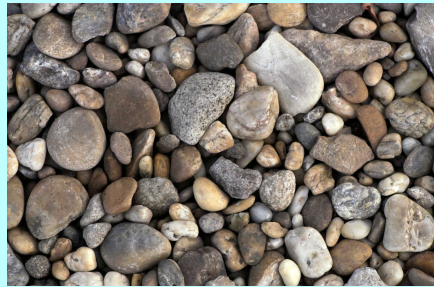


# Science



*Our science topic this half term is  
rocks and soils.*



w/c Monday 25th January

L.O: To relate the simple physical properties of some rocks to their formation

- I can describe what happens when a volcano erupts.
- I understand that particular types of rock are formed by volcanoes.
- I can describe a rock that comes from volcanic eruptions

*What do you know already  
about volcanoes?*



*Volcano intro*



## Where Does the Word 'Volcano' Come From?

Have you ever thought about why volcanoes are actually called 'volcanoes'? Can you think of a reason why?

The word 'volcano' comes from the island 'Vulcano', which is a volcanic island in Italy.



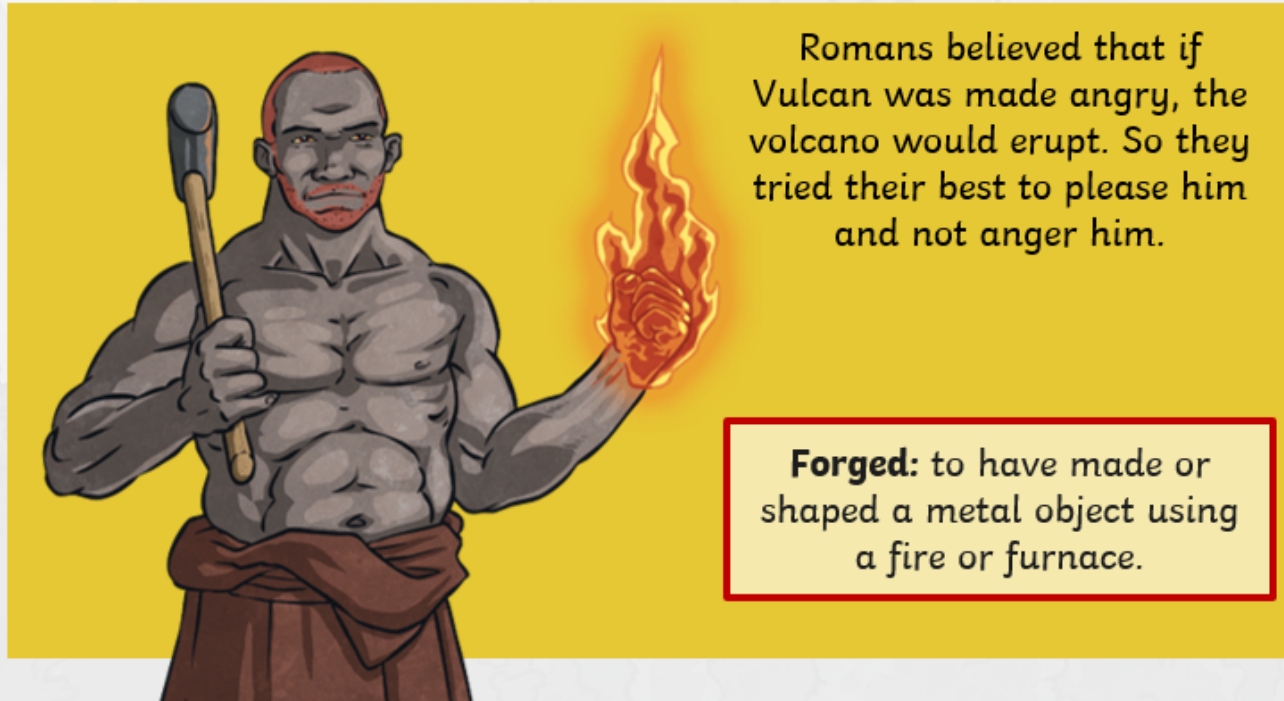
Vulcano, Italy.

