

A dramatic aerial photograph of a volcanic eruption. A massive, billowing plume of white ash and steam rises from a dark, jagged mountain peak, filling much of the sky. The foreground shows the dark, rocky slopes of the volcano, with some lighter-colored ash or snow patches. The overall scene is one of intense geological activity.

Volcanoes

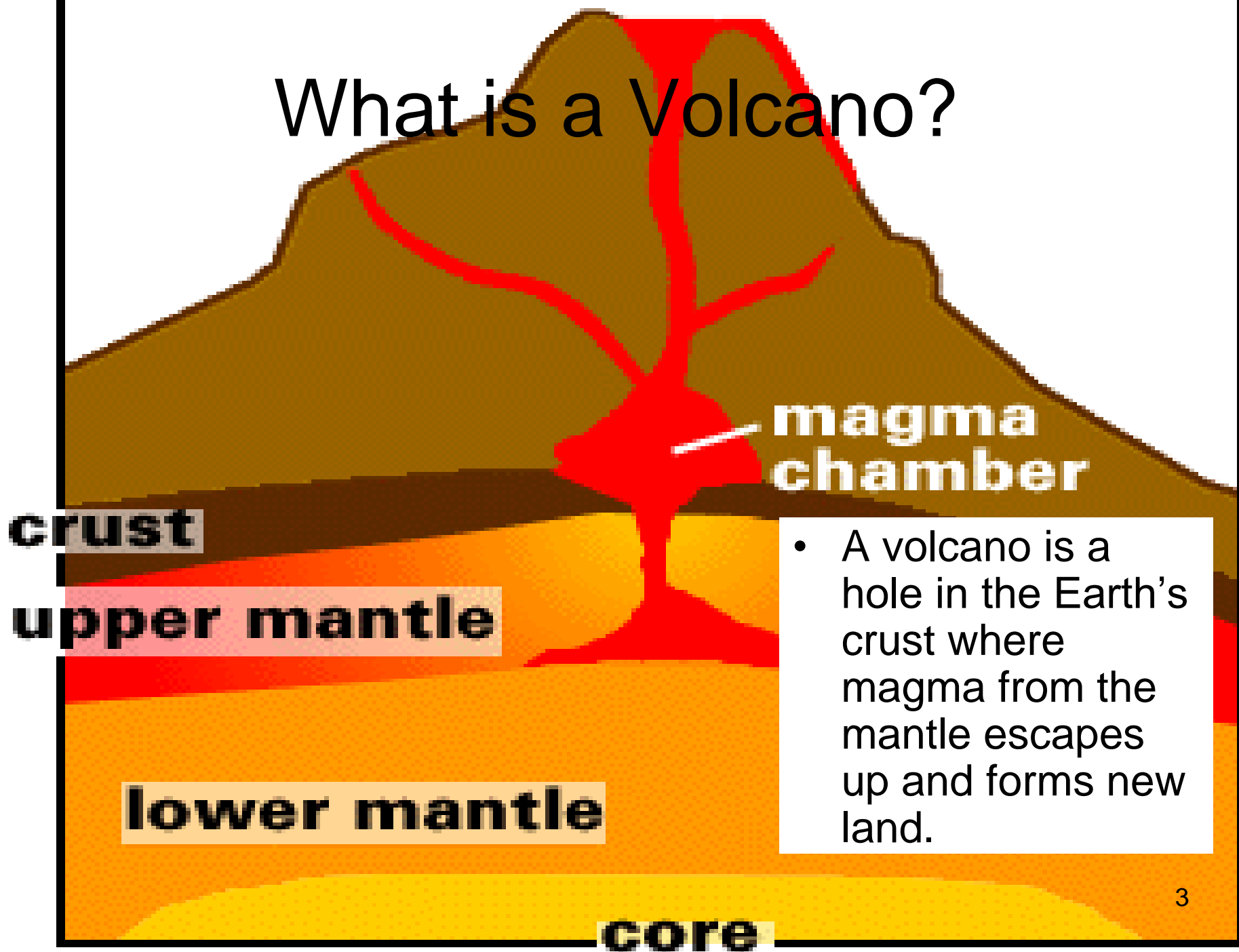
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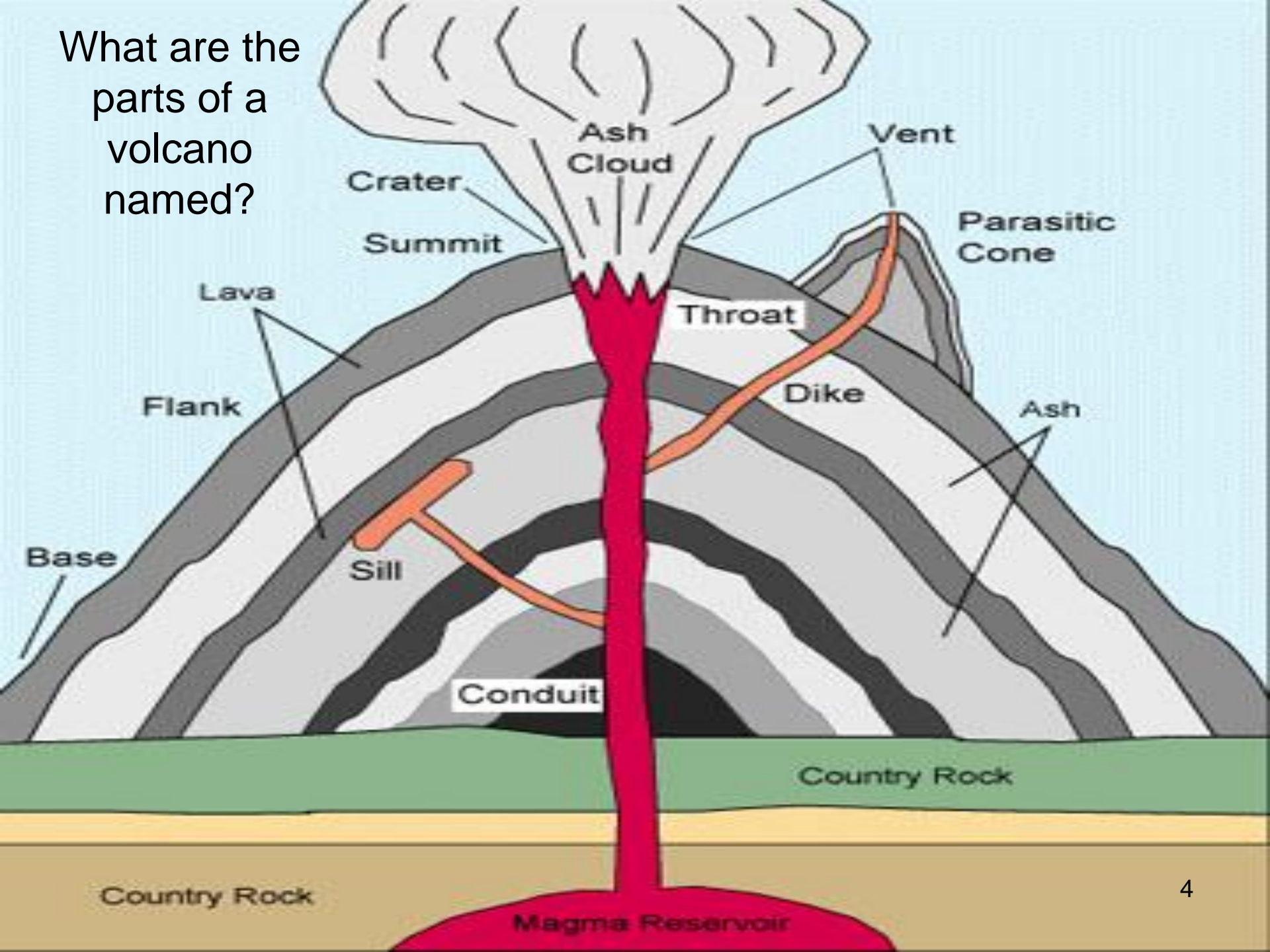


