

Volcanoes

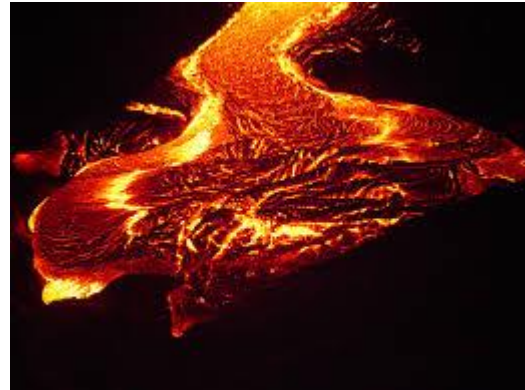
Vocabulary

magma = molten rock under the Earth's crust



Vocabulary

lava = molten rock above the Earth's crust



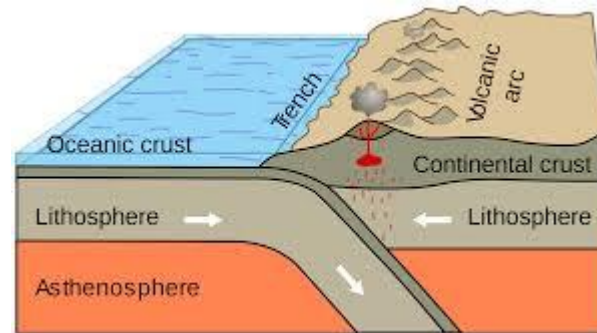
Vocabulary

volcanic ash = pieces of rock



Vocabulary

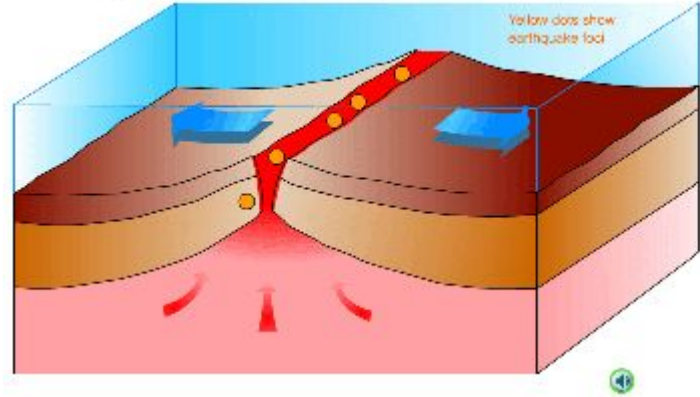
convergent boundaries = plates move together



Vocabulary

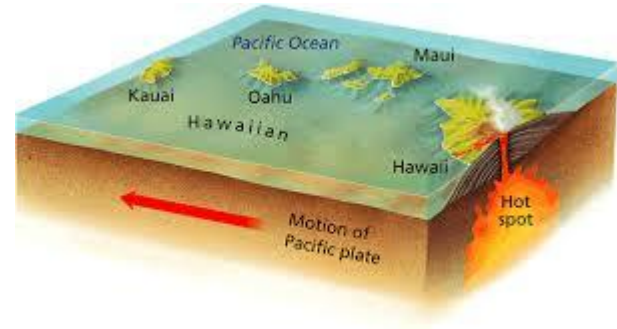
divergent boundaries = plates move apart

Seafloor spreading at a divergent margin



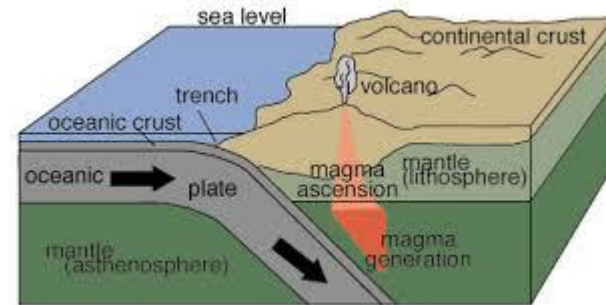
Vocabulary

hot spots = areas heated by magma



Vocabulary

subduction = one plate sinks into the mantle



Volcanoes

Calbuco Eruption in Chile

<https://www.youtube.com/watch?v=7F0Vzt4fZcs>

Lava Meets Ice

<https://www.youtube.com/watch?v=yvSmPqqZB3Q>

Lava grill

<https://www.youtube.com/watch?v=4yO8f-fySnQ>

What happens when....

