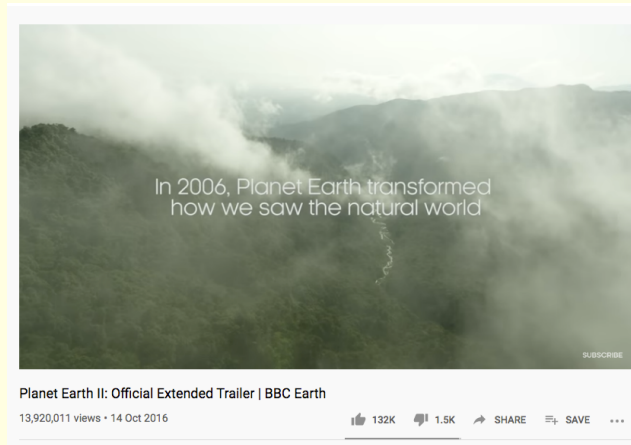


# Monday

**Watch these videos:**

**Planet Earth 1 trailer** - [https://www.youtube.com/watch?v=tiVNk6\\_0GdY](https://www.youtube.com/watch?v=tiVNk6_0GdY)

**Planet Earth 2 trailer** - <https://www.youtube.com/watch?v=c8aFchFu8QM>

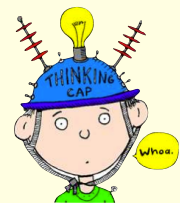


**During videos:**

Think about what you know about Earth already, do you have any questions about our Earth?

Key vocabulary

Volcano  
Earthquake  
Tsunami



# Volcanoes

What do you already know about volcanoes?

Do you have any questions?

Watch these videos to learn more about volcanoes...

<https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zd9cxyc>

<https://www.youtube.com/watch?v=VNGUdObDoLk>



Monday



magma



# Volcanoes

ash



volcano

eruption



active



core

dormant



Monday

eruption

crater





# Earthquakes

What do you already know about earthquakes?

Do you have any questions?

Watch these videos to learn more about earthquakes...

<https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zj89t39>

<https://www.youtube.com/watch?v=VNGUdObDoLk>





intensity



aftershock



# Earthquakes

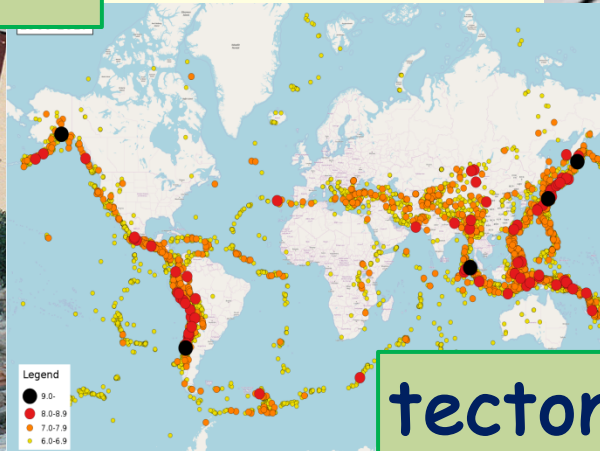


magnitude

active



landslide



tectonic plates

Monday



# Tsunamis

What do you already know about tsunamis?

Do you have any questions?

Watch these videos to learn more about earthquakes...

[https://www.youtube.com/watch?v=\\_oPb\\_9gOdn4](https://www.youtube.com/watch?v=_oPb_9gOdn4)







tsunami

ocean floor



wave

## Tsunamis



impact



Monday



height





# Active Planet



Using your prior knowledge and what you have learnt from the videos, you will create an information poster titled 'Active Planet'.  
Use the template provided or create your own!

Include:

- Information about what is a volcano, earthquake and tsunami.
- Pictures.
- Colour (eye-catching).

Can Include:

- Fun facts.
- Information about previous volcanoes, earthquakes and tsunamis.

How to complete:

1. Print off the template provided.
2. Create your own on paper.
3. Complete on Google docs and upload.





# Tuesday

Watch this video clip to know what we are learning about today.

