pink undersides. She scooped a few up in the bottle and carefully waded back to shore.

>> Dr. Garza: What have we here?

>> Mariana: I don't know Dr. Garza. What swims this way and has so many legs?

>> Mrs. Locke: Tadpole shrimp! My goodness what a find!

>> Mr. Ryan: Mrs. Locke was very excited. Mariana's classmates passed around the bottle as Mrs. Locke and Dr. Garza explained about the different kinds of shrimp that hatch only when water fills the playas. The shrimp lay eggs in the mud and those eggs wait through the dry seasons or for many years and dry soil until the rains return and they hatch again.

>> Dr. Garza: This is a Great Plains toad. It is very similar to the spadefoot toads Mariana heard calling on her field trip. Both toads are very well adapted for living in the desert. They can dig into the ground using their back legs, burying themselves underground for many months. The toads remain buried until a heavy rainfall during the late spring and summer causes them to emerge and they lay eggs in shallow temporary lakes or ponds like the playa Mariana saw.

>>Dr. H: What is one adaptation that allows animals like the tadpole shrimp and the spadefoot, or Great Plains toad to live in the desert?

>> Mr. Ryan: Soaked but happy, the class walked back to the road where they found a group of ranchers pulling the bus out of the mud with a tractor. One rancher stood near his trailer which was full of buff colored cattle with tremendous horns. The rancher chuckled at the kids appearance and said,

>> Rancher: I can't tell where the desert ends and you begin. Let's hear from one of my fellow ranchers at the Jornada Experimental Range in Las Cruces who'll answer some questions Mariana's classmates had about cattle.

>> Classmate: Hey, what type of cows are those?

>> Range Scientist: These are criollo cattle. They originated in northern Africa in semi-arid regions. And these have evolved into a specialized breed from Criollo, Raramuri Criollo, in the Copper Canyon in the last 400 years.

>> Classmate: Well, what are you doing with them here in Las Cruces?

>> Range Scientist: Scientists from the United States Department of Agriculture, the Jornada Experimental Range, went down to Mexico to find cattle more adapted to the desert environment, to help ranchers in the United States, especially in the southwest with desertification.

>> Mr. Ryan: A cheer went up as the back wheels of the bus rolled free of the mud. The class thanked the ranchers, the heroes of the day. The mountains glowed a vivid pink in the last rays of sunlight as they rode home. Mariana watched a coyote cross the road in front of the bus. Jackrabbits scattered

and common nighthawks swept past in the hunt for insects. Mariana wondered how she had missed all the incredible life in the desert before today.

When she got back home, Mariana ran inside to tell her family about her amazing day. They were shocked by her muddy clothes, but were soon smiling as she described her adventure.

>> Mariana: Now I can't wait to write to Kupe and Ellie and tell them about the desert! There's so much to share.

>>Dr. H: What did you discover? Write one thing you learned about the tadpole shrimp.

>> Mr. Ryan: After she finished writing her postcards to her friends, Mariana thought about the owl Ellie had seen right outside her house. What might she find just outside her own front door? She put on her damp, dirty shoes. She had worked hard to wash them, but some of the soil had settled into the fabric. The desert stayed with her. She went outside to play, pausing at the gate that led to the little arroyo behind her house. It was not as green as Ellie's forest, nor is exotic as Kupe's reef. But it was her home, and there was much to explore.

>> Dr. H: So what did Mariana tell Kupe and Ellie about her home in the Chihuahuan Desert? Let's find out.

>> Mariana: Dear Ellie, My class and I took a hike in the desert and I saw all kinds of animal signs. I didn't used to think there was much living here, but there is. They are all hiding and waiting for the night and for rain. Holes in the ground are really the entrances to underground homes for pack rats, kangaroo rats, rabbits, snakes, and tarantulas. I learned how to spot kangaroo rat tracks because they hop along on only their back feet and leave a tail drag. Have you ever seen a picture of one? They are so cute! I think I want to be a scientist when I grow up. How about you? Mariana

Dear Kupe, I think rain is the main thing in the desert. We are always hoping for rain, and it surprises me every time it comes. The rain falls fast and smells so clean and rocky. It's the best smell! On our field trip to the desert, we got to visit a playa! It is a lake that only holds water after a rain. There were little pink shrimp swimming around in the water. They hatched from eggs that were waiting for years in the dry soil. Shrimp can live in a desert! I think that is amazing. I wish you could come and visit. You would like it here. Mariana

>> Dr. H: Mariana had quite an adventure while visiting the Chihuahuan Desert Nature Park. When she sat down to write her Eco Pen Pals Ellie and Kupe, she was excited to share with them all she had learned about the Chihuahuan Desert. You can do this too! Let's write a postcard to a friend or family member. Tell them something you learned about the desert and how plants, animals, and other parts in the Chihuahuan Desert interact to change and influence each other.

Here are some examples from the scientists at Asombro Institute. They are writing about flowers and butterflies, plants that they've seen, and a beautiful sunrise. We hope you enjoyed One Day in the Desert and continue exploring.