



Under Our Feet



What would you find?



Imagine you are digging this hole.



What is at the bottom of the hole?

What different things might you find as you are digging?

Where would you end up?

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Layers of Soil

Humus

The very top layer of soil, made up of dead and rotting leaves and animals.

Topsoil

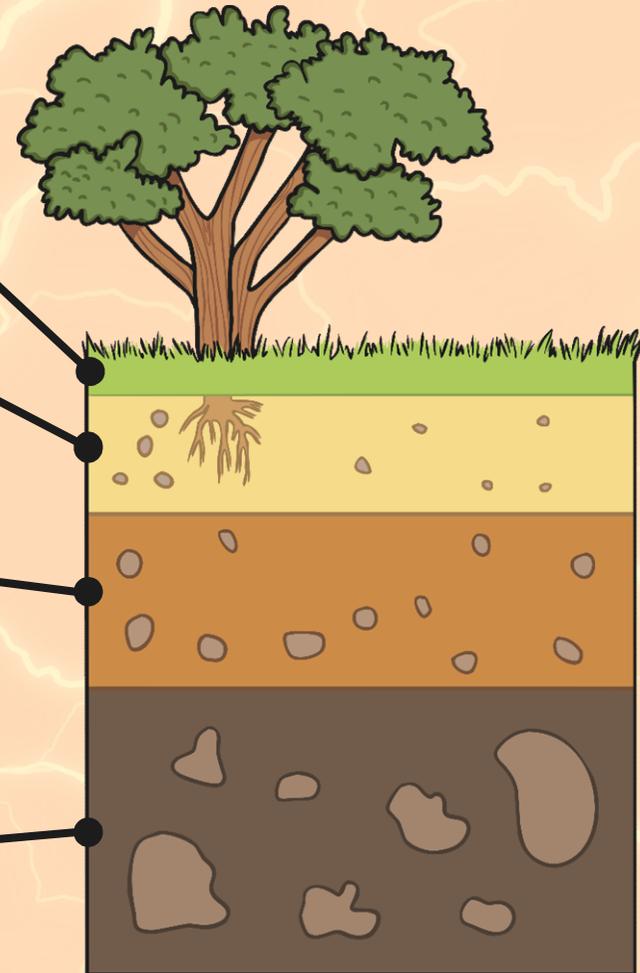
Where plants grow their roots.
Very few rocks.

Subsoil

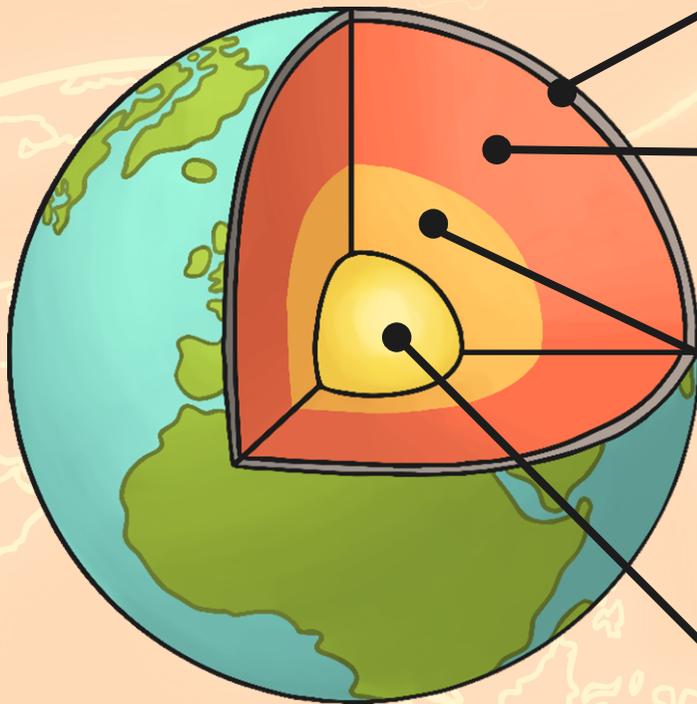
More rocks and stones in clay. This soil is full of nutrients. Tree roots may reach into this soil. You might find fossils here.