<https://www.youtube.com/watch?v=WgktM2luLok>

magma



ash



eruption



core

## Key Vocabulary



volcano

active



dormant



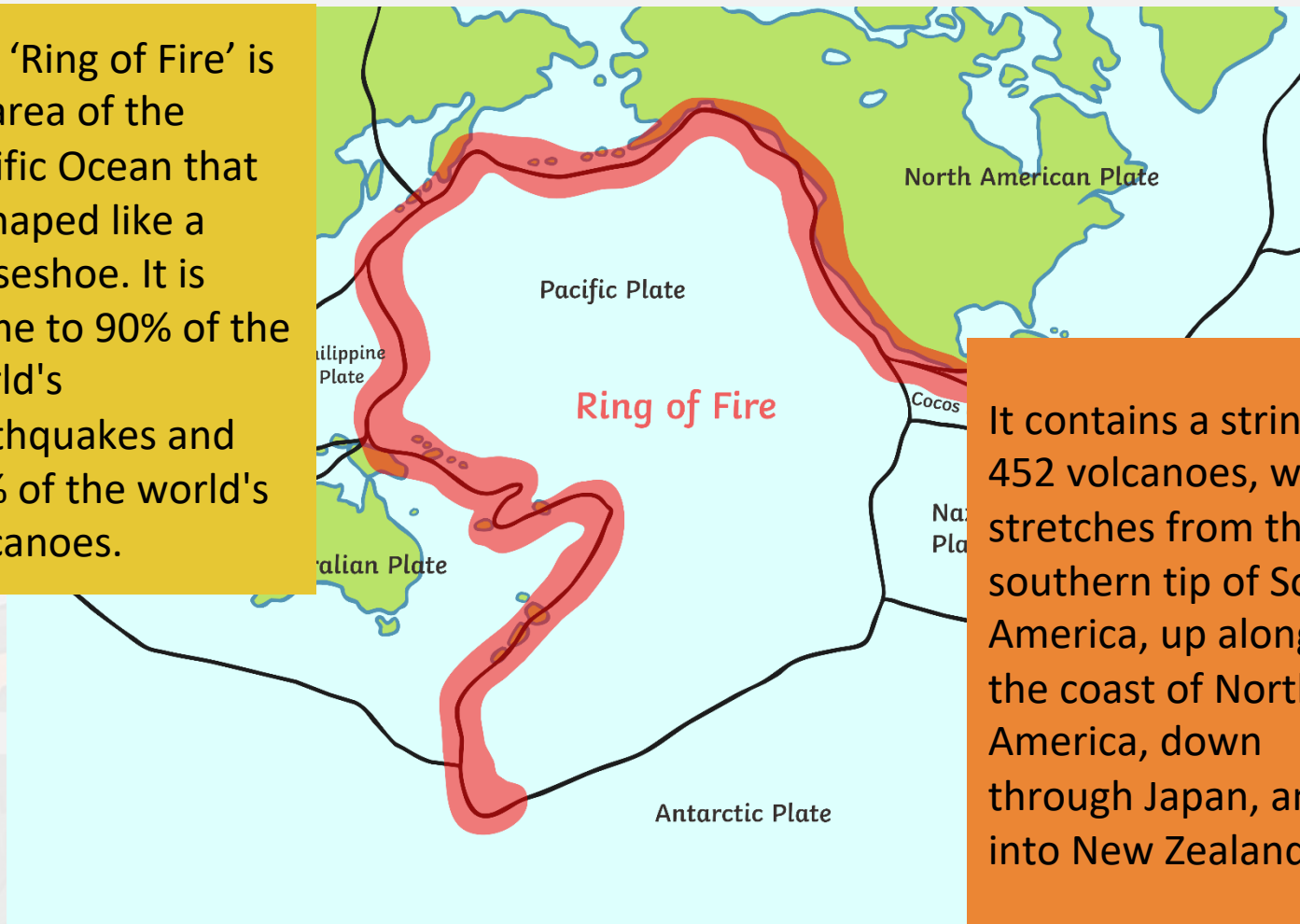
Tuesday

eruption

crater

# 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.

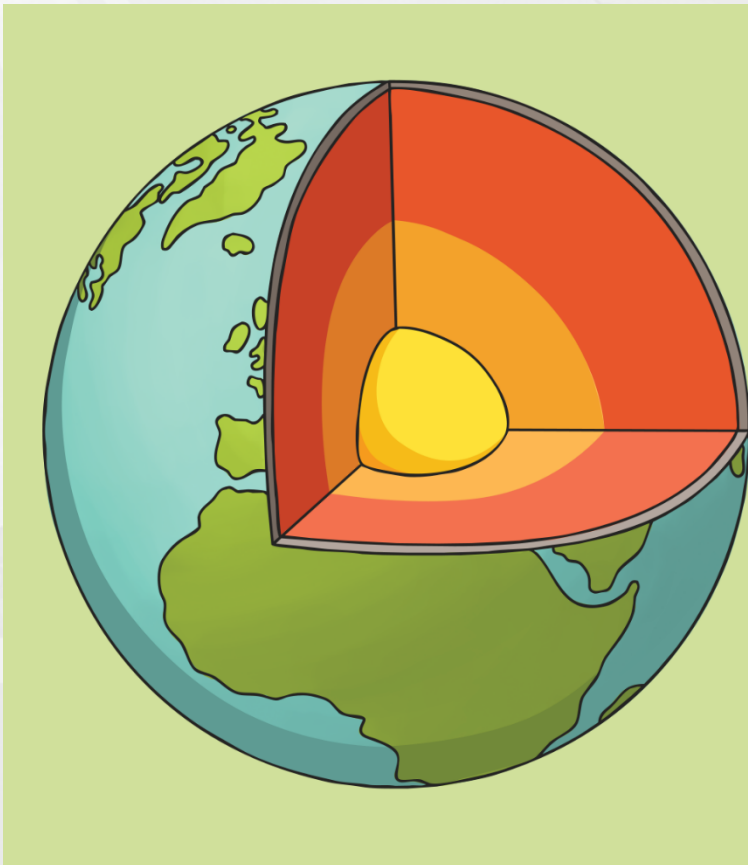


It contains a string of 452 volcanoes, which stretches from the southern tip of South America, up along the coast of North America, down through Japan, and into New Zealand.

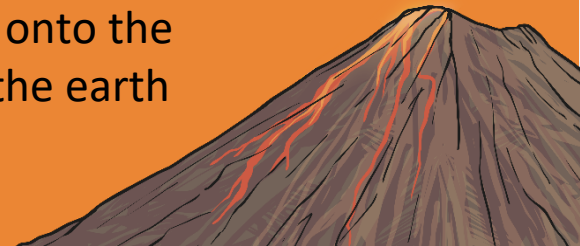


# How Are Volcanoes Formed?

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.



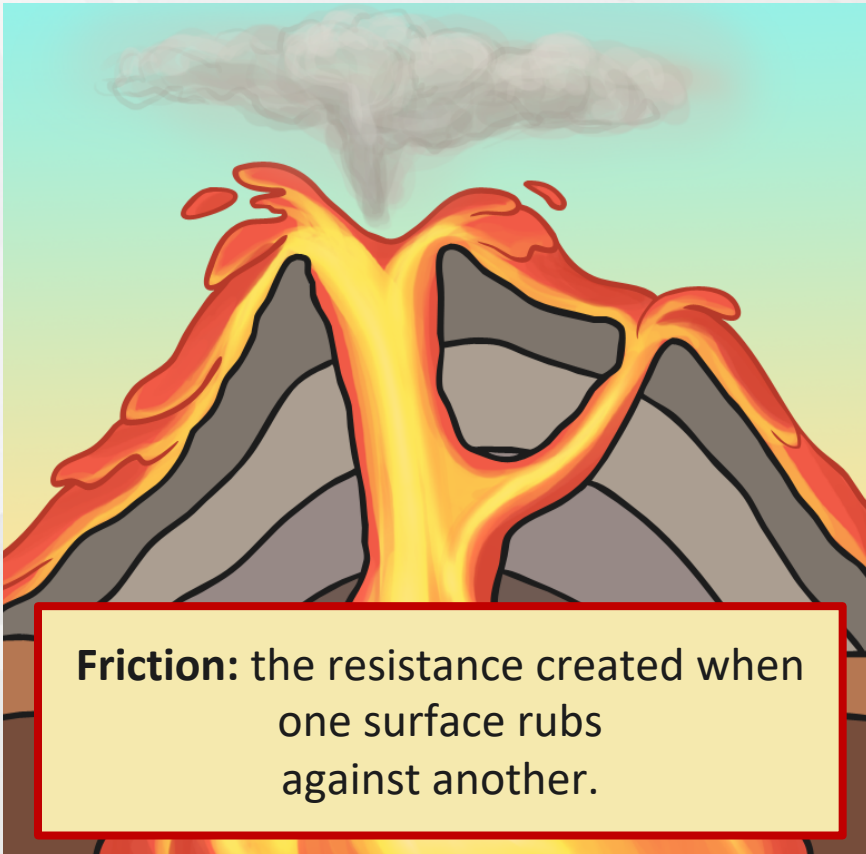
The upper mantle mixes and moves, which creates pressure underneath the crust. This pressure can sometimes cause the mantle to leak out onto the surface of the earth – **this is a volcano!**



