



# Volcanoes



*Read the passage below and answer the questions on the next page.*

Volcanoes are geological formations that are created due to the movement of magma and gas from the Earth's mantle and core to its surface. The Earth's crust is made up of several large tectonic plates that are in constant motion, and when these plates collide, magma is forced to the surface, resulting in volcanic eruptions.

Volcanoes can be found all over the world and are often located in areas where tectonic plates converge, such as the Pacific Ring of Fire. Volcanoes can be classified into three main types: shield volcanoes, stratovolcanoes, and cinder cone volcanoes. Shield volcanoes are formed by repeated eruptions of fluid lava flows, which are thin and runny due to low viscosity. As the lava spreads out, it forms a wide, gently sloping mountain.

Stratovolcanoes are steep, cone-shaped mountains that are formed by layers of ash, lava, and other volcanic debris. They are typically the result of explosive eruptions. Cinder cone volcanoes are small, steep-sided cones that are formed from a single vent and have a circular crater at the top. They are usually created by explosive eruptions that produce a lot of ash and cinders.

Volcanic eruptions can be very destructive and can cause damage to both the natural environment and human infrastructure. They can cause ash clouds that can travel for miles and disrupt air travel, as well as pyroclastic flows, which are fast-moving clouds of hot gas, ash, and rock that can be deadly. In addition to causing destruction, volcanic eruptions can also be beneficial, as they can create new land, enrich soil with minerals and nutrients, and provide sources of geothermal energy.

Scientists study volcanoes in order to better understand their behavior and predict when eruptions might occur. They use instruments such as seismometers, gas sensors, and satellite imagery to monitor the activity of volcanoes and track changes in their behavior. This information can be used to create early warning systems that can help protect people and communities from the effects of volcanic eruptions.

1) What are volcanoes, and how are they formed?

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2. Where are volcanoes typically found, and why?

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3) What are the three main types of volcanoes?

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4) How can volcanic eruptions be destructive?

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5) What instruments do scientists use to study volcanoes?

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