Bedrock

A mass of rock such as granite, basalt, quartzite, limestone or sandstone. You might find fossils here.



Layers of the Earth



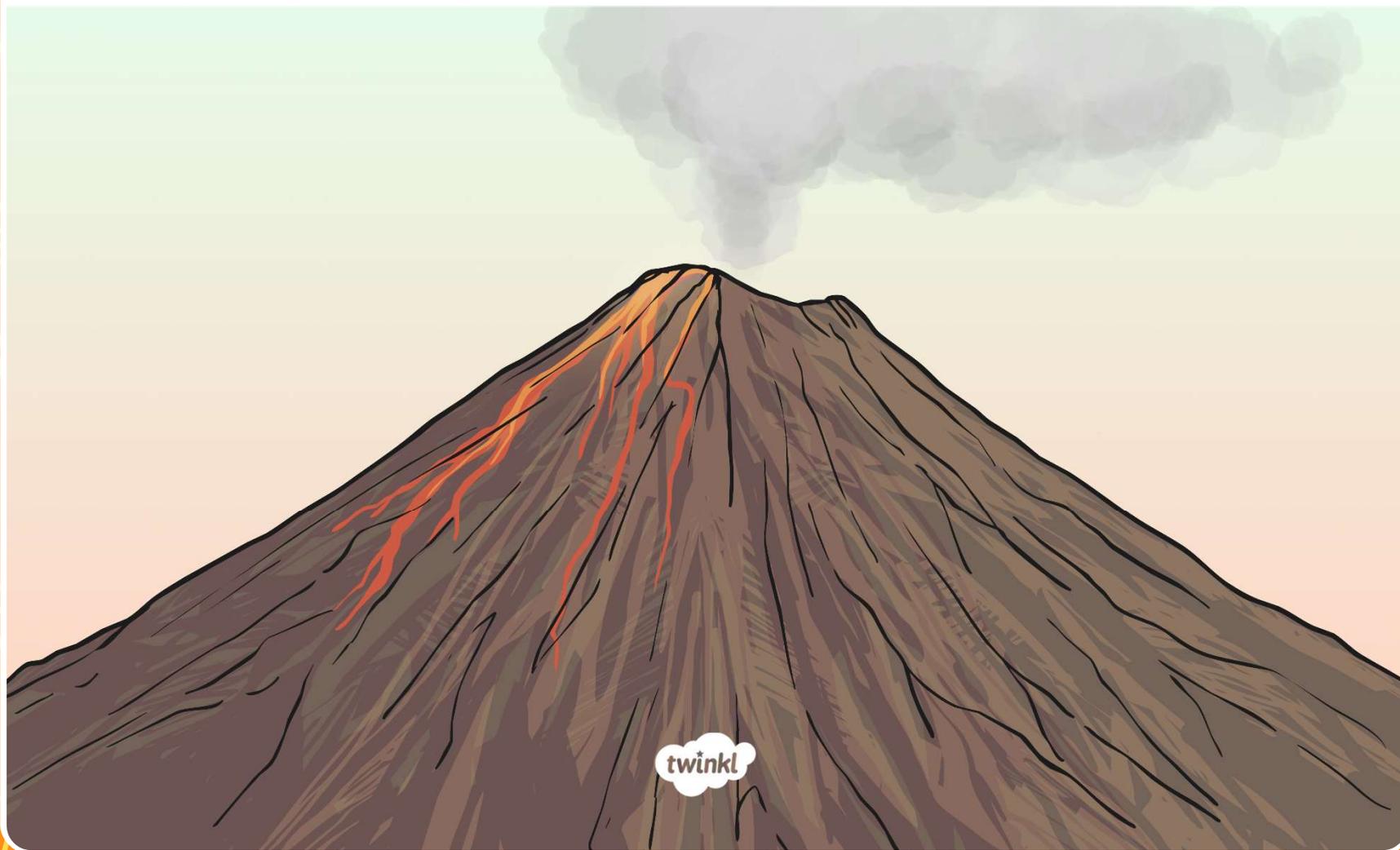
The **crust** is the thin outer layer of cold hard rock that covers the world (10km-90km thick).