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

# 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.

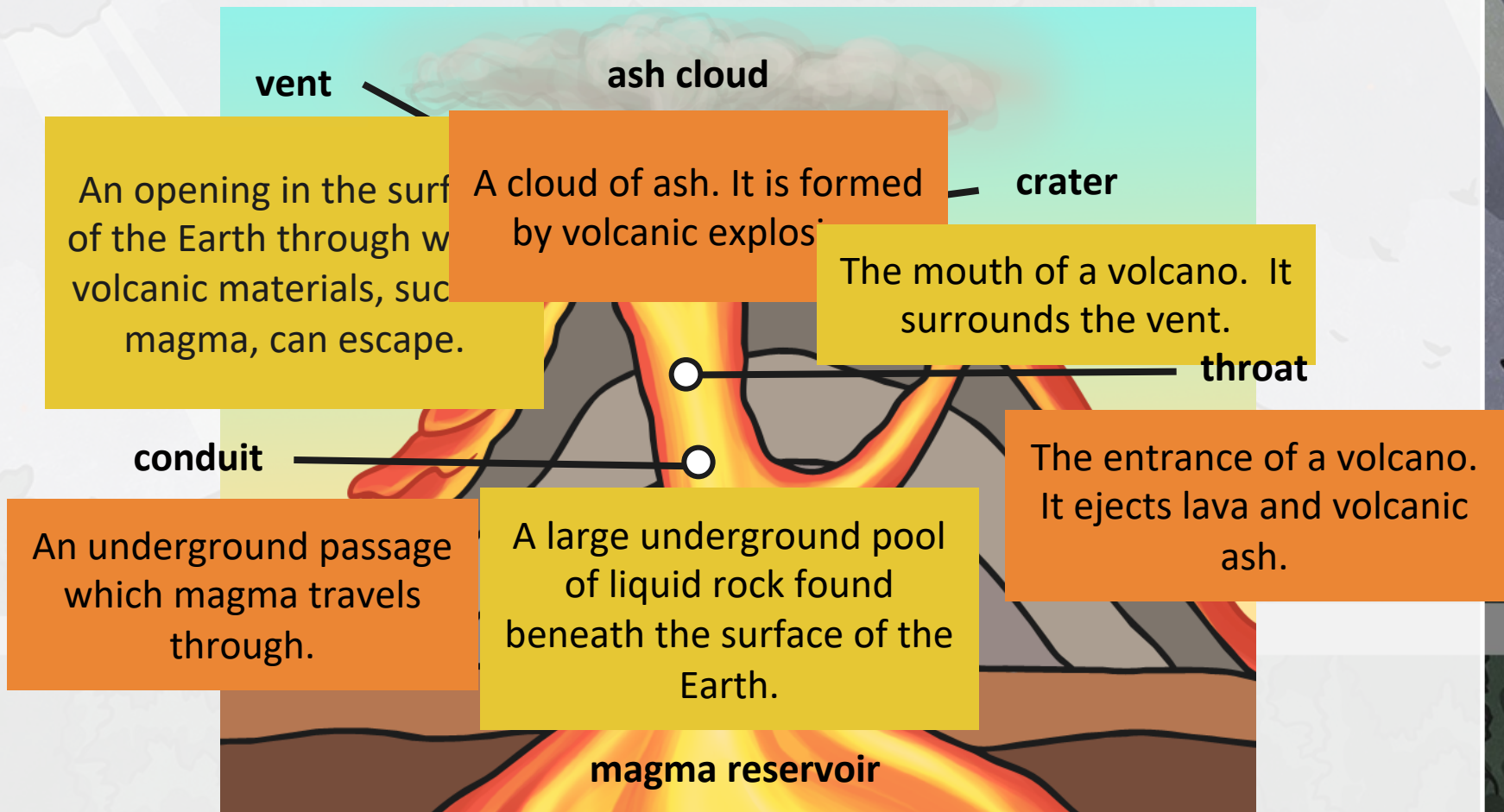


**Friction:** the resistance created when one surface rubs against another.

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.

# What Are the Different Parts of a Volcano?

Click on each label to find out more. Click again to remove.





# The Three Stages of Volcanoes

## Active

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

## Dormant

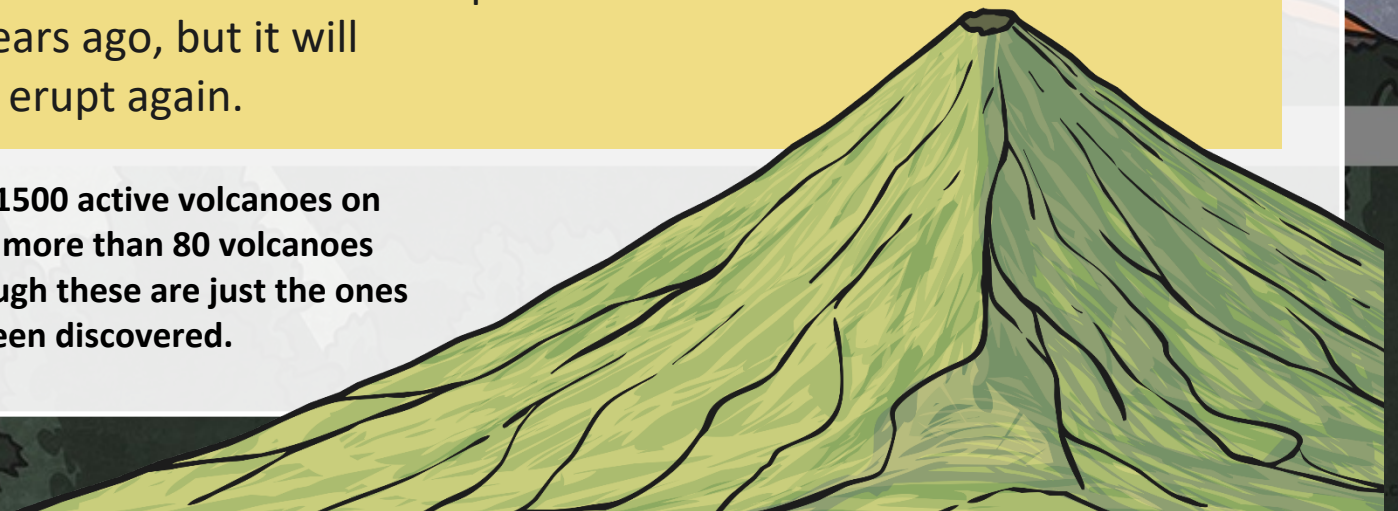
A dormant volcano is one that has not erupted for a long time, however, it may still erupt in the future.

## Extinct

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

There are more than 1500 active volcanoes on Earth. There are also more than 80 volcanoes under the ocean, although these are just the ones that have been discovered.

Tuesday



# What Types of Volcano Are There?

## Composite Volcanoes

These volcanoes are steep-sided volcanoes and are made up of lots of layers of volcanic rocks. They usually erupt in an explosive way because the magma in these volcanoes is quite sticky.



## Cinder Cones

Cinder cones are circular or oval cones. They are made up of small fragments of lava, which are blown into the air through a single vent. They grow quickly, but are not usually very big. They are not usually dangerous either.

## Shield Volcanoes

Shield volcanoes are bowl or shield-shaped in the middle. When they erupt, the lava forms long, gentle slopes that look like a warrior's shield, which is how they got their name. These volcanoes do not often explode.





## Activity 1:



Label each section of the volcano.

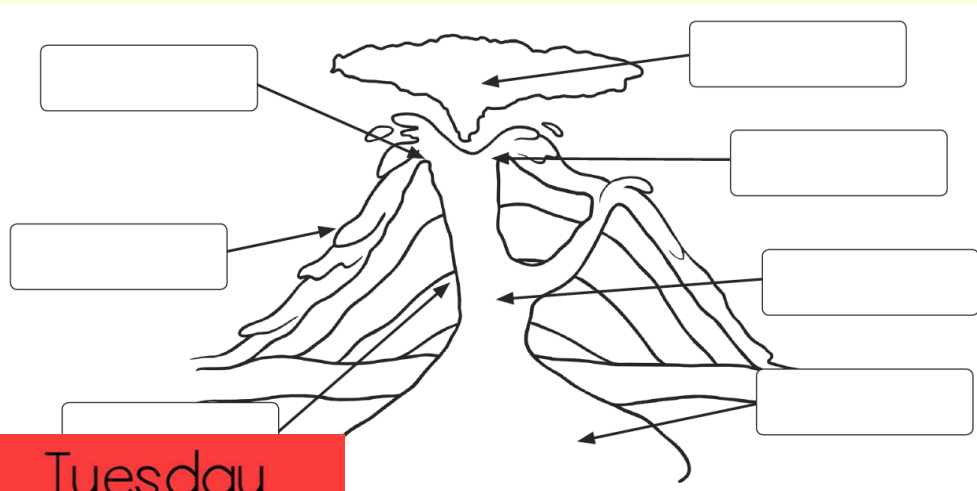
How to complete:

1. Print off the volcano document (Lesson 2 Volcano).
2. Draw your own pictures of the volcano and complete on paper.
3. Complete on Google docs and upload.

## Activity 2/ Extension:

Write a definition to explain each label.

