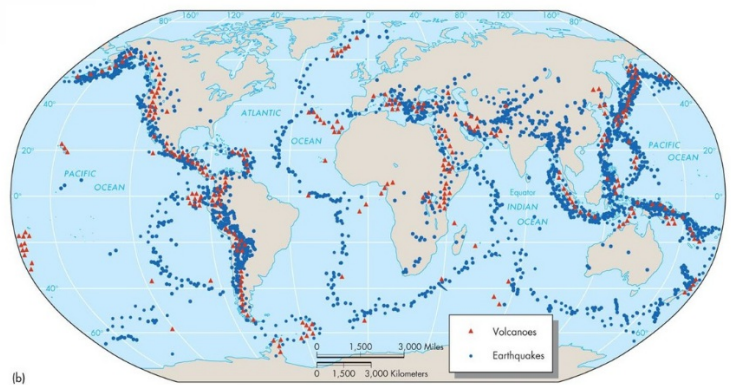
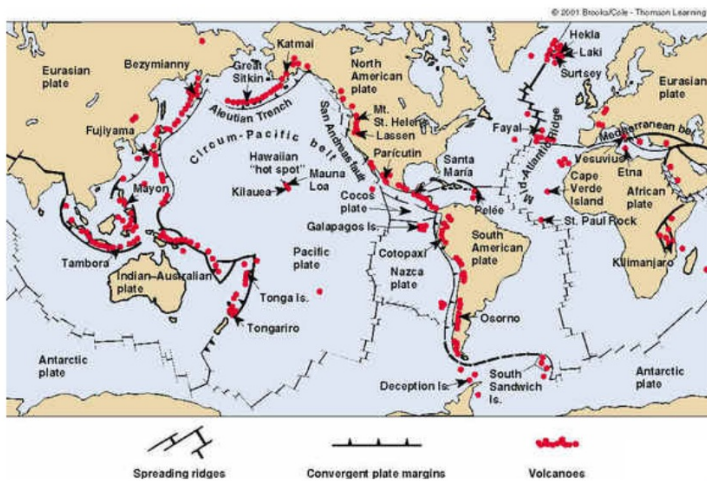


Volcanoes



Volcanoes and Plate Tectonics:

Where Are Volcanoes Found on Earth's Surface?



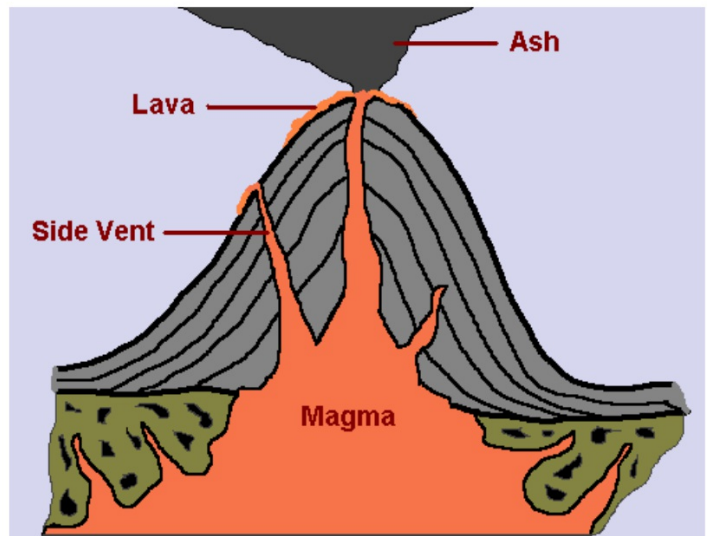
(b)