The **mantle** (extremely hot rock that often flows like treacle) is 3,000 km thick.

The **outer core** is mostly made of iron with some nickel. It is over 4000°C. It is mostly liquid with some rocky parts. Because the outer core moves around the inner core, Earth's magnetism is created.

The **inner core**, which is made of iron and nickel, is the hottest layer at over 5000°C. It melts the metals in the outer core to form magma.

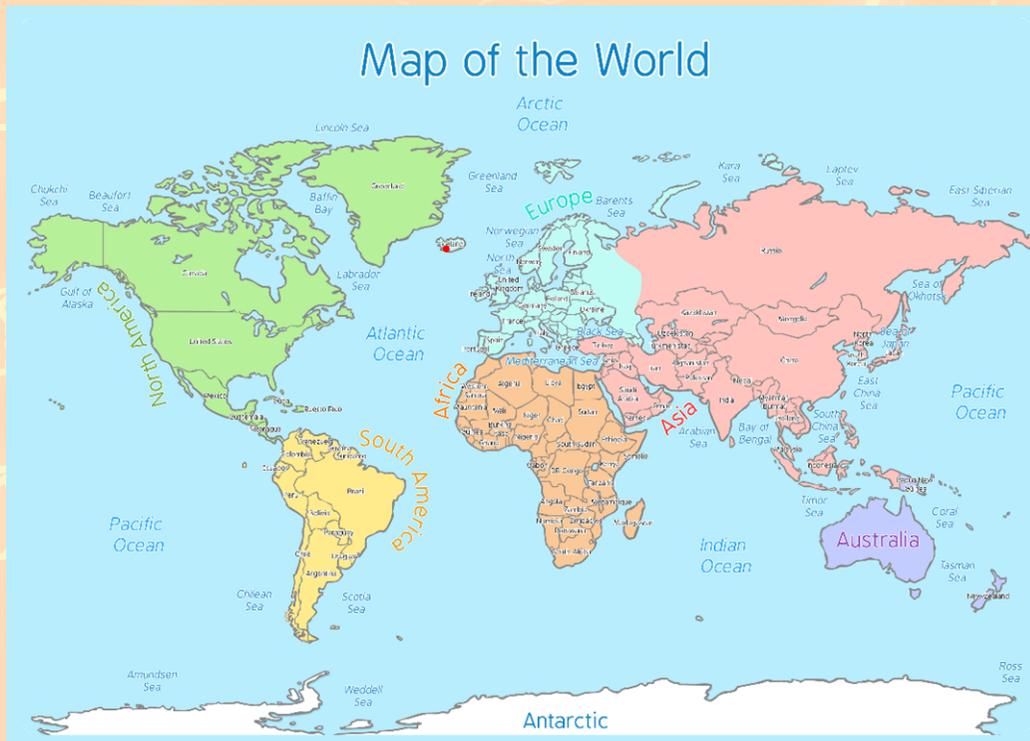
Volcanoes



Can you find out where the volcanoes in Italy are?



Eyjafjallajökull



Eyjafjallajökull is a volcano in Iceland.



Watch this video of it erupting in 2010.