For example, Ash cloud: A cloud of ash and gases formed by the explosion.



magma reservoir      crater

lava flow      main vent

conduit      ash cloud

layers of ash and solidified

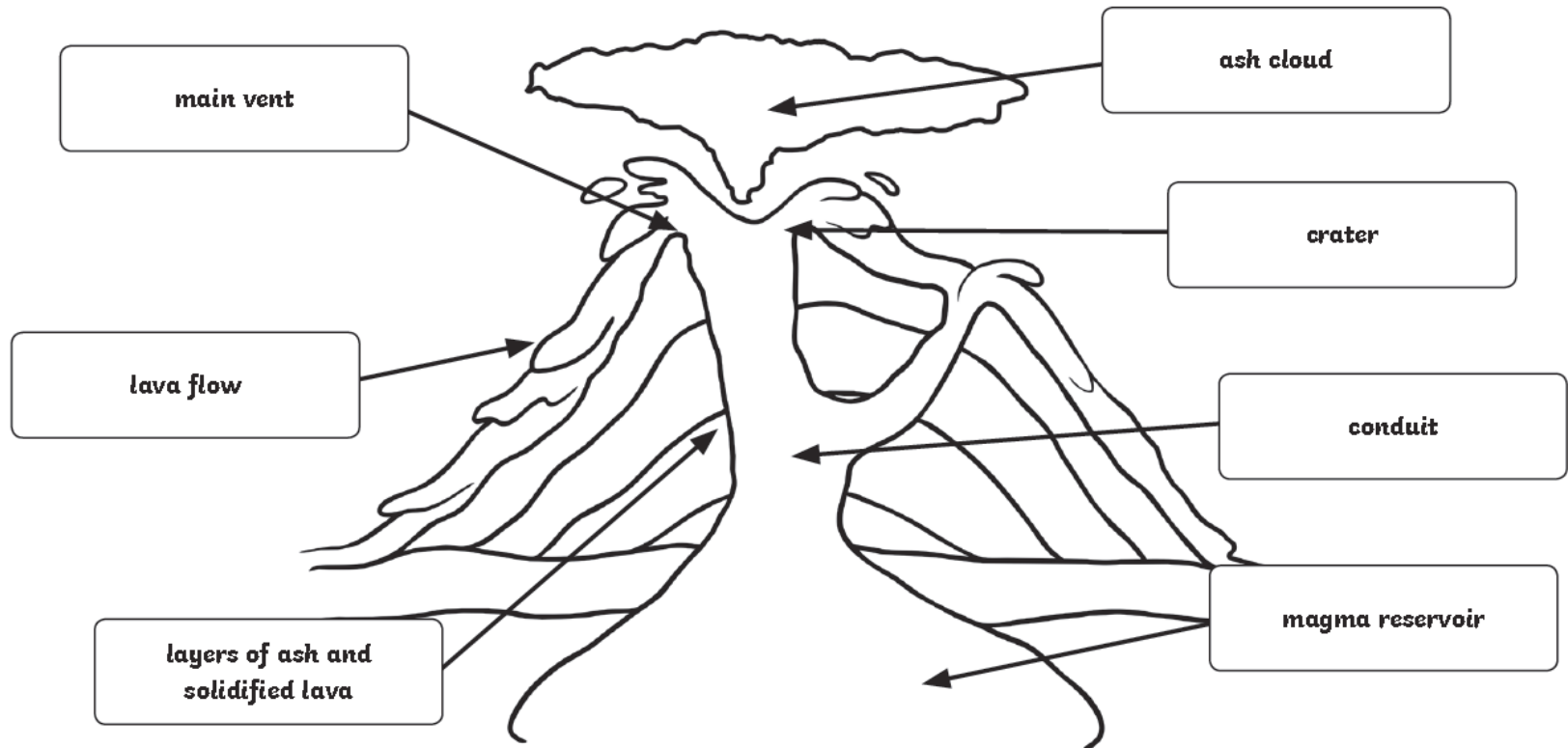
lava

Tuesday

# Answers

## Volcanoes Labelling Activity Answers

Look at this diagram of the inside of a volcano. Write a definition, on the next page, for each term.





# Answers

Explain the following terms:

**ash cloud:** A cloud of ash. It is formed by volcanic explosions.

**main vent:** The major opening in the surface of the Earth, through which volcanic materials, such as magma can escape.

**crater:** The mouth of a volcano. It surrounds the vent.

**lava:** Liquid rock which flows out of a volcano.

**conduit:** An underground passage which magma travels through.

**lava flow:** The flow of lava down the volcano once it has erupted.

**layers of ash and solidified lava:** Over thousands of years, the layers of ash and solidified lava create a larger volcano.

**magma reservoir:** A large underground pool of liquid rock found beneath the surface of the earth.

Wednesday

# World's Most Dangerous Volcanoes





# What Is a Volcano?

A volcano is a mountain or hill, where molten rock erupts through the surface of the earth.

A volcano has a vent or chimney that allows lava, ash and gas to escape from a magma chamber below the surface of the earth.

The name '**volcano**' is taken from the Roman god of fire, Vulcan.

Lava glows white to red hot as it flows. The temperature of lava ranges between 700°C and 1200°C... that's hot!

# What Is the Largest Active Volcano?

## Mauna Loa

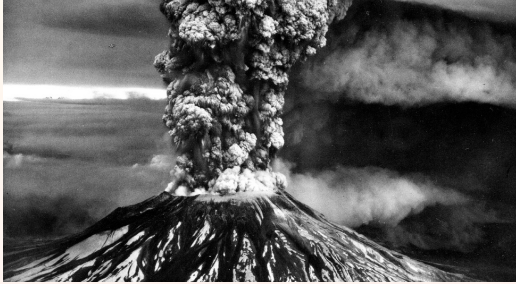


The largest, active volcano in the world is Mauna Loa in Hawaii. It is 13,677 feet above sea level. From its base below sea level to its summit, Mauna Loa is taller than Mount Everest.



# Volcanoes of the World

## Mount St Helens



Mount St Helens is an active volcano located in Washington, USA in the Cascade Mountain Range.

This was the first time pyroclastic flows (the clouds of hot gas, ash and rock) were studied using new scientific techniques.

On 18<sup>th</sup> May 1980, it erupted and killed 57 people and destroyed lots of roads and homes.

Mount St Helens is still active, and is monitored closely by geologists to predict if it will erupt again.

An earthquake triggered a landslide, which caused a sideways blast, sending clouds of ash, gas and rock speeding away from the volcano.

# Volcanoes of the World

Mount Vesuvius, Naples,  
Italy



Vesuvius has erupted over 50 times in the last 200 years. The last time was in 1944 during the Second World War.

Mount Vesuvius has a very famous history. Its base is 30 miles wide and it is estimated to be around 17,000 years old.

Vesuvius has erupted over 50 times in the last 200 years. The last time was in 1944 during the Second World War.

In 1995, Vesuvius was made a National Park. Visitors can climb the mountain.

Over the years, archaeologists have found bodies preserved by the ash from the volcano along with other items, such as heating stoves and cooking utensils.



# Volcanoes of the World

Mount Fuji, Japan



Mount Fuji is the highest mountain in Japan. It is 3776m high. It is on the island of Honshu, about 100km from Tokyo.

A forest named Aokigahara lies at the foot of the mountain and is said to be haunted by ghosts and goblins.

Over 100,000 people climb Mount Fuji every year. It is the most climbed mountain in the world.

Mount Fuji last erupted in 1708. It has become a symbol of the country and is featured in lots of paintings.

The volcano is actually three separate volcanoes piled one on top of the other with Fuji at the top.

# Volcanoes of the World

Popocatépetl, Mexico



It is nicknamed 'El Popo'. It has erupted several times since 1994.