What is a Volcano?



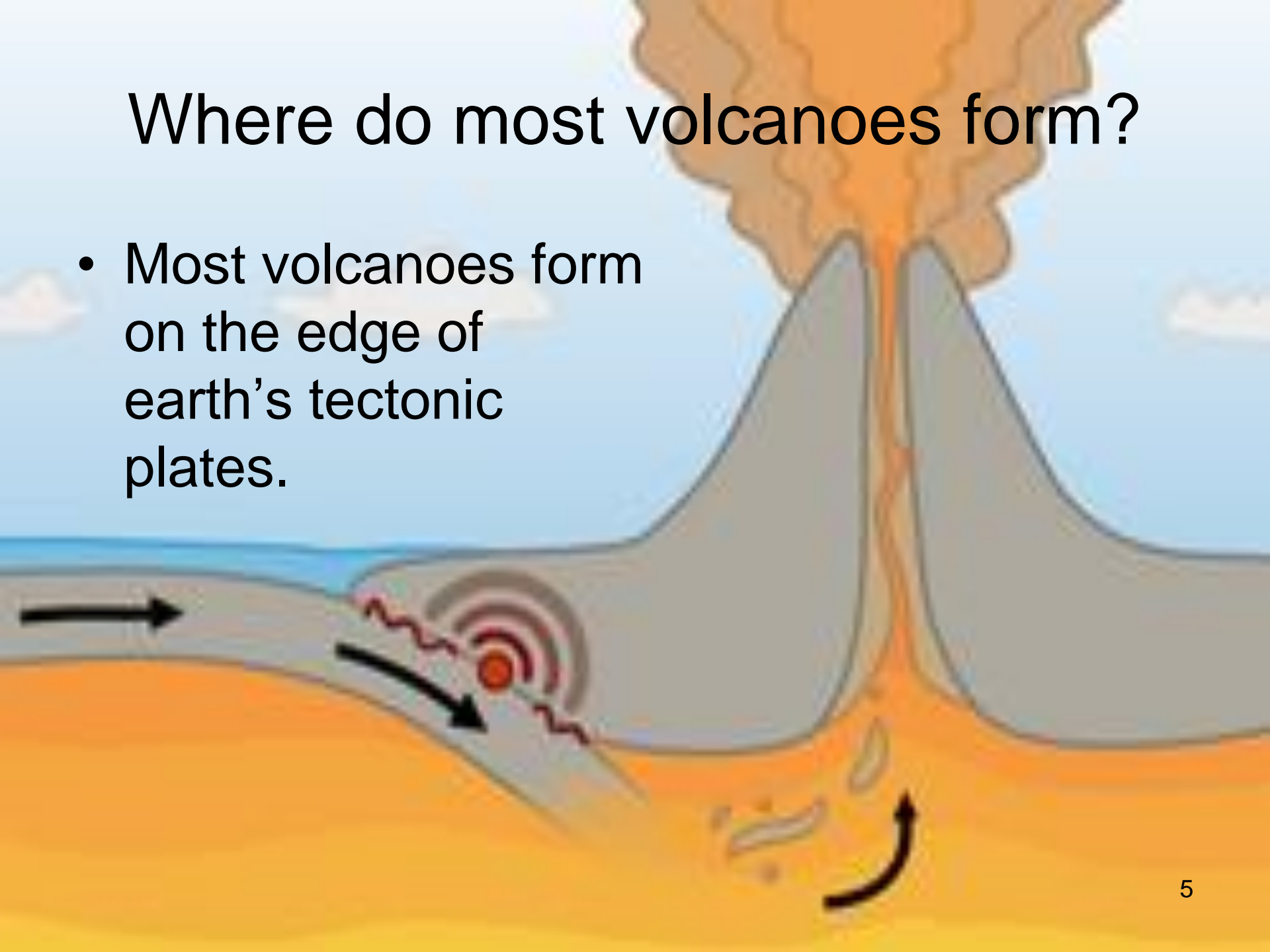
- A volcano is a hole in the Earth's crust where magma from the mantle escapes up and forms new land.

