

Volcanoes

A volcano is an opening in the Earth's crust where hot liquid rock from deep within the Earth, called magma, erupts to the surface.

Magma and Lava

When rock beneath the Earth's surface gets really hot, it becomes molten or liquid. While it's still below the surface, it's called magma. Once the magma erupts to the surface through a volcano, it's called lava. The hotter and thinner the lava is, the farther it will flow. Lava can be very hot, sometimes as hot as 1000 degrees C.

Eventually lava on the surface will stop flowing and cool and harden into rocks. Rocks formed from lava cooling are called igneous rocks. Some examples of igneous rocks include basalt and granite.

Activity

A volcano can be active, dormant, or extinct. An active volcano is one that has recently erupted or is currently erupting. A dormant volcano is one that hasn't erupted for a long time, but has the potential to still erupt. An extinct volcano is one that scientists think will never erupt again.



Volcanic eruption with giant ash cloud

Explosive Volcanoes

Some kinds of volcanoes just sort of ooze out lava over time. This is generally when the lava is thin. Other volcanoes have thicker lava that can plug up the vent of the volcano. When this happens pressure can build up over a long period of time. When the pressure gets high enough, the volcano can erupt with a huge explosion. Huge amounts of lava and ash can spew from the volcano.

Types of Volcanoes

We usually think of volcanoes as tall mountains in the shape of a cone, however there are different types of volcanoes:

Cinder cones - These are volcanoes formed from particles and blobs of lava ejected from a single vent at the top. They generally don't get taller than around 1,000 feet.

Composite volcanoes - These volcanoes are also shaped like a cone, but are formed from layers of lava over many years. They can grow into huge mountains over 8,000 feet tall from their base.

Shield volcanoes - They form from wide thin layers of lava that eventually are shaped like a shield.

Lava domes - These volcanoes are formed by thick lava that hardens right around the vent. They can sometimes form inside of other types of volcanoes.



Volcano cloud as seen from a satellite

Interesting facts about Volcanoes

- The tallest volcano we know of in the Solar System is on Mars. It is called Olympus Mons and is 17 miles tall.
- A large volcano eruption can destroy an entire forest.
- The largest volcano on earth is Mauna Loa on the Hawaii Big Island. The tallest is Mauna Kea which is right next to it.
- The ash cloud from volcanoes can be dangerous. It can be harmful for people to breathe and difficult for planes to fly through. A large ash cloud from Eyjafjallajökull, a volcano in Iceland, shut down most of the airports in Europe for several days in 2010.
- There are generally around 20 volcanoes erupting in the world at any given time.