The island actually gets its name from the Roman god of fire – Vulcan.



## The Roman God of Fire

Roman mythology says that Vulcan lived in a volcano. As well as being the god of fire, he made many weapons and **forged** them using metal and fire. He was a very skilled blacksmith.

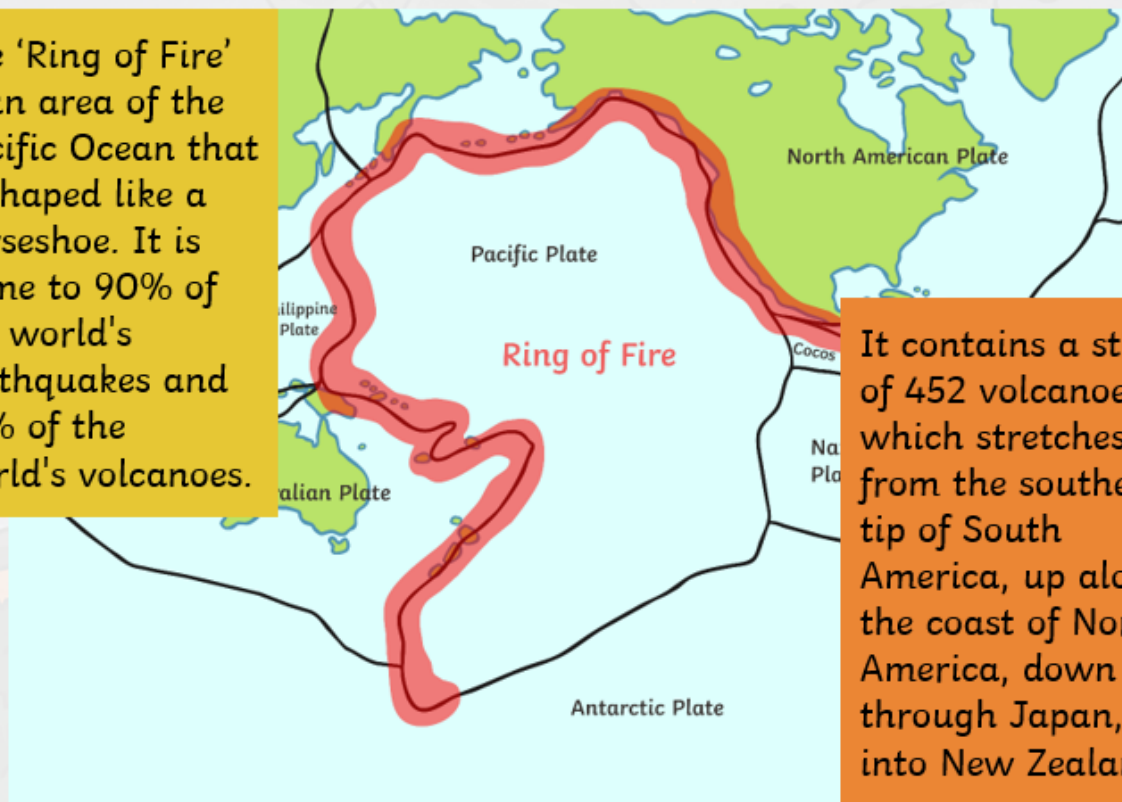


Romans believed that if Vulcan was made angry, the volcano would erupt. So they tried their best to please him and not anger him.

**Forged:** to have made or shaped a metal object using a fire or furnace.

## Where Are Most Volcanoes Located?

The 'Ring of Fire' is an area of the Pacific Ocean that is shaped like a horseshoe. It is home to 90% of the world's earthquakes and 75% of the world's volcanoes.