What are the parts of a volcano named?



Where do most volcanoes form?

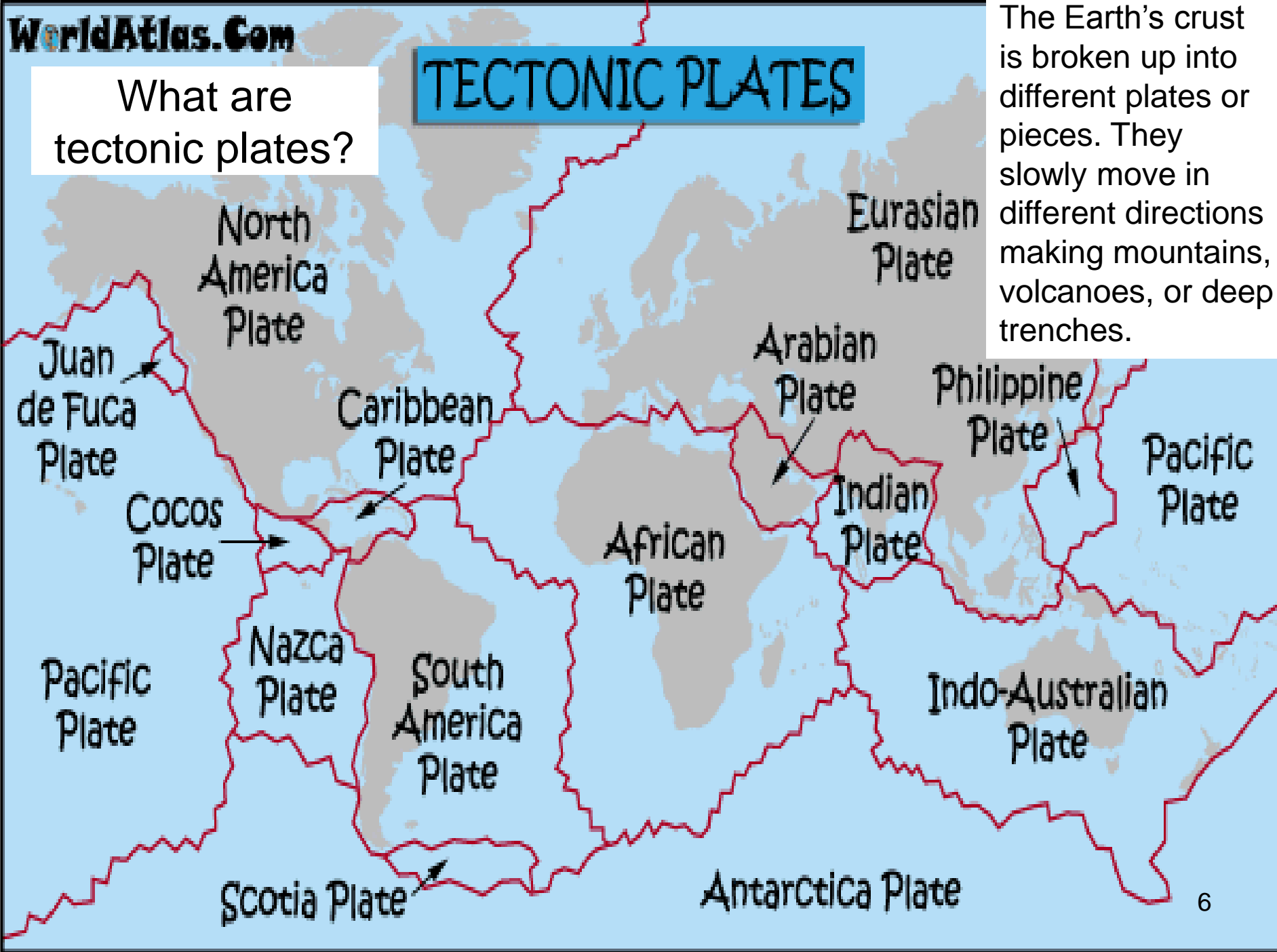
- Most volcanoes form on the edge of earth's tectonic plates.



TECTONIC PLATES

What are tectonic plates?

The Earth's crust is broken up into different plates or pieces. They slowly move in different directions making mountains, volcanoes, or deep trenches.