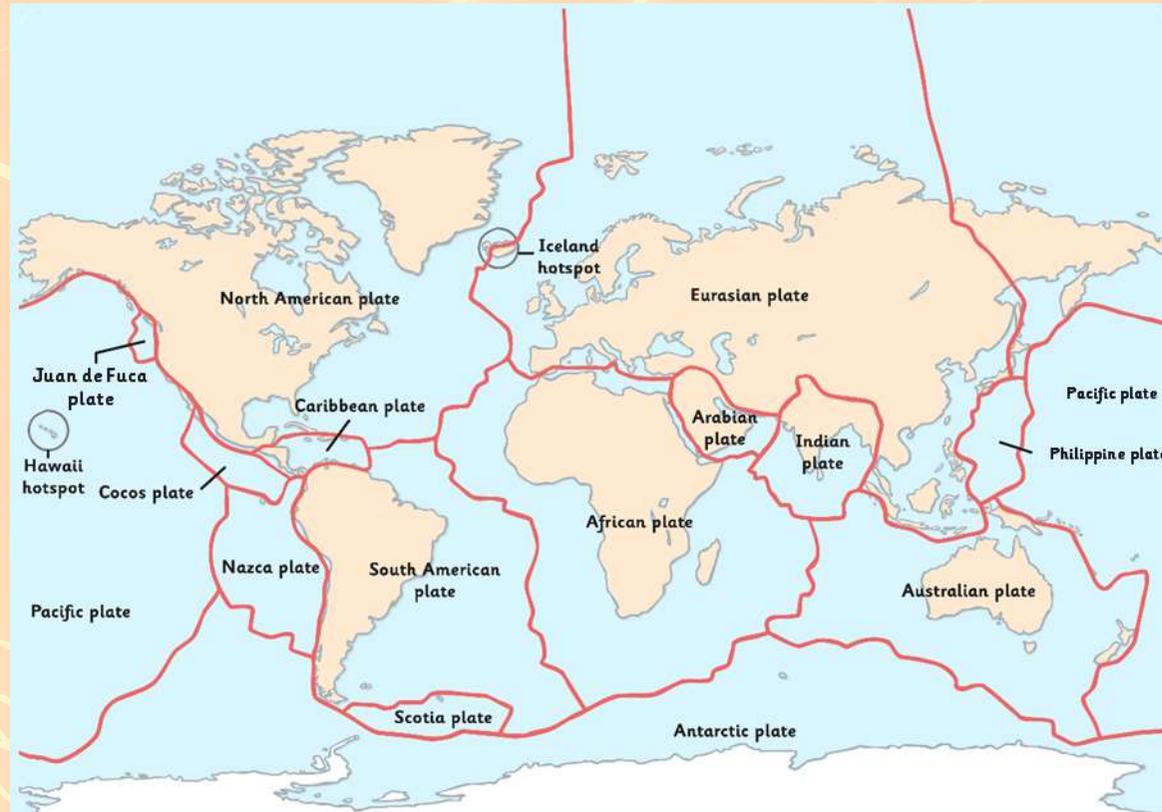


Tectonic Plates

The Earth's crust isn't one solid layer.

It is broken up into huge areas called tectonic plates that float on top of the mantle.

This map shows where the tectonic plates are.



How are volcanoes made?

This then affects the Earth's crust, so that magma can sometimes erupt through it.

The lava and ash that are erupted through the crust build up to form the classic volcano cone shape over time.

Pressure builds up inside the Earth.

This process is happening all the time!



Where are most volcanoes located?



