mystery science

Grades K-5
Mini-Lesson: “How many kinds of cacti are there?”

VIDEO TRANSCRIPT

VIDEO 1

Hey, it's Jay! Have you seen one of these before? This is a plant called a cactus. Maybe you've seen one of these growing in a pot before. Cactuses, also called cacti, don't need a lot of water so lots of people find them easy to grow as decorations for their homes. If you live in certain parts of North or South America, you might have also seen cacti growing in the wild, like these. Cacti come in lots of funky shapes and sizes, and many of them have another way of getting noticed. These spiky spines. Someone named Abby has a question about cacti. Let's call Abby now.

[Video Call]

- Hi, Jay.
- Hi, Abby.
- I have a question for you. How many cacti are there?
- That's a great question.

I want to introduce you to someone who knows a lot about this. Her name is Helia Bravo Hollis. Helia Bravo Hollis was born in what is now Mexico City, in the year 1901. As a kid, she and her family spent lots of time outside. At night, they stargazed. And during the day, they took walks among the cacti and other plants near their home. Helia Bravo Hollis fell in love with plants. Helia did well in school and her family dreamed that she would grow up to become a doctor, but

she realized she had a different dream. So halfway through studying medicine in college, she switched to studying plants instead. After she graduated, Helia Bravo Hollis took on a big new goal. She wanted people everywhere to learn about the plants she'd grown up with in Mexico. I'm curious. If you wanted everyone to learn about plants that grow near where you live, what would you do? How could you share that information?

VIDEO 2

Helia Bravo Hollis lived in a time before a lot of the tools we used to share information today existed. There was no social media, no internet, and far fewer films than there are today. So, Helia decided to write a book about Mexican cacti. Her book was going to be a guide to the many different kinds of cacti in Mexico. What they looked like, where they grew, and what made them special. This wouldn't be easy. There were hundreds of different types of cacti in Mexico, and she was sure there were more that scientists hadn't even studied yet. She got to work. She carefully read the research of other scientists who had studied cacti before her. Then she set out into the wild to do her own research. She traveled all around Mexico looking for cacti. She hiked through deserts, mountains, and jungles. It was hard work, but the cacti she got to observe were amazing. She studied barrel cacti. She studied colorful prickly pear cacti. She studied saguaro cacti that were as tall as trees. But Helia didn't just want to learn about these cacti for herself. She wanted to share what she learned. She wanted people reading her book to feel like they were taking a cactus field trip across Mexico, like they were standing next to her as she inspected each cactus. So, she carefully recorded her observations of each kind of cactus she encountered. She took photos, she made sketches, she sliced parts of the cacti open and sketched what she saw inside. She dug down to the roots of the plant and sketched those too. She collected hundreds of thousands of plant samples. She described each sample in detail

and compared it to other cacti she had seen. Finally, after years of research, she published Las Cactaceas de Mexico, or The Cacti of Mexico. She achieved her goal. Her book was more than 700 pages, had 324 photographs, and described most of Mexico's many kinds of cacti. Nobody had ever put that much information about cacti together in one place. People used her book to learn about cacti for years and years to come. But Helia Bravo Hollis did not stop there. She dedicated the rest of her life to the study of cacti. After publishing her book, Helia became a beloved teacher helping many others learn to study cacti. She published more research and wrote more books. She started the Cactus Society of Mexico. She knew that the more that people learned about cacti, the more they would care about these prickly and perfect plants. And the more they would care about protecting the places in nature where they grow. Her work was so important that some scientists now call Helia Bravo Hollis, La Reina de las Cactaceas, the Queen of Cacti. Because of her work and the work of scientists she taught and inspired, we now have identified nearly two thousand kinds of cacti in the world. So, in summary, much of what we know about cacti we owe to the work of Helia Bravo Hollis. She explored across Mexico and carefully recorded observations of hundreds of types of cacti. She encouraged others to continue her work. And we've now recorded nearly two thousand different kinds of cacti, and there's still more to do. Even at the end of her life, Helia Bravo Hollis knew that there was still much more to learn, discover, and share about these plants. Maybe you'll be the next person to carry on her work studying cacti. Or maybe you'll carry on her work in a different way, by learning more about the things you're curious about, whatever that may be, and sharing what you learn with other people just like she did. That's all for this week's question. Thanks for asking, Abby.