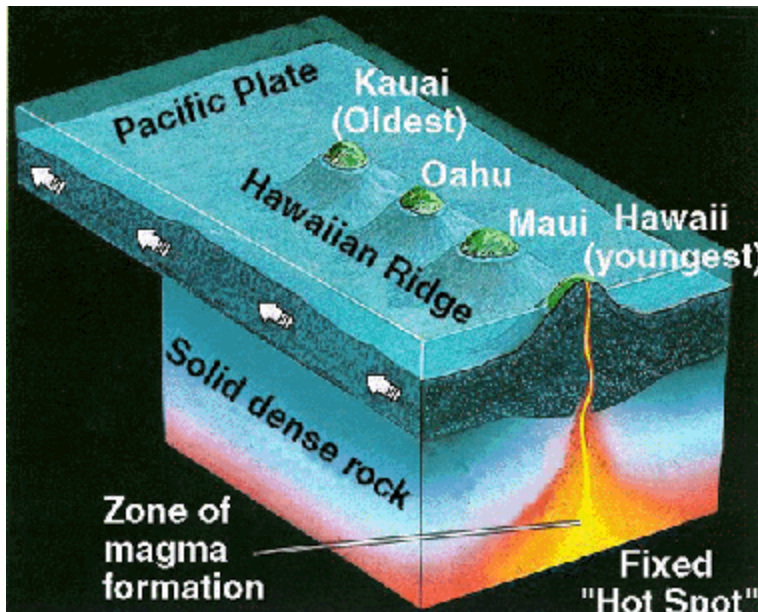
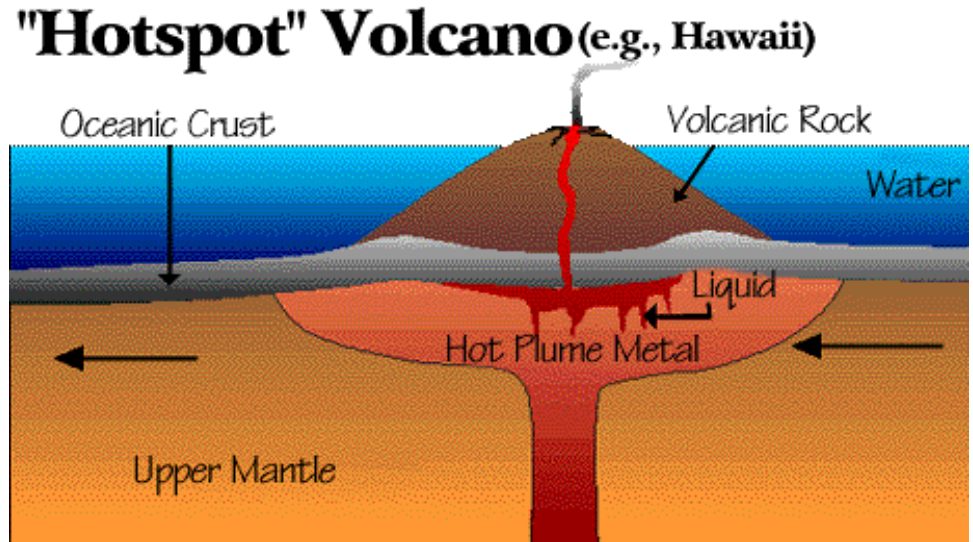


What is the Ring of Fire?

- The Ring of Fire is the ring of volcanoes that formed at the edge of the Pacific Plate

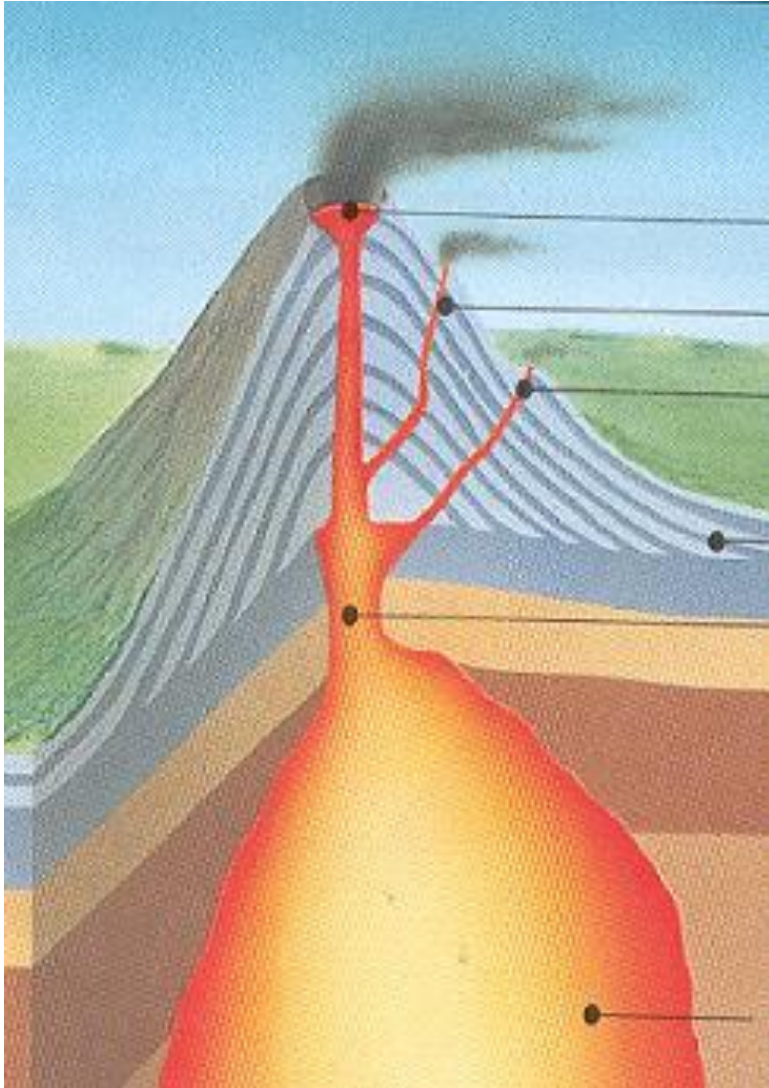
What is a hot spot volcano?

- A few volcanoes are formed by hot spots. Hot spots are incredibly hot places in the mantle where it has melted a hole through the crust.



- When the plates move over the hot spot it can form new volcanoes like the Hawaiian Islands.

What is magma and lava?