Until it erupted in 1994, Popocatépetl was dormant for 50 years.

It is considered one of the world's most dangerous volcanoes. It last erupted in April 2016.

In 2013, flights over Mexico were cancelled due to ash and steam being produced by the volcano.



# Why Are Volcanoes Dangerous to People?

There are many dangers that are caused by a volcanic eruption, such as

- Flash floods
- Tsunamis
- Rock falls
- Earthquakes
- Mud flows



The dangers pose many problems that sometimes last long after the eruption itself, such as:

- buildings destroyed leaving people homeless;
- ash clouds spoil crops leading to food shortages;
- dust from the eruption causing illness;
- poisonous gases released into the atmosphere that are dangerous to plants, animals and humans;
- bad weather and dark skies.

In 1995, a volcano erupted on the Caribbean island of Montserrat. It buried the capital city in 12m of mud, destroyed the airport and docks and the population of the southern island was evacuated for their own safety.

# What Are the World's Most Dangerous Volcanoes?

There are different ways to decide whether a volcano is 'dangerous'.  
The simplest way to label a volcano is to determine whether a volcano is:

**Active** - has erupted in recorded history.

**Dormant** - not active but expected to erupt again.

**Extinct** - is not expected to erupt again.



# Why Do People Choose to Live near Volcanoes?

Scientists estimate that 1 in 10 people live near a volcano.

While it is dangerous to live close to a volcano, **the surrounding slopes provide rich fertile soil which makes the area a good place to farm.**



Mount Etna towers above the town of Catania in Sicily. It is Europe's most active volcano.

# Dangerous Volcanoes

## Amazing Fact

There is a volcano on Mars called Olympus Mons, which rises nearly 25 kilometres above the Martian surface. It is almost 3 times as tall as Mount Everest.

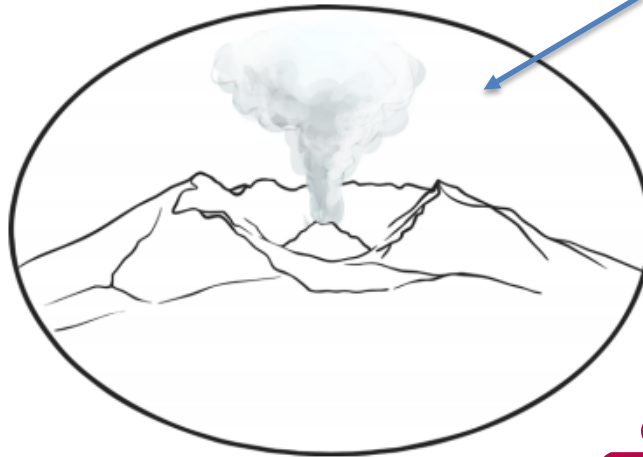
## Challenge

At one time, volcanic eruptions on Earth were thought to be a punishment from the gods.

Nowadays, we know volcanic eruptions are a result of glowing hot magma being forced up from the mantle through vents in the Earth's crust. Of course, that doesn't make their explosive effects any less devastating.

Here is a list of the 10 most dangerous active volcanoes around the world:

1. Yellowstone Caldera, Yellowstone National Park, United States of America.
2. Mount Vesuvius, Campagnia, Italy.
3. Popocatepetl, Mexico City, Mexico.
4. Sakurajima, Kagoshima, Japan.
5. Galeras, Pasto, Colombia.
6. Mt. Merapi, Yogyakarta, Indonesia.
7. Mt. Nyiragongo, Goma, Democratic Republic of Congo.
8. Ulawun, Papua New Guinea.
9. Taal Volcano, Luzon Island, Philippines.
10. Mauna Loa, Hawaii.



You can learn more about these volcanoes in 'Lesson 3 Worlds Most Dangerous Volcanoes'

## Activity

Use the Internet, non-fiction books or an atlas to locate and label them on the world map.





Use the Internet, non-fiction books or an atlas to locate and label them on the world map.



Here is a list of the 10 most dangerous active volcanoes.

1. Yellowstone Caldera, Yellowstone National Park, Wyoming, USA.
2. Mount Vesuvius, Campagna, Italy.
3. Popocatepetl, Mexico City, Mexico.
4. Sakurajima, Kagoshima, Japan.
5. Galeras, Pasto, Colombia.
6. Mt. Merapi, Yogyakarta, Indonesia.
7. Mt. Nyiragongo, Goma, Democratic Republic of Congo.
8. Ulawun, Papua New Guinea.
9. Taal Volcano, Luzon Island, Philippines.
10. Mauna Loa, Hawaii.

Use the Internet, non-fiction books or an atlas to locate and label them on the world map.

**Use 'Lesson 3  
Worlds Most  
Dangerous  
Volcanoes' to  
help you.**

How you might want to complete this:

1. Print off world map document and complete (Lesson 3 World Map Activity).
2. Complete on Google docs and upload.
3. Focus on one continent (eg, Asia) and find/write about different volcanoes that are found there.

Wednesday



Thursday

# The Ring of Fire

75% of volcanoes are on the Ring of Fire.

**Can you guess what other natural disaster is also common in this area?**



## Activity-

Complete the sentences.

If you aren't sure, look at the pictures on the next slide.



### Active

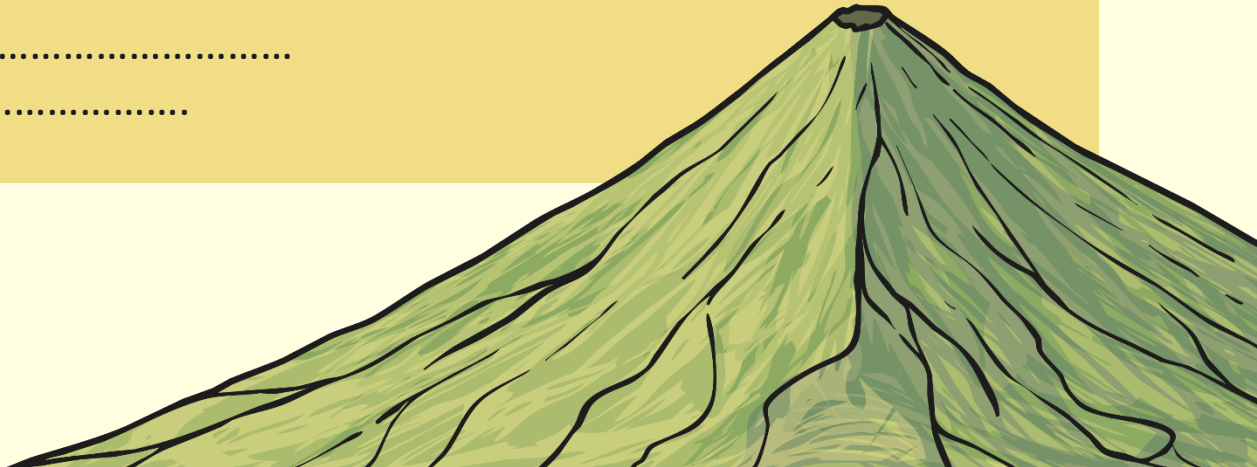
An active volcano is .....

### Dormant

A dormant volcano is .....

