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### **Did You Know?**

Volcanoes can produce gems and crystals. Zeolite crystals grow in the spaces left by old gas bubbles in lava.

### **Key Terms**

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**magma**—melted rock inside the earth

**Ring of Fire**—imaginary line that shows where tectonic plates meet

**volcanologist**—a scientist who studies volcanoes

## **CHAPTER 1** | Introduction

A mountain explodes. Big rocks are thrown high up into the sky. Burning hot lava rushes down the sides of the volcano. If there is a town or village nearby, this can mean disaster.

Erupting volcanoes kill many people. They also cause a lot of damage. But volcanoes aren't always bad news. Many people like to look at volcanoes. They travel long distances to see them. Vegetables grow better in soil near volcanoes. That means more food for the people who live there. Volcanoes produce some very beautiful gems and crystals. And the ash left in the air makes sunsets prettier.

There are volcanoes all over the world. There are even volcanoes in outer space! Most of Earth's volcanoes are underwater. But it's the volcanoes on land that cause the worst disasters.

## **What are Volcanoes?**

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Some volcanoes look like mountains. They are wide at the bottom and narrow on top. These are called cone volcanoes. They look like an upside-down ice cream cone. Some volcanoes don't look like mountains at all. They look like big holes in the ground.

Volcanoes are very different from mountains. They have a hollow center. It's like a big, long pipe that goes deep underground—all the way down through the Earth's crust.

The crust is the cool, hard surface of our planet. Earth may seem solid, but it's not. The Earth's crust is like a broken eggshell. Most volcanoes are along the cracks in the Earth's crust.

It is very, very hot inside our planet. It is so hot that rocks melt into liquid metal called magma. The huge pieces of the Earth's crust are called plates. Plates float on top of the magma. Magma can burst through the gaps between plates. This is how volcanoes are born.

Some volcanoes erupt frequently. These are called active volcanoes. Many volcanoes have not erupted for hundreds of years. These volcanoes are dormant, or "sleeping." Some volcanoes are considered extinct. This means we think they will never erupt again.

## **The Ring of Fire**

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Most active volcanoes are on the "Ring of Fire." The Ring of Fire is an imaginary line where plates meet.