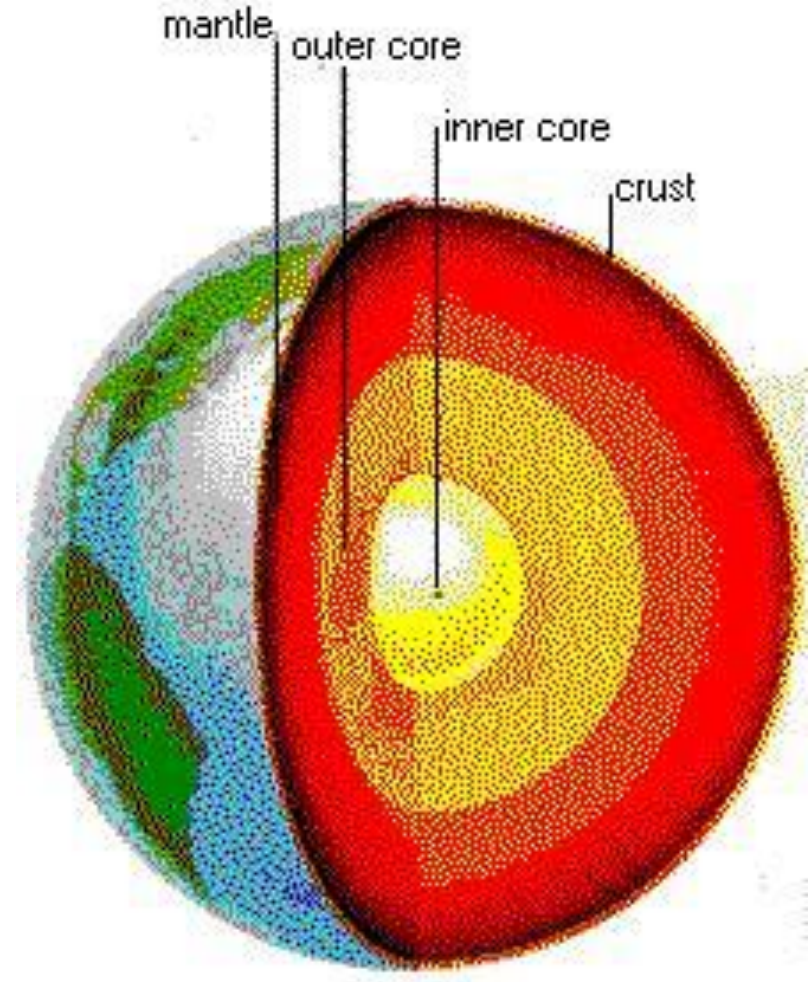


- Magma is the hot molten rock coming from the mantle.
- When magma escapes to the surface it is called lava.



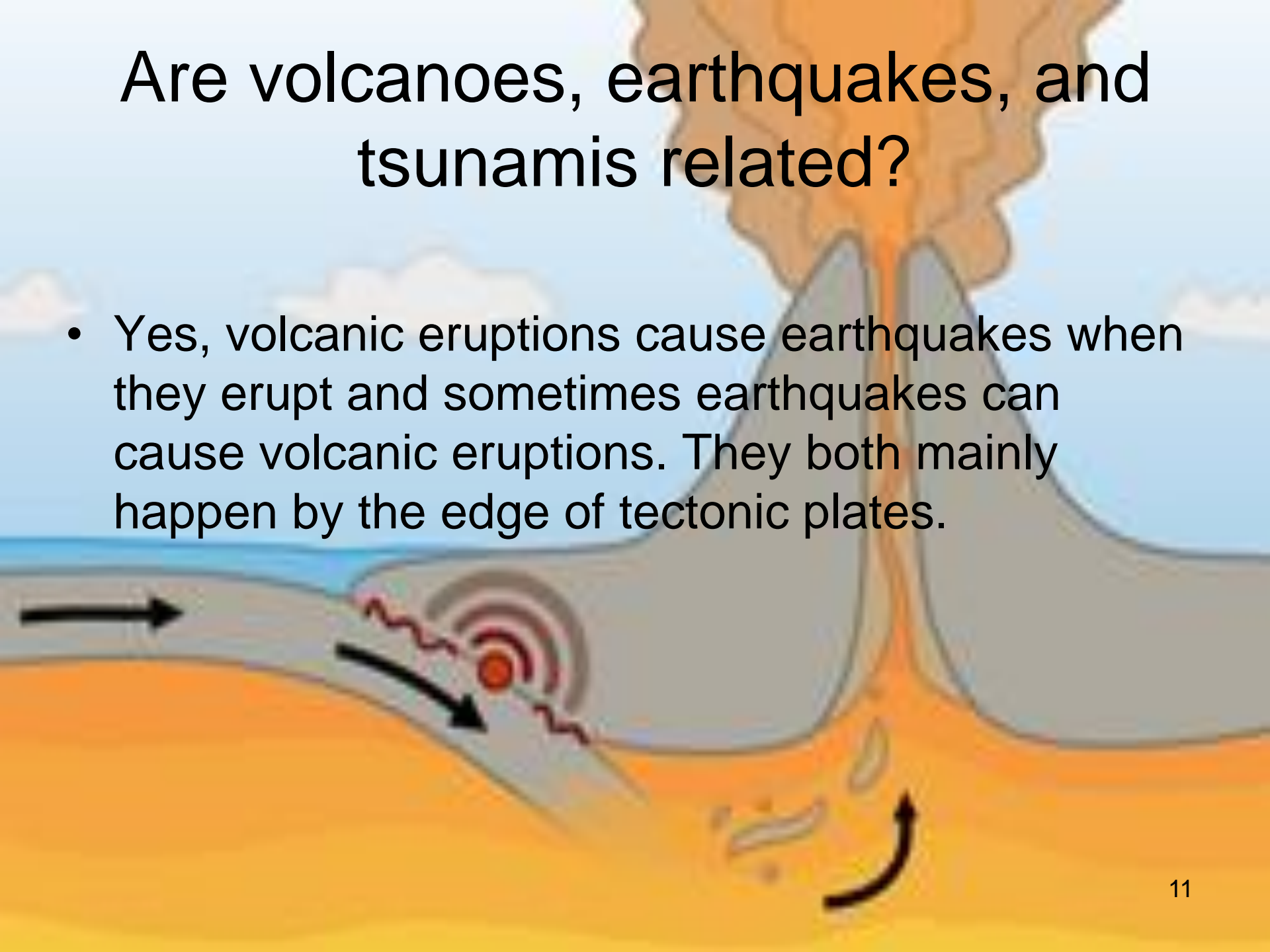
Why do volcanoes erupt?

