

Volcano Trackers!

Scientists are developing new ways to tell when a volcano is about to blow.

BOOM! **Lava** bursts high in the air before flowing in hot-red rivers down the mountain. Hot ash shoots into the atmosphere, covering an entire continent like a giant cloud. Thousands of people flee their homes toward safety. When a volcano suddenly comes to life, watch out!

Scientists want to learn how to tell when an eruption may be brewing. They hope to develop better warning systems so people can be prepared for the

next big boom. Volcanoes do give some warning signs before they erupt. But in the past, these signs have been hard to measure. That's because working near volcanoes is extremely dangerous, and scientists couldn't get close enough.

Now, new technology is helping scientists study volcanoes from far away. High-tech instruments placed near cracks in the Earth's crust can sense gases that could mean **magma** is moving underground.

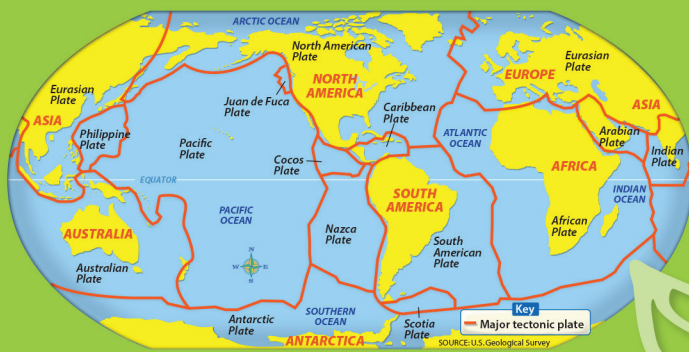
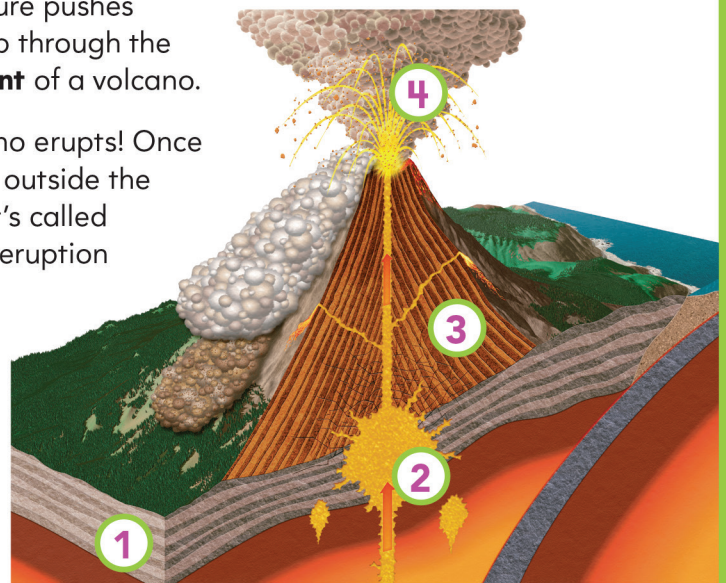
Before an eruption, the crust can rise a little, like a balloon filling with air.

Scientists have placed devices on rocks to detect these movements. They're also measuring vibrations that pulse throughout the crust during earthquakes, which are often the first sign that a volcano is coming alive. Information from these sensors gives scientists a clearer picture of how volcanoes behave. Over time, it may help them figure out which volcano could blow next.

Inside a Volcano

What gives a volcano its fiery force? Follow these steps to find out.

- 1 Under the soil is a solid layer of rock called the **crust**. Under the crust is the **mantle**, a layer of hot, melted rock. The melted rock itself is called **magma**.
- 2 In some places, magma rises from the mantle into the crust. It collects in a **magma chamber**. As more and more magma rises, the pressure builds. The pressure gets so high, the magma can crack the rock around it.
- 3 The pressure pushes magma up through the central **vent** of a volcano.
- 4 The volcano erupts! Once magma is outside the volcano, it's called **lava**. The eruption may also include hot ash, rocks, and steam.



Earth's crust is broken into big pieces called **tectonic plates**. The red lines show the **boundaries**—the places where the plates touch. At some boundaries, conditions are just right for volcanoes to form.