...you shake a can of soda and then open it?



Magma

Magma is a mixture of molten rock, minerals, and dissolved gases beneath Earth's surface



Nyiragongo Volcano, Democratic Republic of Congo

Lava

Lava is molten rock that has reached Earth's surface



Volcano

A volcano is a mountain or opening in Earth's crust from which lava erupts

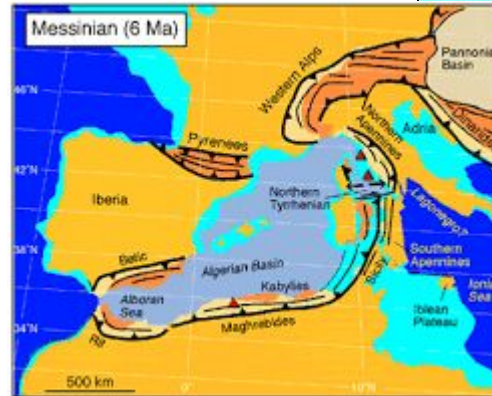
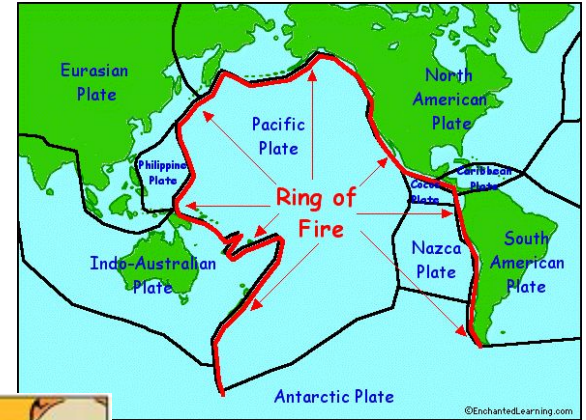


Parícutin in Mexico, 1943

Where do Volcanoes Occur?

Most volcanoes occur at Convergent Boundaries –

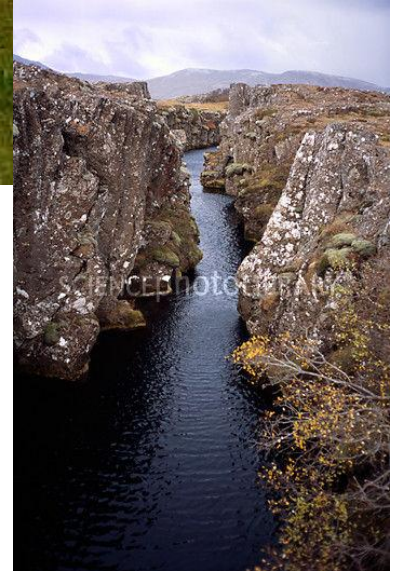
- Ocean plates **subduct** under other plates and **melt** to form **magma**
- Examples: the **Pacific Ring of Fire** and the **Mediterranean Belt**



Where do Volcanoes Occur?

Divergent boundaries -

- As plates move apart, magma is forced upward
- Examples: East Africa Rift Valley, mid-ocean ridges, Iceland