- The heat from the inside of the earth creates pressure and pushes up through weak spots in the crust like at the edge of plates or in hot spots and causes volcanoes to erupt.



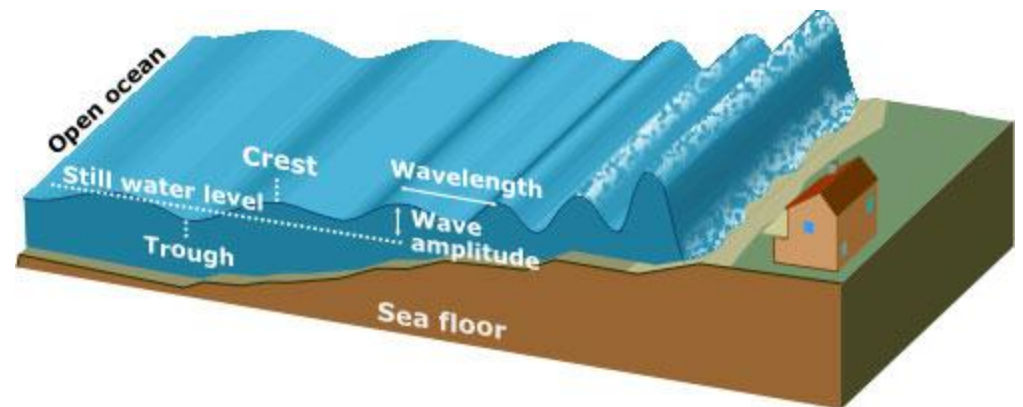
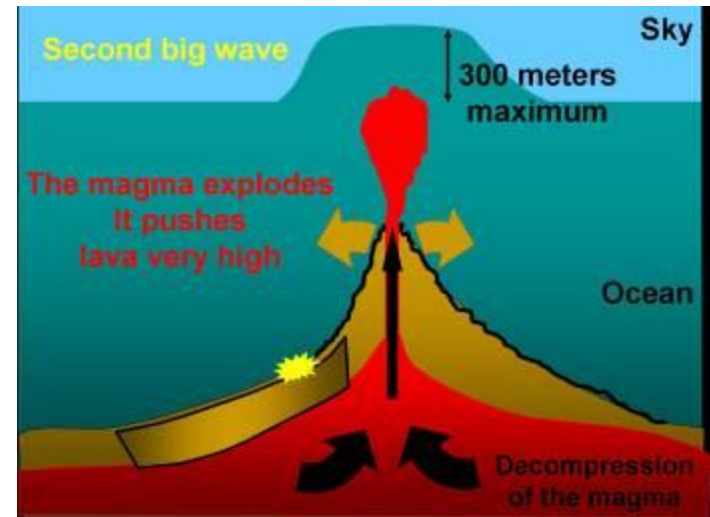
Are volcanoes, earthquakes, and tsunamis related?

- Yes, volcanic eruptions cause earthquakes when they erupt and sometimes earthquakes can cause volcanic eruptions. They both mainly happen by the edge of tectonic plates.



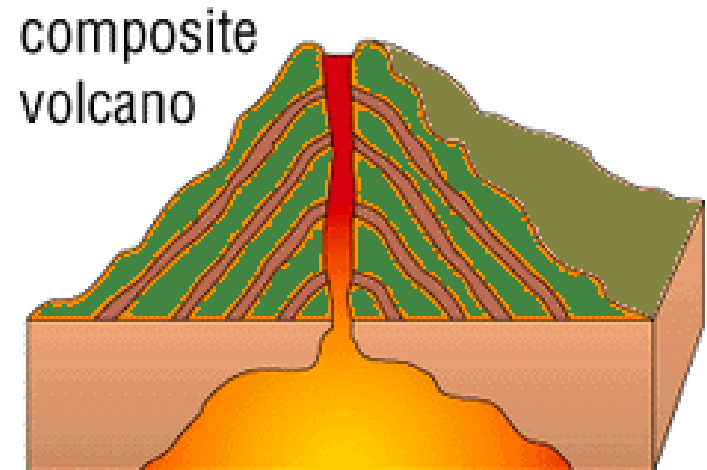
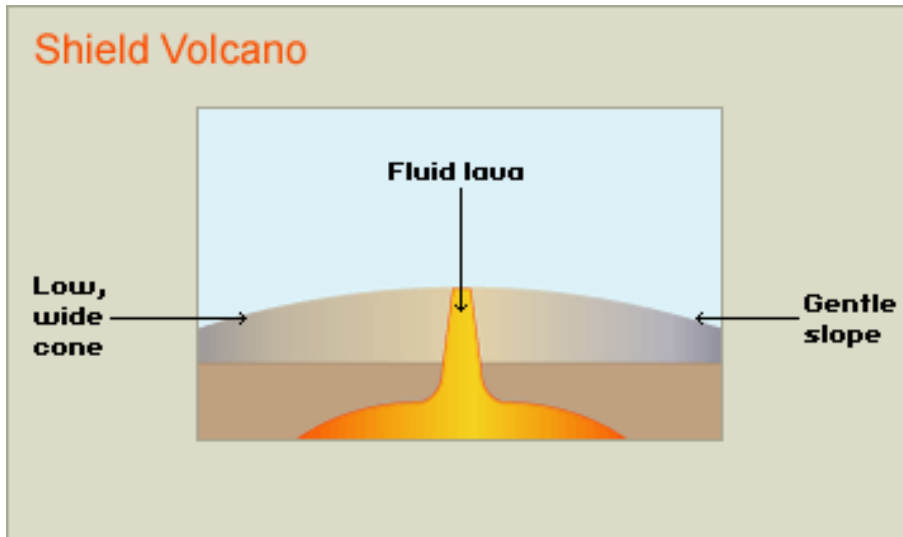
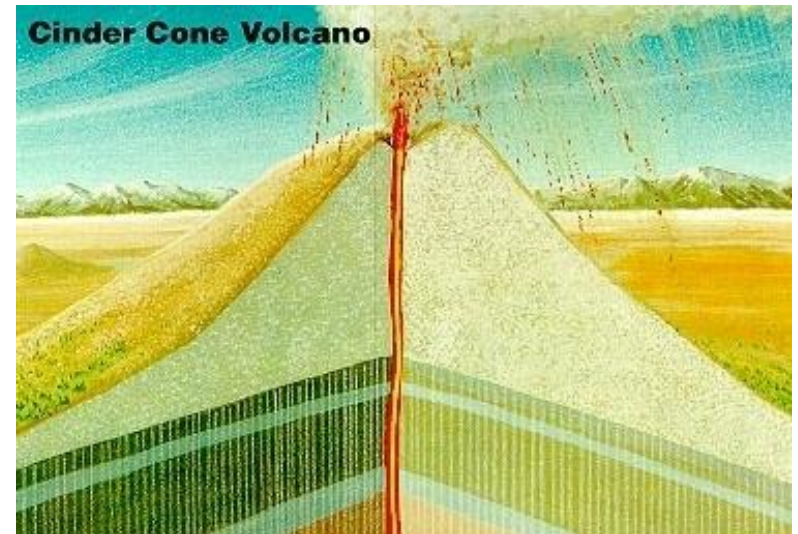
Are volcanoes, earthquakes, and tsunamis related?

