mystery science

Grades K-5
Mini-Lesson: “Why don't islands float away?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Doug! Do any of you recognize this place? Well, if you don't, it's the island of Isla Nublar from the movie "Jurassic Park." Notice how it's surrounded by water? The fact that it's surrounded by water is what makes Isla Nublar an island. Now, even though Isla Nublar is a make-believe island, something made up for a movie, the movie "Jurassic Park" was filmed on a real island, the island of Kauai, which is part of the Hawaiian islands. Kauai looks like an amazingly beautiful place, especially since there are not any real T-Rexes roaming around. Someone named Molly has a question about islands. Let's give Molly a call now.

[Video Call]

- Hi, Molly!

- Hi, Emma!

- I have a question for you. Why don't islands float away?

- Ooh, that's a great question, and I know the perfect person to answer it.

Her name is Danni Washington, and she's an expert in ocean science. In fact, Danni is going to be helping answer questions regularly this year, which will be so much fun. Not only does Danni love the ocean and all the living creatures that call it home, but she also loves asking questions,

and she's really good at explaining all the things she's learned. Let's find out what Danni has to say about this.

- Hey Doug! Ooh, this is such an interesting question! People have always been curious about islands. What are they like? What kinds of creatures live on them? And for thousands of years, people have loved looking for islands and finding new ones to explore, like the Maori people. Using the stars to find their way, they would explore the islands around Polynesia on canoes. And sometimes they would find some pretty amazing things. Like when they first came to an island called Aotearoa, which some people call New Zealand, they discovered mysterious birds called moa. Now, these birds were huge, about half as long as a school bus huge. Whoa! So there are lots of interesting things you can find on an island, and that is why so many people have been curious about them. Now, you might be thinking it's pretty unlikely that an island would float away, but think about it for a second. If islands are surrounded by water, why couldn't they? Before I go on, I'm wondering, what do you think? Why don't islands float away?

VIDEO 2

To answer this question, it helps to know how islands work. This is the largest volcano in the world. It's called Mauna Loa and it's on the island of Hawai'i. You can actually see lava erupting here, or pahoehoe, as it's called in Hawaiian. The thing is you couldn't always see Mauna Loa like you can today. That's because it used to be way down at the bottom of the ocean. Sometimes lava erupts from really hot places under the surface of the earth. Notice what's happening to the lava. The cold ocean water is cooling the lava off and turning it into hard rock. Now, all that erupting lava keeps piling up and piling up until it forms into an underwater volcano, a volcano that eventually gets tall enough to poke out of the water, and when it does, it

becomes an island—like the island of Hawai'i. That means that the island we can see is just the very top of a huge pile of lava rocks that starts all the way at the bottom of the ocean, kind of like if you stacked a bunch of heavy rocks at the bottom of a bathtub. They're not really going to move around or float. And that's how most islands work, but not all of them. This is Greenland. It's the biggest island in the world. But this wasn't made by an underwater volcano. Some islands like Greenland are just really high land, like mountains that are sticking up out of the water. Like the mountains on land, these types of islands are attached to the ground so they aren't going anywhere. And check out these islands in the Pacific Ocean. The Howland Islands weren't formed by a volcano or even a really high underwater mountain. Believe it or not, they were made by these. You're looking at living creatures. I know it looks like rock, but this is something called coral. It may not seem alive, but it is. See those tiny holes? There are thousands of small animals in there with tentacles. These corals attach themselves to rocks at the bottom of the ocean kind of like the roots of a tree. Once a coral is attached, it makes more and more and more coral and all of these corals stick together kind of like LEGO bricks do until they form something called a coral reef. Now, coral reefs can pile up and pile up kind of like lava does until it pokes out of the water, creating what's called a coral island. So can coral islands float away? Nope. Just like the other islands, the coral reef is attached to the rocks at the bottom of the ocean so the plants and animals that live on the Howland Islands don't have to worry. Their homes aren't going to float away anytime soon. And that goes for most islands, whether they're made by volcanoes or really high underwater mountains or coral reefs. Islands aren't really floating at all. They're attached to the bottom of the ocean so they aren't going to float away. Well, wait a second. I take that back. There may be one kind of island, a pretty rare type of island, that maybe could float away. See these? These are phumdis, a special kind of island found in the country of India. Phumdis are home to hundreds of animals like deer and

pythons. One of the phumdis even has a school on it. The interesting thing about these islands is that they aren't formed by volcanoes or coral. They're made out of dirt and plants. And while most islands like Hawai'i or Greenland are attached to the bottom of the ocean, these islands aren't attached to the ground at all. They're actually floating on top of the water, kind of like boats. So these islands actually can float away. Pretty cool. So in summary, most islands are the very tops of volcanoes or other mountains that stick out from under the water and some islands are even made out of living creatures called coral. Since these kinds of islands are attached to the bottom of the ocean, they can't float away, but there are some special islands called phumdis that can. That's all for this week's question. Thanks, Molly, for asking it!