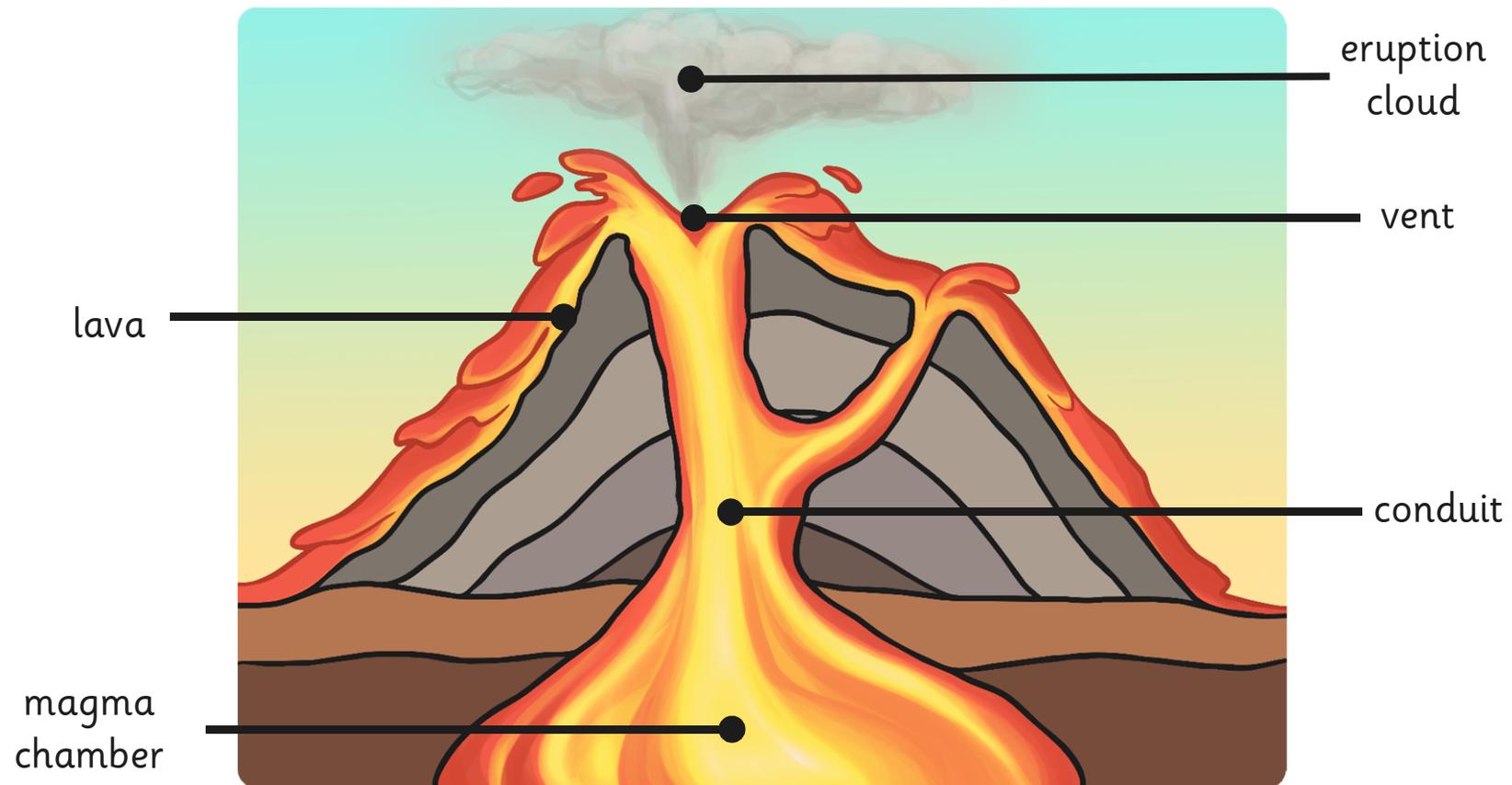
Look at this map.

Most of the world's volcanoes are located in the area labelled "Ring of Fire".

Why do you think it is called that?



What's it all called?



GLOSSARY

Bomb - a lump of rock thrown out in an eruption

Crater - a deep hollow at the top of a volcano

Crust - The top layer of the Earth

Eruption - the release of gases, magma and rock from a volcano

Lava - melted rock that flows down the volcano

Magma - melted rock inside the Earth

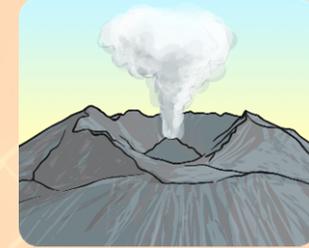
Molten - melted, liquid

Vent - a crack on the side of a volcano where magma can escape

What do they mean?

active

A volcano that has erupted in the last 10 000 years.



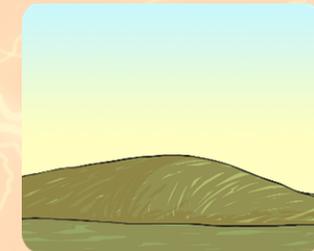
dormant

A volcano that hasn't erupted in the last 10 000 years, but may erupt again.



extinct

A volcano that hasn't erupted in the last 10 000 years, and isn't expected to erupt again.



Mount Vesuvius

- Only active volcano on mainland Europe
- Erupted in late August 79 AD
- This eruption destroyed the Pompeii and Herculaneum
- An estimated 16,000 people died
- Most of them died instantly as the air was so hot that it burned their lungs and contracted their muscles. They were then quickly buried in ash, which preserved their bodies for hundreds of years.