- Volcanoes and earthquakes release a lot of energy and can cause the ocean to create monster waves called tsunamis. They can be dangerous if you live right by the ocean.



What are 3 types of volcanoes?

- The 3 types of volcanoes are cinder cone, shield, and composite.



What is a famous composite volcano?

- **Composite volcanoes often form the largest and tallest volcanoes. They are the most explosive and dangerous of the types of volcanoes. A famous composite volcano is Mt. Saint Helens in Washington state. In 1980, it erupted destroying most of the life around it and sending ash across much of the western United States.**

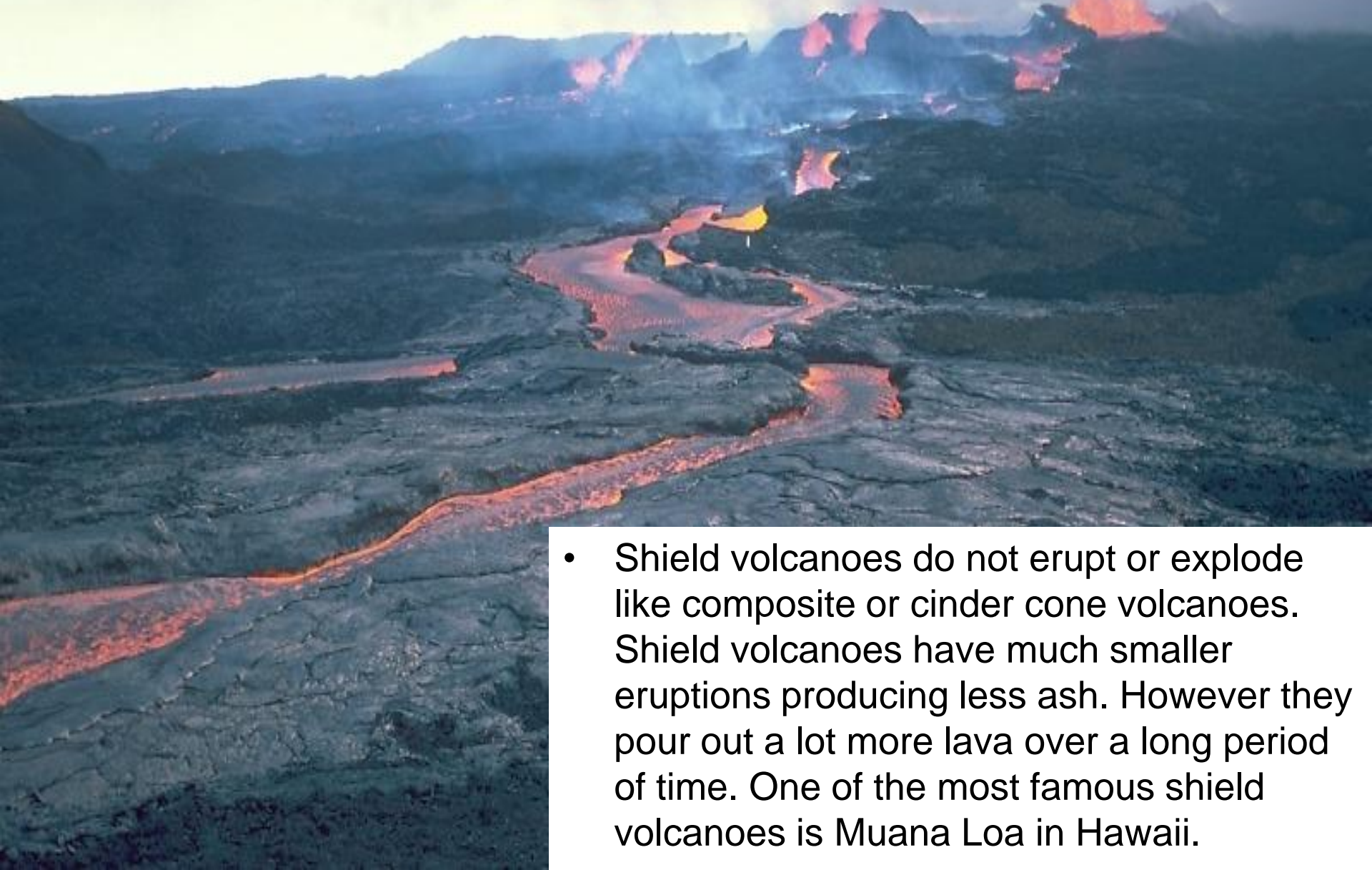


What is a famous cinder cone volcano?