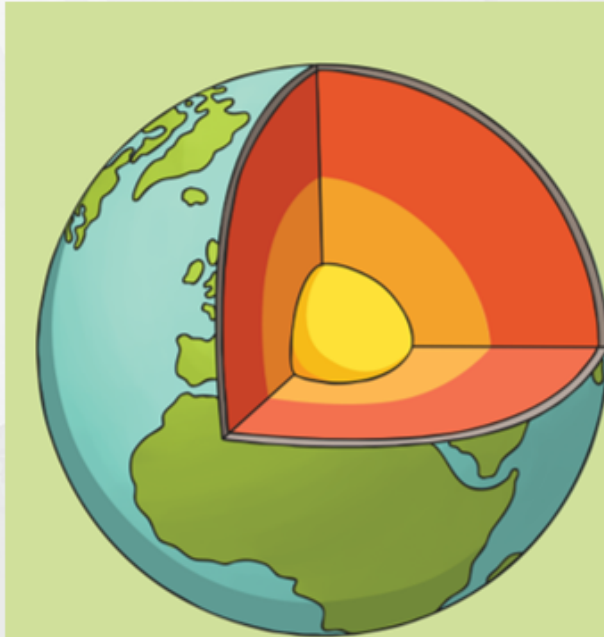


It contains a string of 452 volcanoes, which stretches from the southern tip of South America, up along the coast of North America, down through Japan, and into New Zealand.



## How Are Volcanoes Formed?

Deep in the earth, it is extremely hot. It is so hot, in fact, that rocks actually melt and form magma, which makes up the mantle of the earth.



The upper mantle mixes and moves, which creates pressure underneath the crust. This pressure can sometimes cause the mantle to leak out onto the surface of the earth – **this is a volcano!**



Over time, as this magma leaks out, the volcano will get bigger and bigger.

## The Three Stages of Volcanoes

Scientists have placed volcanoes in to three different categories.  
What do you think each one is?

### Active

An active volcano is one that has erupted recently, and there is the possibility that it may erupt again.

### Dormant

A dormant volcano is one that has not erupted for a long time, however, it may still erupt in the future.

### Extinct

An extinct volcano is one which has erupted thousands of years ago, but it will probably never erupt again.



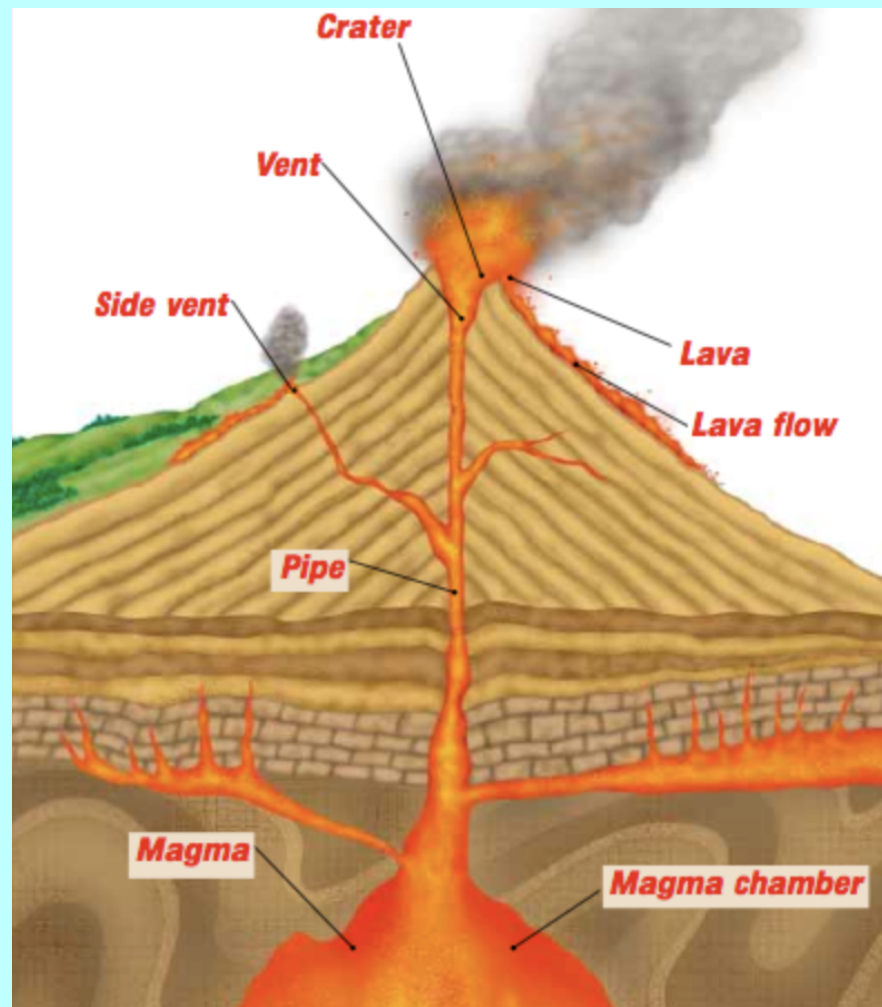
## Why Do Volcanoes Erupt?

