

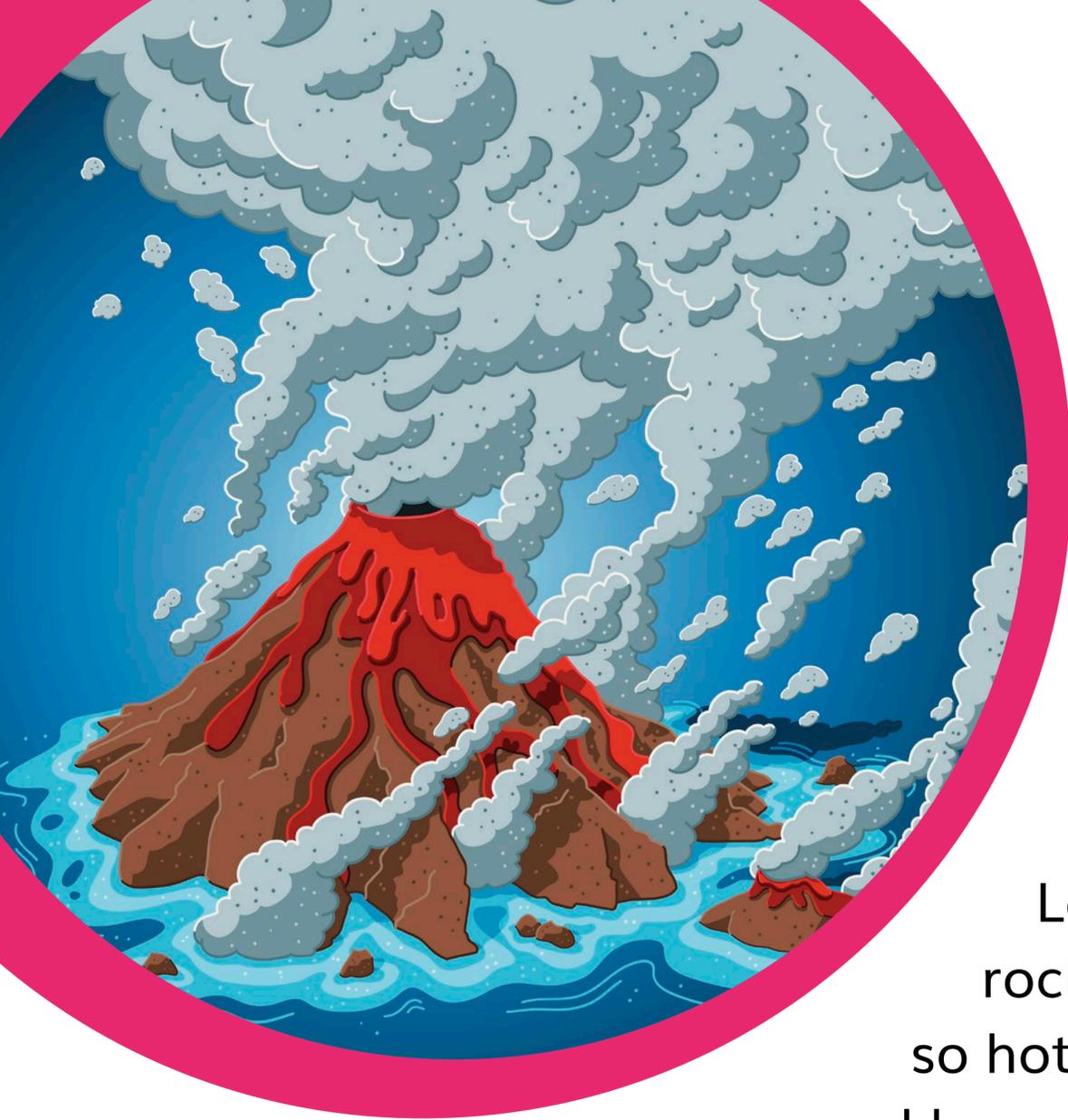


Expanding Islands

In the 1970s, a small island in the Pacific Ocean, near Japan, began to grow. The island's name was Nishinoshima. 40 years later, another, smaller island appeared beside it. This one was named Niijima. Both islands continued to grow. Eventually, they joined together and formed a single, bigger island. The smaller island, Niijima, is now part of Nishinoshima.