- Cinder cone volcanoes are usually smaller in size than composite volcanoes, and the eruptions are smaller also. They form into steep cone shaped hills. A famous cinder cone volcano is Paricutin in Mexico.



What is a famous shield volcano?



- Shield volcanoes do not erupt or explode like composite or cinder cone volcanoes. Shield volcanoes have much smaller eruptions producing less ash. However they pour out a lot more lava over a long period of time. One of the most famous shield volcanoes is Muana Loa in Hawaii.

What is so dangerous about volcanoes?

- Ash: when you breath it in, it will clog your lungs and make it so you can't breath.

- Flying Rocks: large rocks may be thrown through the air in a big explosion

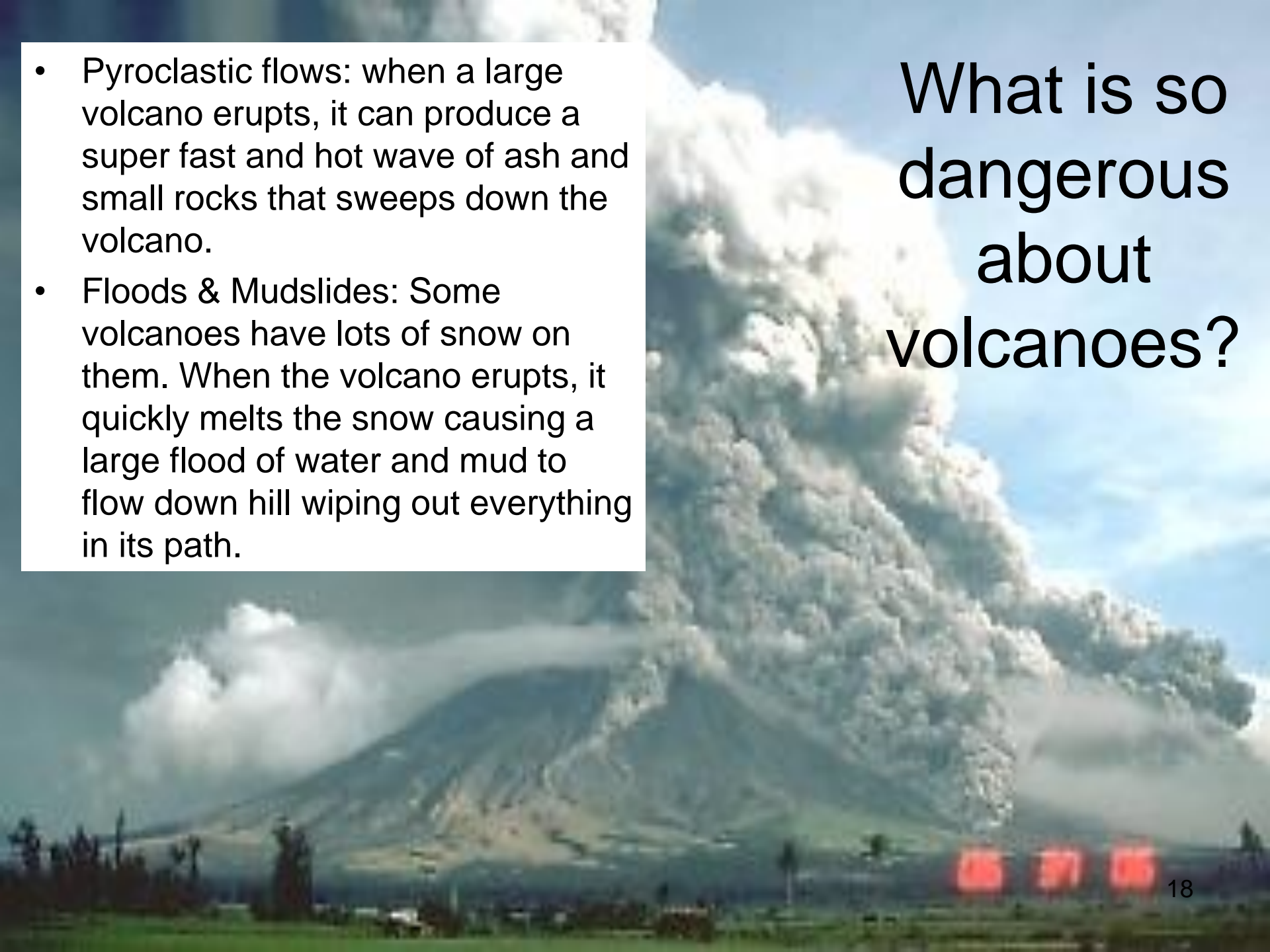
- Poisonous Gases: Many dangerous gases to humans escape from volcanoes like sulfur and carbon dioxide.

Lava: It is incredibly hot and will melt you if you touch it.



- Pyroclastic flows: when a large volcano erupts, it can produce a super fast and hot wave of ash and small rocks that sweeps down the volcano.
- Floods & Mudslides: Some volcanoes have lots of snow on them. When the volcano erupts, it quickly melts the snow causing a large flood of water and mud to flow down hill wiping out everything in its path.

What is so dangerous about volcanoes?



Are volcanoes always active?

- No, sometimes volcanoes are dormant or inactive. They do not erupt for a long periods of time (hundreds or thousands of years).



- However some volcanoes like Mauna Loa stay active and erupt much more often.



Who studies about volcanoes for a living?

People who study volcanoes for a living are called volcanologists.

They take samples of lava, measure the temperature, measure gas that comes from volcanic vents, and measure the shaking of the Earth using a seismograph to study volcanoes.

It is a very dangerous job. But, they help us to better understand volcanoes and predict when they will erupt.