### Extinct

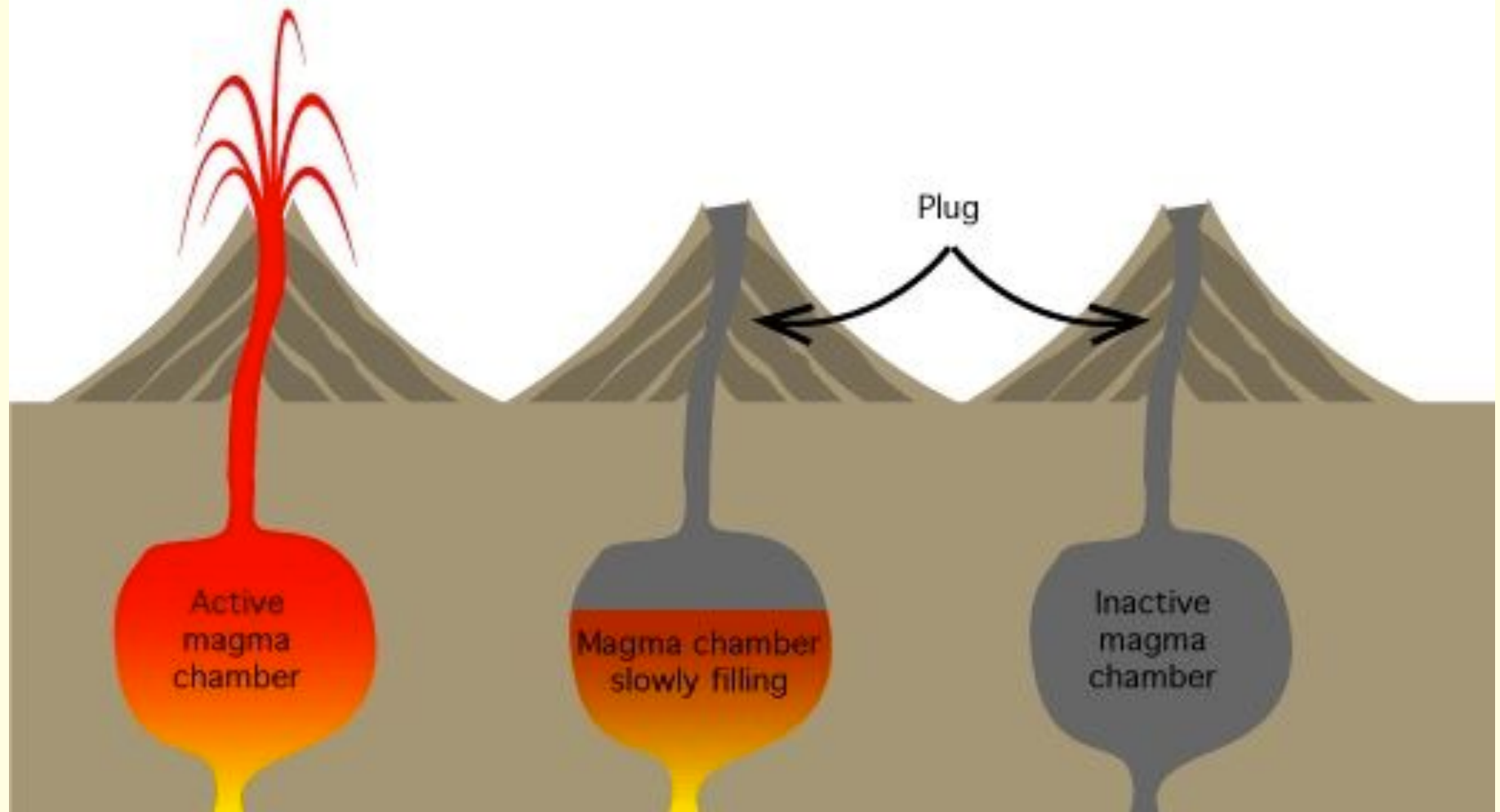
An extinct volcano is .....  
.....



Active volcano

Dormant volcano

Extinct volcano





# Answers- Did you use any key vocabulary?

## 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

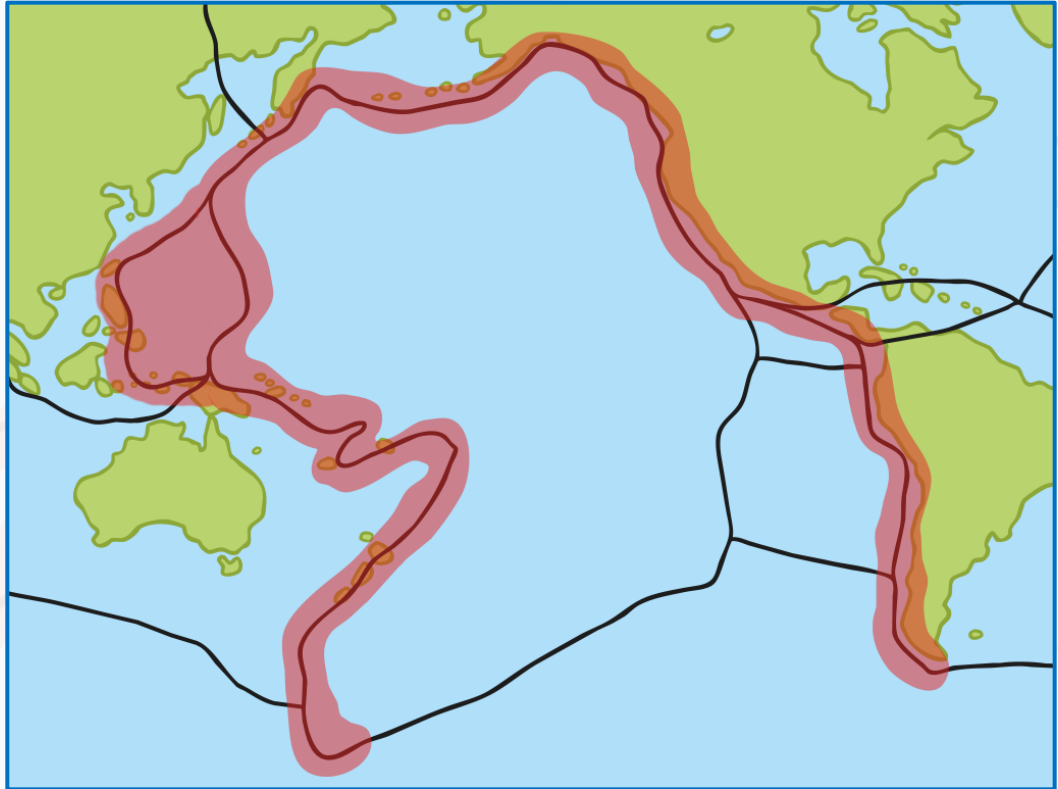
An extinct volcano is one which has erupted thousands of years ago, but it will probably never erupt again.



# What Is the Ring of Fire?

The Ring of Fire is a horseshoe-shaped line on a map which is home to around 75% of the world's volcanoes and 90% of the world's earthquakes.

The area is a 25 000 mile line of volcanoes, tremors and earthquakes around the edge of the Pacific Ocean.

