

How Volcanoes Erupt

Volcanoes are like openings on the Earth's surface. All volcanoes can eject lava, rocks, gas or ash, which can cover the surrounding land. When this happens, it is called a volcanic eruption.

There are five main parts of a volcano: the magma chamber, the main vent, the crater, the cone and sometimes there are some smaller vents. The magma chamber is a large space where magma is stored. It is connected to the surface by the main vent and smaller vents. The crater is located above the magma chamber and the outside of the volcano is referred to as the cone.

Just before an eruption, the magma chamber is filled with molten rock from the mantle. After a short period of time, the pressure increases and, as a result, the magma rises through the vent towards the crater. Magma contains bubbles of gas, which grow larger and larger as the pressure increases. This leads to the volcano erupting magma on to the surface of the earth. As the gas bubbles in the magma escape into the atmosphere, the hot molten rock changes to lava. There are two main types of eruptions: explosive eruptions and effusive eruptions. An explosive eruption is when the volcanic material is ejected from the crater violently and dramatically. By contrast, in an effusive eruption, the lava gradually oozes out of the crater. The type of eruption is determined by the amount of gas and the mineral content in the magma. All volcanic eruptions cause significant changes, both positive and negative, to the surrounding land.

As the lava cools, it solidifies and becomes a type of igneous rock, such as basalt and granite. Volcanic eruptions are part of a continual process called the rock cycle. Eruptions occur daily around the world and new rock is constantly being formed through this process.

