

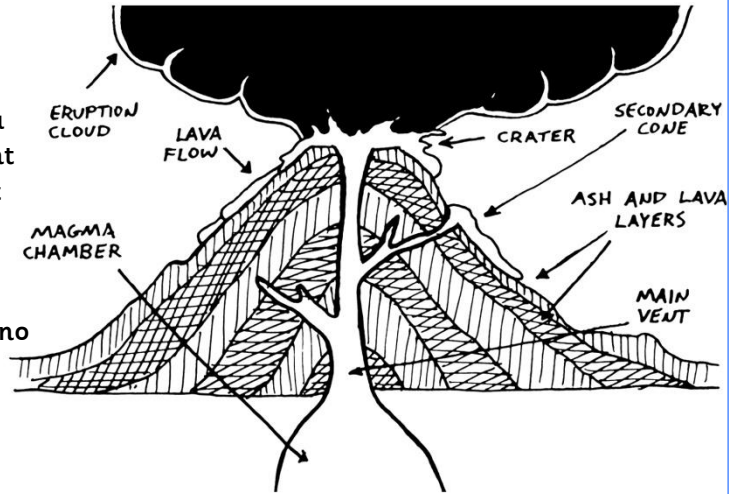
Volcanoes

What is a Volcano?

A volcano is an opening on the Earth's surface, where liquid rock shoots out from under the ground. They can appear as cone-shaped mountains or as wide sloping hills. There are even volcanoes under the sea! Volcanoes have helped to shape much of the Earth's surface.

Why do they happen?

The ground beneath your feet is not as solid as you would think! The surface of the Earth is like a giant 3D jigsaw puzzle. These enormous puzzle pieces fit together tightly. Deep below the ground it is hot, hot enough to melt rock! Melted rock is called magma. When a gap appears between the puzzle pieces, the magma can bubble through and a volcano is born.



Why do volcanoes erupt?

There are 500 active volcanoes around the world! 60 of these will erupt each year! As many as 10 volcanoes could be blowing their top right now! An eruption happens when magma collects inside the magma chamber. This is found deep below the volcano. The magma moves up the crater pipe, then forces its way to the surface. Then it gushes out of the vent at the top. When magma hits the surface it is called lava.

Are all volcanoes the same?

Volcanoes erupt in different ways! Shield volcanoes make a hot, runny lava. This flows from the volcano's vents and pours over a big area. This makes volcanoes which have gentle slopes. When a cinder cone volcano erupts, hot ash, lava and rocks shoot high into the air. Cinder cone volcanoes have tall, steep slopes with a crater on the top. A stratovolcano is made by big, blasting explosions. Lava, rock and ash explode out of the volcano. These layers coat the sides of the mountain.

Why are volcanoes so deadly?

Lava flows – These are very dangerous. They knock down buildings, bury objects and set light to things. Most lava flows move slowly, so people and animals have a good chance of escaping.

Ash – This settles like snow over large areas. It makes it hard for people and animals to breathe.

Gas – Dangerous gases get blasted out of an erupting volcano, harming people, plants and animals.

Lahars – These mudflows slide down the slopes, ripping houses and trees from the ground.

Pyroclastic flow – This flow of boiling gas and ash moves at terrifying speeds. It destroys anything that gets in the way.

Active, dormant or extinct?

If a volcano is about to erupt, or is actually erupting now, we say that it is active. Dormant volcanoes are said to be sleeping, but they could erupt again. Extinct volcanoes have not erupted for a very long time.

How deadly can a volcano be?

It is hard to believe, but just one volcano can affect the whole planet. In 1815, a volcano in Indonesia erupted. This volcano sent gases and ash shooting high into the air. Wind helped to spread the gases and ash around the world. The lack of sun made it very hard for plants to grow. Thousands of people died from lack of food or illness.



Can we tell when a volcano will erupt?



Scientists who study volcanoes have a special name. They are called volcanologists. They use equipment to tell them if an eruption is about to happen. They measure how much gas is building up inside a volcano. They also check for vibrations in the ground. Old lava flows can tell scientists how big past eruptions were, and when they happened. We cannot stop volcanoes erupting but if we know it is about to happen, people can escape to safety.

Lots of people live near active volcanoes. They could face danger at any time! These people have learned to use volcanoes for their own good. They grow crops in the rich volcanic soil. The heat from the ground is used to power their homes. Water is pumped into the ground, and the hot rocks heat it up. The hot water is used to keep homes warm, and the steam is used to make electricity. Volcanoes can also bring lots of visitors to an area. The Roman city of Pompeii, where Mount Vesuvius erupted in AD 79, attracts lots of visitors a year. This provides jobs for the local people.



Did you know?

Lava erupts at temperatures of up to 1200°C.
Volcanoes have been discovered on Venus and Mars.
Mount Etna in Italy is Europe's highest active volcano.

Glossary

crater pipe	a tube connecting the magma chamber to the surface
magma chamber	hollow space under the ground where magma collects
vent	an opening in the Earth's surface allowing molten rock and gas to escape
vibrations	a shaking movement from side to side

Sue Chattoe

Volcanoes

How many active volcanoes are there around the world? (AF2)

What is magma? (AF2)

Why are lava flows dangerous? (AF2)

- A. They make the air poisonous.
- B. They make it hard to hard to breathe.
- C. They knock down buildings and set fire to things.

What is this ? called? Why is it used? (AF4)

What is the name of a scientist who studies volcanoes? (AF2)

Name one way a volcano can help the people who live by them. (AF2)

Would you like to live by a volcano? Explain your answer. (AF6)

What is the job of a glossary? (AF4)

Volcanoes

How many active volcanoes are there around the world? (AF2) **There are 500 active volcanoes around the world.**

What is magma? (AF2) **Magma is melted rock.**

Why are lava flows dangerous? (AF2)

- A. They make the air poisonous.
- B. They make it hard to hard to breathe.
- C. **They knock down buildings and set fire to things.**

What is this ? called? Why is it used? (AF4) **A question mark. So we know that a question is being asked and an answer is needed.**

What is the name of a scientist who studies volcanoes? (AF2) **A volcanologist.**

Name one way a volcano can help the people who live by them. (AF2) **The soil is good for growing crops. The hot ground can heat and power homes. Tourists bring money to the area.**

Would you like to live by a volcano? Explain your answer. (AF6) **Various answers. Encourage children to link answers to information they have read in the text.**

What is the job of a glossary? (AF4) **A glossary explains the meaning of tricky words.**