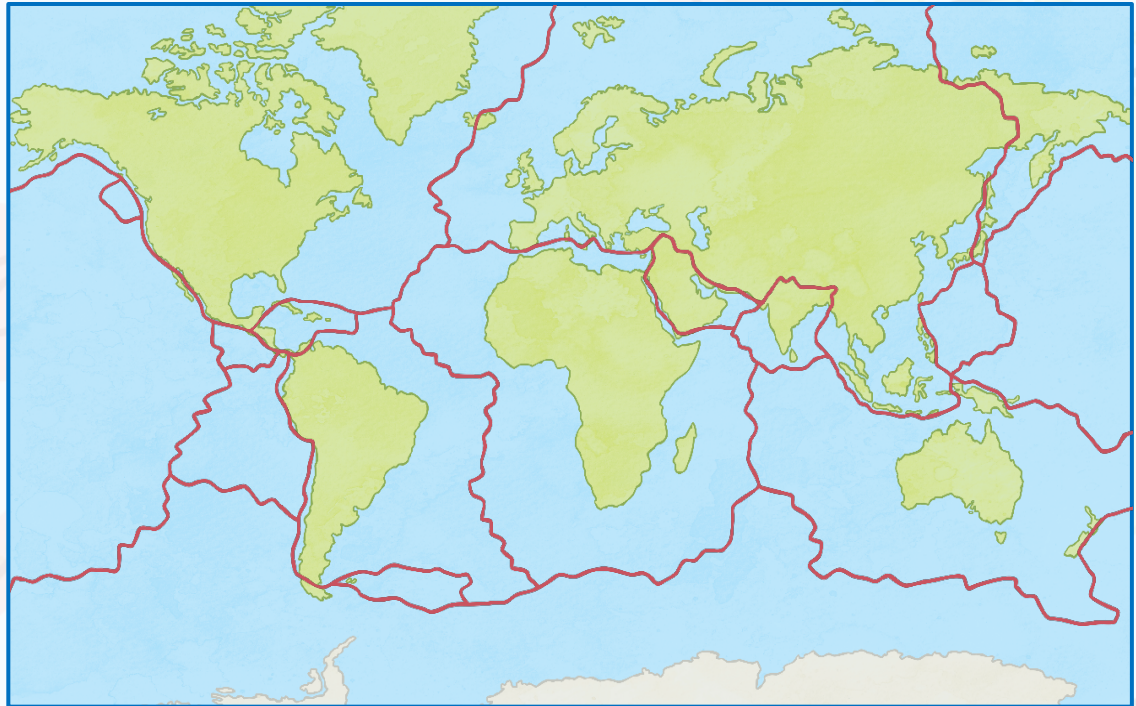




# Why Do Earthquakes Happen?

Earth's crust is made up of lots of pieces. The edges of these pieces rub against each other and this can cause sudden movements which can lead to earth tremors or earthquakes.

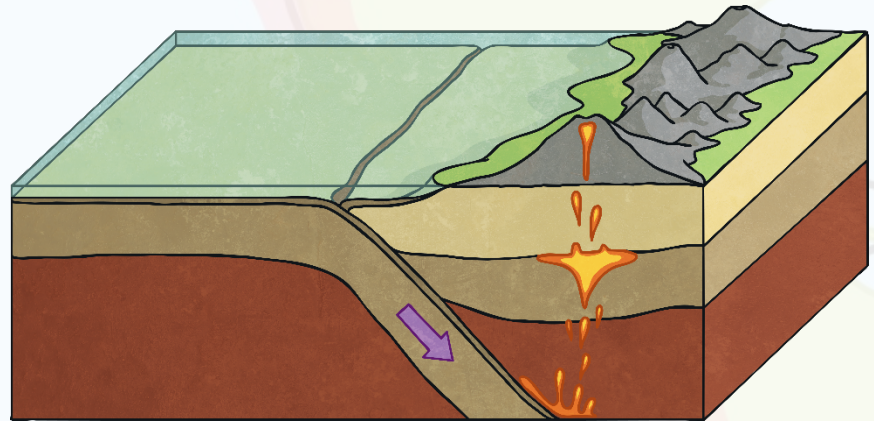
These pieces of Earth's crust are called tectonic plates and they make a jigsaw covering Earth.



Here is a map showing earthquake hotspots around the world.

# What Makes the Ring of Fire so Special?

One way that tectonic plates meet and move is when one slides under the other creating what is known as a subduction zone.



The boundary of the Ring of Fire is mostly subduction zones which are more likely to cause earthquakes. The subduction also leaves behind trenches. Trenches are the very deepest parts of the oceans.

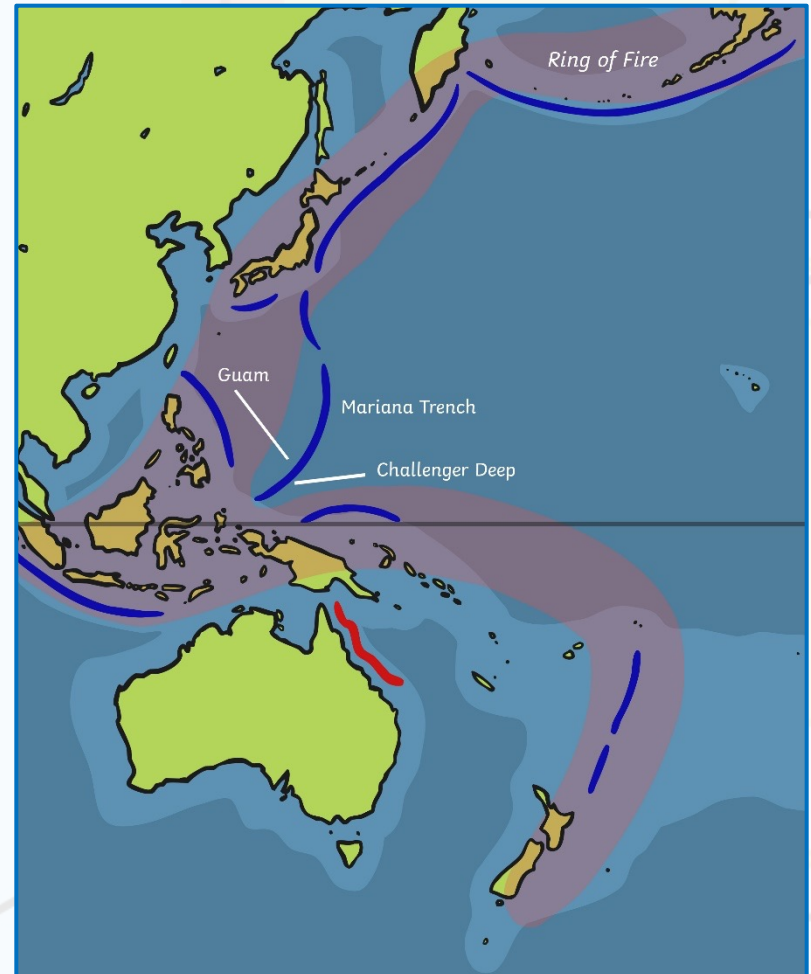


# The Mariana Trench

The Mariana Trench is the deepest known trench in Earth's oceans. It was formed when one tectonic plate moved beneath its neighbour.

It is 7 miles deep and is found just to the east of the island of Guam.