Where Did These Islands Come From?

Both of these Japanese islands were formed by an underwater **volcano**. Just like volcanoes on land, underwater volcanoes are cracks or openings in the surface of the Earth. The only difference is that underwater volcanoes are openings in the **seafloor**.



When underwater volcanoes erupt, they shoot hot gas, ash, and **lava** into the ocean.

Lava is molten rock—rock that is so hot it has melted and become a liquid.

When hot lava hits the cold seawater, it cools and becomes solid rock. Over many, many years, the lava builds up. It starts off as a small mound of rock at the bottom of the sea. Every time the volcano erupts, more lava bursts out, cools, and forms

solid rock on top of the mound. As the volcano keeps erupting, more and more lava cools and forms solid rock. Eventually, a mountain forms underwater. If the mountain gets big enough, it breaks the surface of the water. The part we see above the water is called an **island**.

That is how both Nishinoshima and its smaller neighbor were created. The underwater volcano that made them erupts from more than one peak. When Nishinoshima first appeared above the waves, it was the only peak high enough to reach the ocean's surface. But as the volcano grew, another peak reached the surface—the smaller island of Niijima.

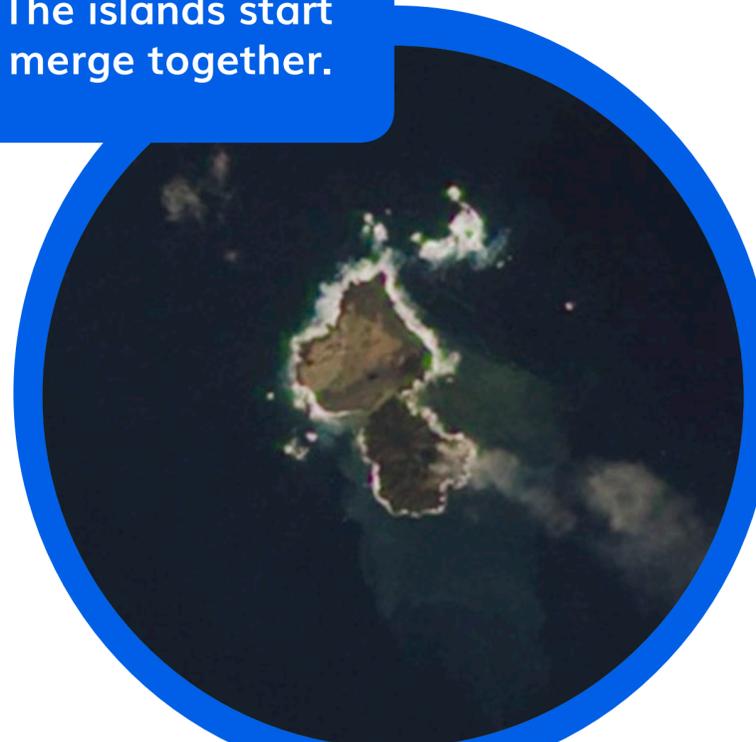
How Did the Islands Join Together?

An underwater volcano doesn't stop erupting when it reaches the surface of the water. The volcano that formed these two Japanese islands was still erupting from both peaks. The hot lava flowed slowly over the island rock until it reached the sea. The water cooled the lava and formed more solid rock. This added new land to the islands and made them bigger. The two islands continued to grow until eventually they joined together and became one island.

1. Niijima island appears next to Nishinoshima island.



2. The islands start to merge together.



3. The islands fully merge to become one larger island.



How Quickly is the Island Expanding?

The island is growing very, very slowly. If you watched it for an hour, or even for a whole day, you wouldn't notice any change in its size. But, because scientists have been watching this island for so many years, they have been able to see it grow.

The volcano that formed Nishinoshima is still erupting, which means the island is still growing. As long as the volcano continues to erupt, the island will continue to grow, and scientists will continue to watch it.



Glossary

volcano—a crack or opening in the Earth's surface, through which gases, ash, and lava erupt

seafloor—the bottom of a sea or ocean

lava—molten (liquid) rock that erupts through volcanoes

island—an area of land entirely surrounded by water