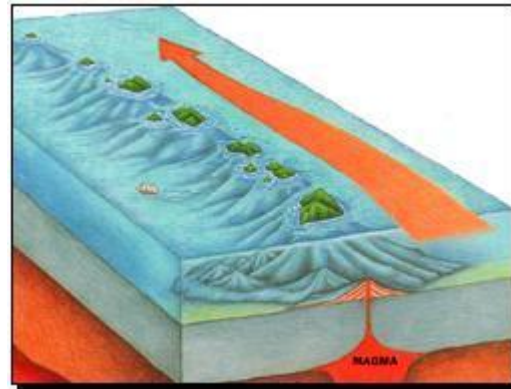
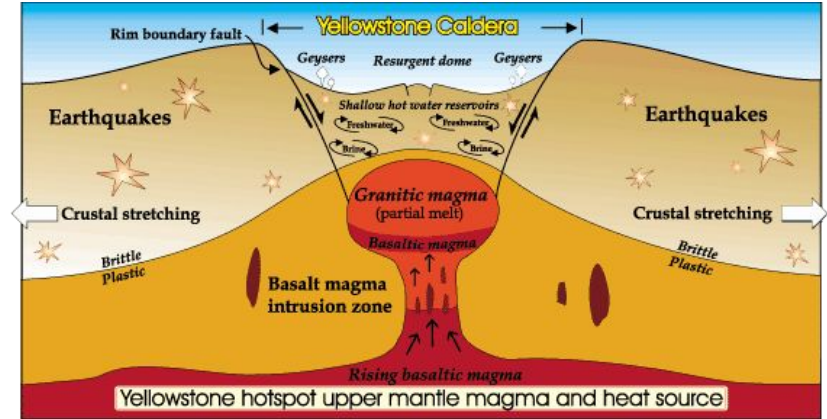


Where do Volcanoes Occur?

Hot Spots – unusually hot regions of Earth's mantle in the center of a plate

- Can cause volcanoes
- Examples: – Hawaii, Yellowstone

*Hawaii formed from a hot spot!



Effects of Volcanoes

Vocabulary

“Geo” = “earth”



Vocabulary

geohazard = “earth hazard”



Vocabulary

lahar = flow of mud



Vocabulary

landslide = ground movement



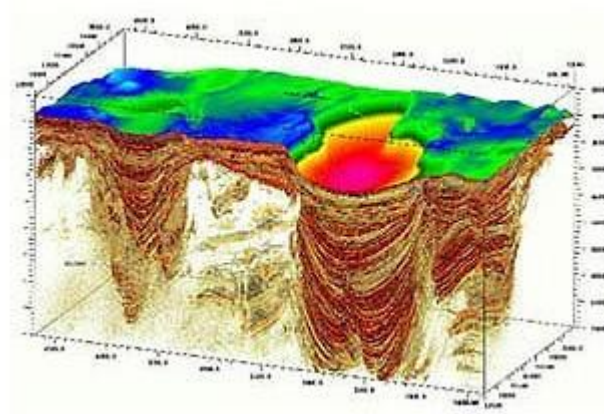
Vocabulary

earthquake = shaking of Earth's surface



Vocabulary

seismic = related to earthquakes



Vocabulary

tsunami = seismic sea wave



Volcanoes

Tsunami Footage

<https://www.youtube.com/watch?v=w3AdFjklR50>

What is a geohazard?

Geohazard: an event related to a geological state with the potential to create widespread damage

Examples:

- Volcanoes
- Earthquakes
- Avalanches
- Landslides
- Floods
- Tsunamis



Effects of volcanic activity

- 1) Pyroclastic Flow
- 2) Lahar
- 3) Earthquake
- 4) Landslide
- 5) Tsunami

Pyroclastic Flow

- A pyroclastic flow is an eruption of smoke, gas, and ash
- Moves 100-150 miles per hour and is over 1500 degrees F.
 - Blocks sunlight and lowers global temperatures.



Pyroclastic Flow in the Philippines/ June 17, 1991

Lahar

- When heat from a volcano eruption melts snow, it creates a **lahar**
 - A lahar is a mixture of **mud** and **debris**



Earthquakes

When magma rises to the surface, it **breaks** the rocks and causes earthquakes.



Landslides

Landslides are caused by volcanoes in two ways...

1. ... a **volcanic earthquake** causes land to slide
2. ... the **volcanic eruption** causes the sides of the volcano to slide



**Slide = deslizarse*

Tsunami

- When the volcanic landslide pushes water in its path, it causes a **tsunami**