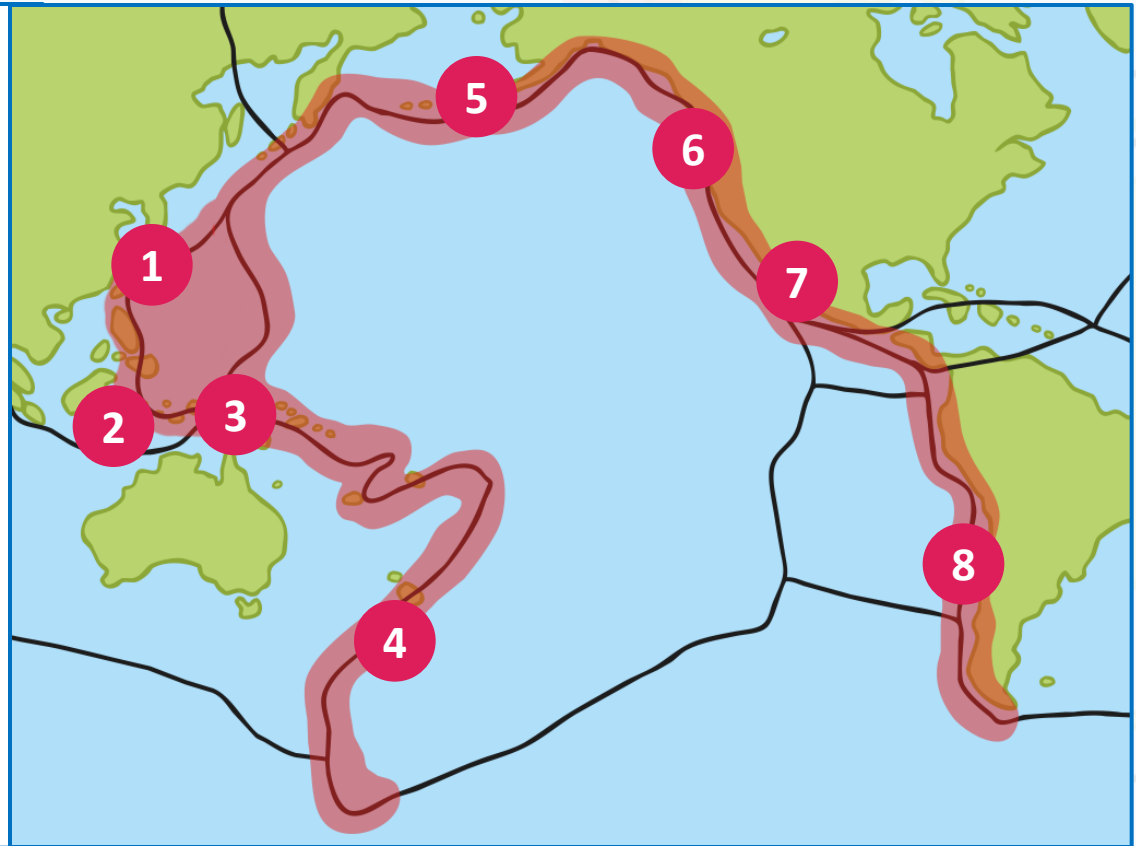
Challenger Deep is the deepest part and also the deepest known part of our oceans. It is 10 898m which is bigger than the height of Mount Everest which is only a tiny 8848m!



## Hotspots on the Ring of Fire

There are at least 452 volcanoes in the Ring of Fire. Here are some of the more famous or important hotspots... click on each to find out more.

Valdivia earthquake in 1960 was the largest recorded earthquake at 9.5 out of 10 on the Richter scale.





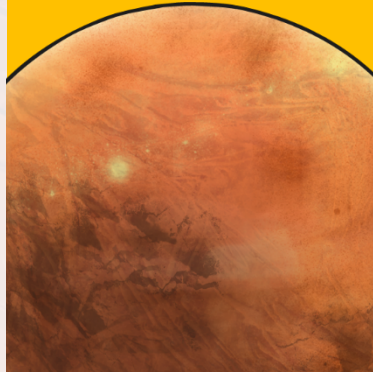
# Are There Volcanoes on Other Planets?

Earth is not the only planet to have volcanoes, although most of the volcanoes on other planets are now extinct.

**Mercury** used to have volcanoes but when the planet's interior cooled down, the volcanoes died.



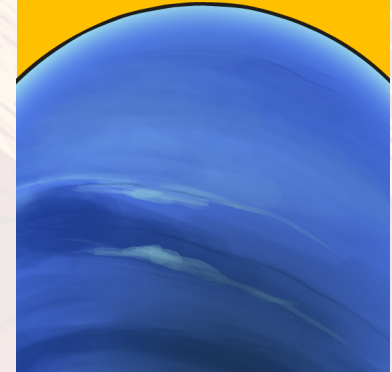
**Mars** has the largest known volcano called Olympus Mons. It is no longer active and will probably never erupt again.



**Io** is one of Jupiter's moons and has several active volcanoes.



**Triton** is Neptune's largest moon. Instead of lava, the volcanoes on Triton actually release ice.



# Friday



Today you will create a fact file about a Volcano of your choice. Use this week's learning to help you design and create an eye-catching and detailed fact file.

## What you might want to include:

- Where is it?
- How tall is it?
- Is it active, dormant or extinct?
- Has it erupted?  
(If so)
- When?
- What impact did it have?
- Fun facts/Did you know?

## How to create it:

You can use the template provided (Lesson 5 Fact file Template) or create your own on a word document or paper.



# Examples

## Stromboli

Stromboli is located in Italy.

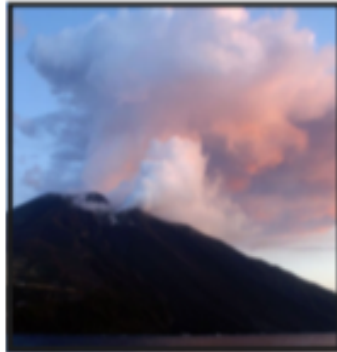
Its highest point is 924m high.

The volcano has erupted throughout the 20th century.

As long as there are historical records, Stromboli has been constantly active.

It is famous for its normally small, but regular explosions.

At night its eruptions are visible from far away so it is known as the "Lighthouse of the Mediterranean".



### ***Did You Know?***

Stromboli has an eruption cycle of 20 to 30 minutes.

Volcanoes

## Mount Fuji

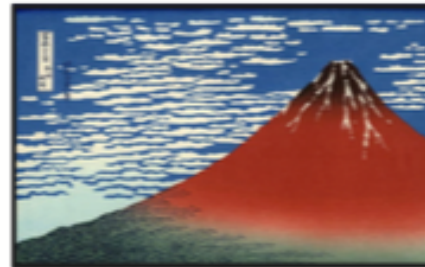
Mount Fuji is located in Japan.

Its highest point is 3776m high.

Fuji last erupted in 1707.

This volcano is the highest volcano, it has the highest peak in Japan and is considered one of the three holy mountains.

Mount Fuji is an important element in Japanese art.



### ***Did You Know?***

More than 200 000 people climb to the top of the Mount Fuji every year.

Volcanoes

## Ojos del Salado

Ojos del Salado is located on the Argentina-Chile border.

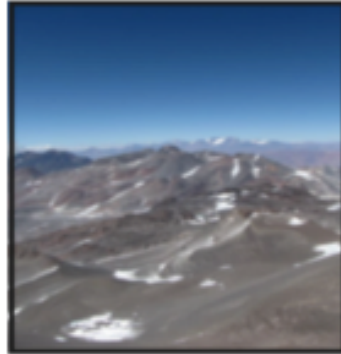
Its highest point is 6893m high.

Nevados Ojos del Salado is the world's highest active volcano.

It has two summit peaks of the same height.

It last erupted around 1300 years ago.

We don't know if it will erupt again, if at all, as we don't have a record of eruptions to work out the eruption cycle.



### ***Did You Know?***

In the daytime it can get to 17°C and drop to -15°C at night!

Volcanoes

## Mauna Loa

Mauna Loa is one of five volcanoes that form the Island of Hawaii (the US state) in the Pacific Ocean.

Its highest point is 4170m high.

Mauna Loa rises from the sea floor, and its height from its base to its summit is 9170m. This is greater than the height of Mount Everest.

It last erupted in 1984 and since the 1840s it has erupted at least 30 times.

It erupts every 5 to 30 years.

Mauna Loa means 'long mountain' in Hawaiian.



### ***Did You Know?***

It is the world's largest active volcano if you include the portion that lies beneath the sea!

Volcanoes



**Now you have finished, share your fact file with someone you live with.**



Friday