## Geological Composition of Dozen

The islands that make up Dōzen are largely composed of a type of rock called alkali basalt, which was produced by the volcanic eruptions that formed the islands of Dōzen around six million years ago. The basalt can be found in two forms that are identical in mineral composition but very different in appearance: dense, black rock with few air bubbles, and porous, red rock with many bubbles. The difference is caused by the two different ways magma hardens after being expelled from a volcano. The magma expelled from the mouth of the volcano during the initial eruption is expelled violently, and gases that become trapped in the hardening magma (now lava) form bubbles that eventually escape, creating small cavities in the rock. The lava, which is exposed to the air, oxidizes and turns red before it cools and hardens. Lava that flows more slowly from the volcano does not undergo these processes; only its outermost surface is exposed to the air, and the rest retains its original black color.

In this way, most eruptions produce a layer of black rock with a layer of red rock above it. As eruption followed eruption for hundreds of thousands of years, these layers accumulated to create the stunning strata that are visible today in the cliff faces of Sekiheki and the Akiya Coast.

[labels for two circles, left to right] Lava that **was** exposed to air Lava that **was not** exposed to air