We know that the earth's crust is made up of huge slabs called tectonic plates. These fit together like a jigsaw puzzle and they sometimes move.

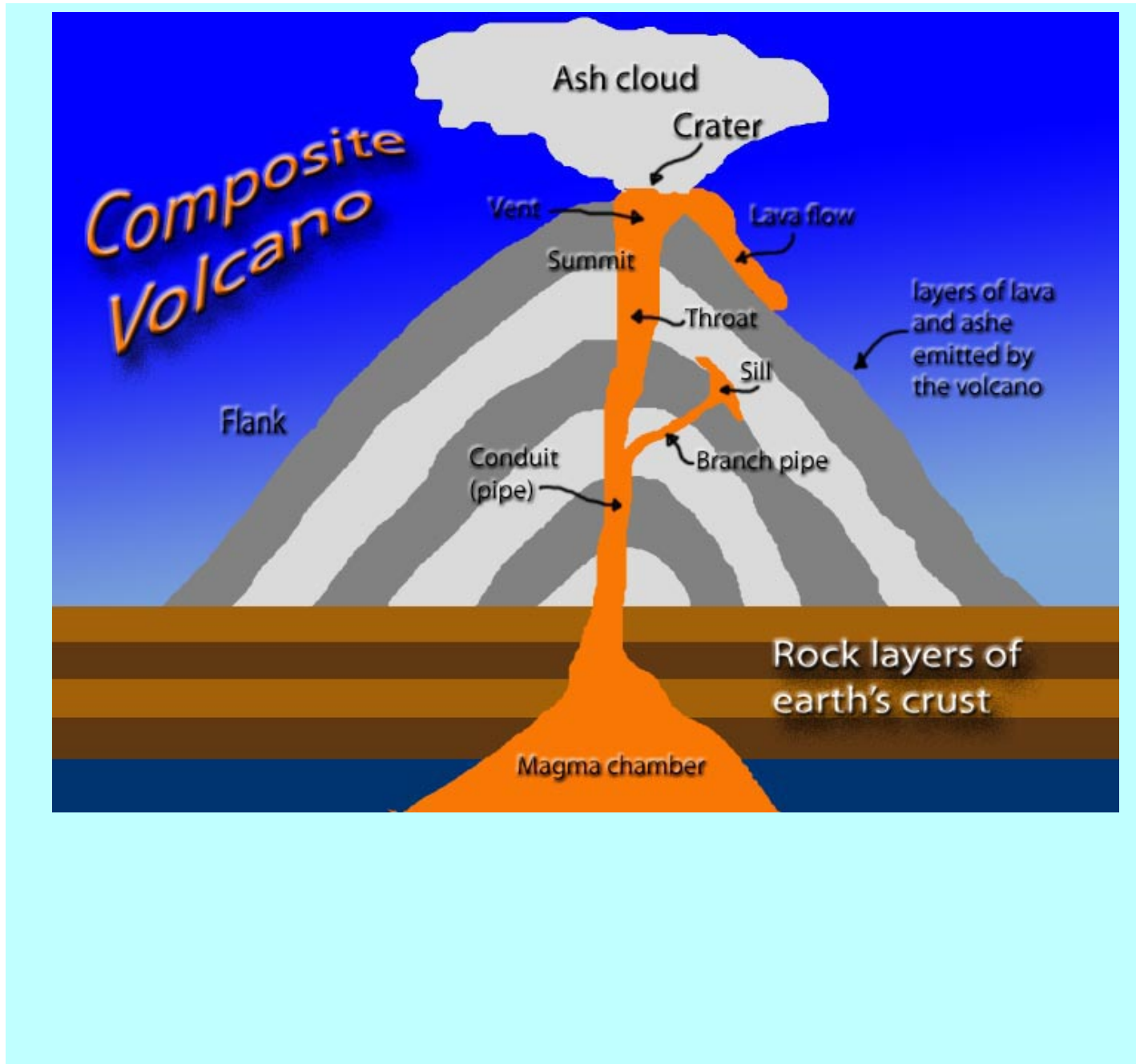


**Friction:** the resistance created when one surface rubs against another.

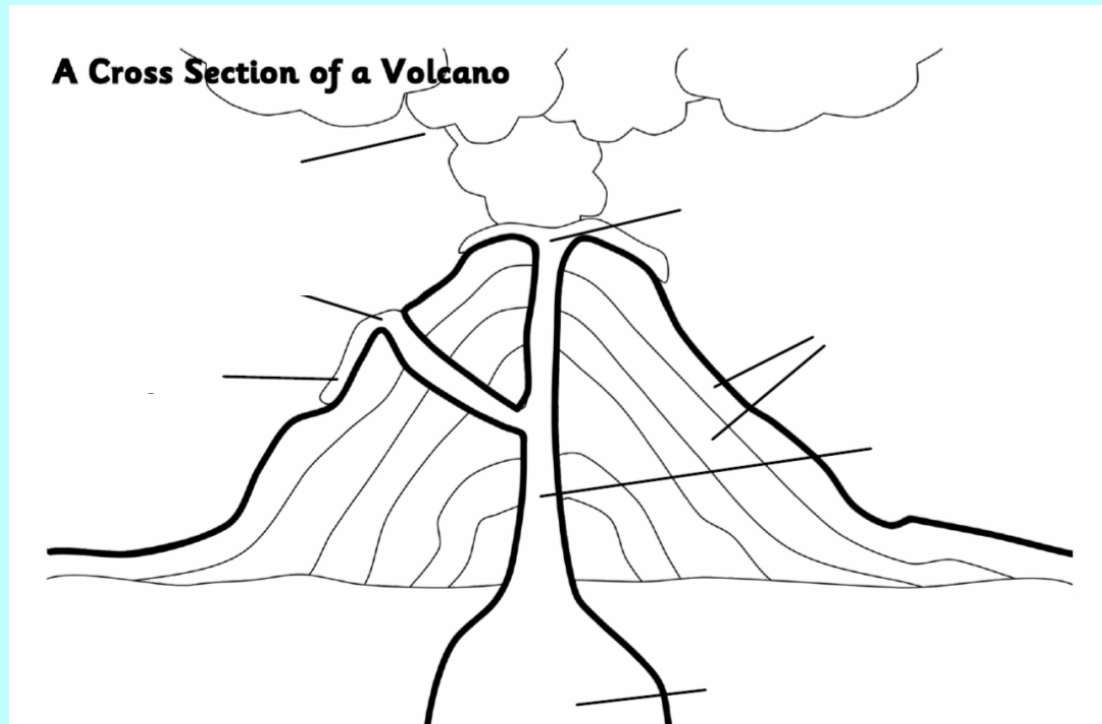
The movement causes **friction** which causes earthquakes and volcanic eruptions near the edges of the plates. The theory that explains this process is called 'plate tectonics' – this means the plates are moving in different directions and at different speeds. Sometimes they collide or brush past each other and cause these earthquakes and volcanic eruptions.



How a volcano erupts



Task 1: label the diagram to show different parts of a volcano



magma chamber

ash cloud

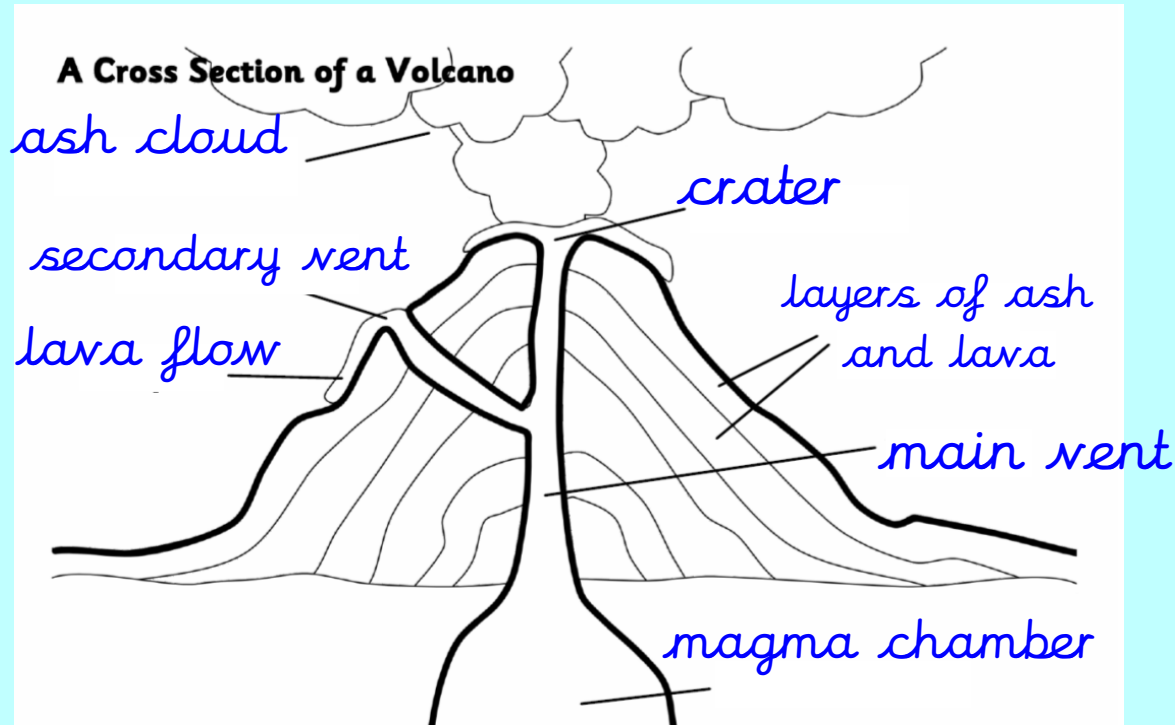
main vent

crater

layers of ash

lava flow

and lava





*Igneous  
rocks*  
🌐



Task 2: read the passage and fill in the missing words.

Igneous rock is formed when ..... from volcanoes cools. Examples include basalt and ..... Most igneous rock is very.....  
..However, pumice is unusual because it is a lightweight igneous rock formed when molten rock is rapidly blown out of a ....., forming bubbles as it quickly .....

granite volcano magma cools hard

Task 2: read the passage and fill in the missing words.

Igneous rock is formed when .....magma..... from volcanoes cools. Examples include basalt and .....granite..... Most igneous rock is very.....hard.....  
..However, pumice is unusual because it is a lightweight igneous rock formed when molten rock is rapidly blown out of a ..volcano..., forming bubbles as it quickly .....cools.....



Basalt from volcano

Volcanic islands

Volcano song