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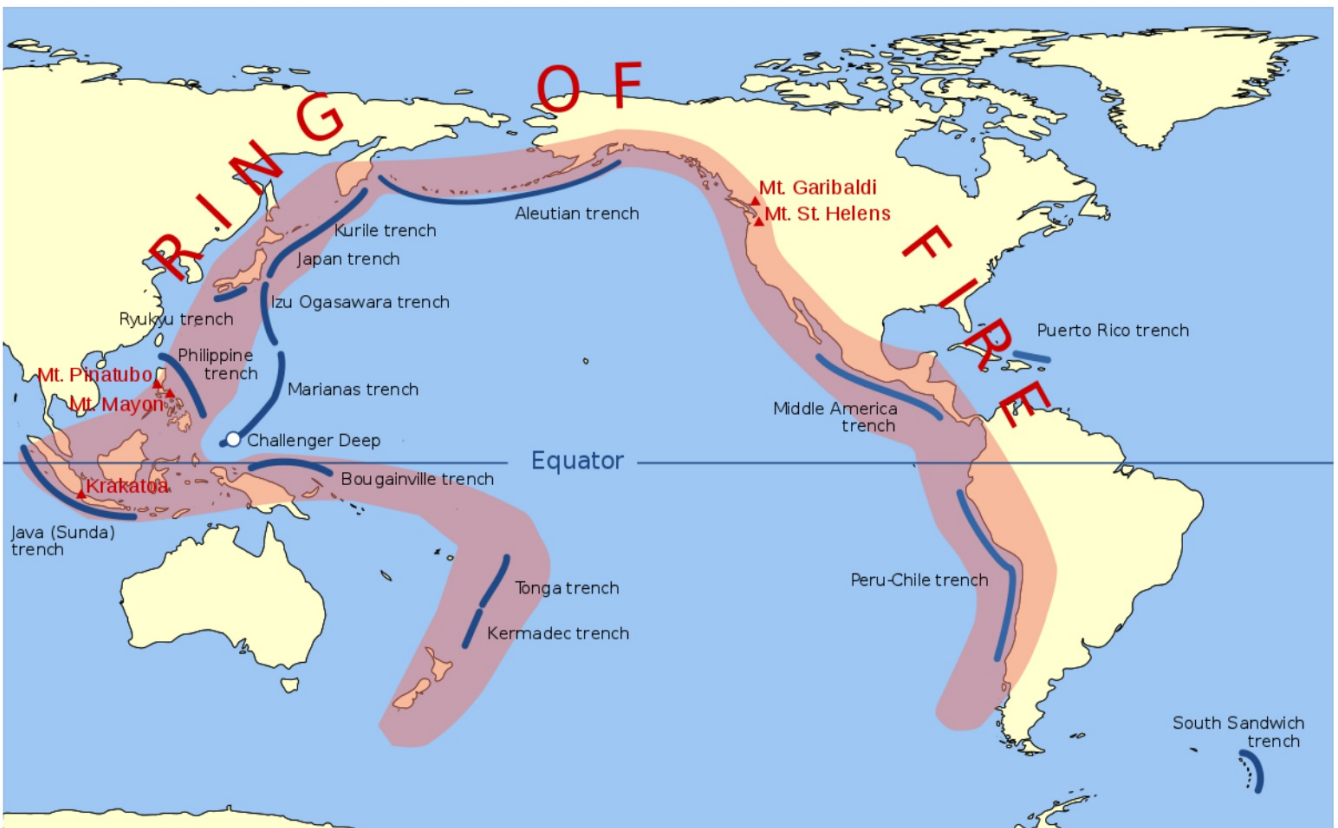
Volcano - Mountain that forms in Earth's crust when molten material, or magma, reaches the surface.

Magma - molten mixture of rock forming substances, gases and water from the mantle.

Lava - When magma reaches the surface.



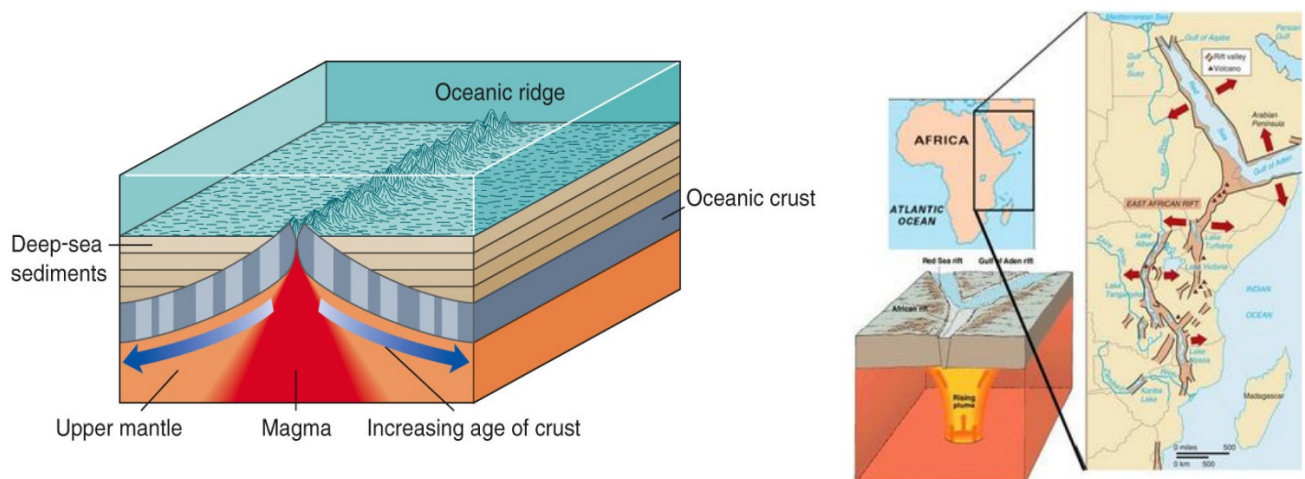
Volcanic belts form along the boundaries of Earth's plates.



Ring of Fire - major belt of volcanoes

Divergent Boundaries

Volcanoes form along the mid-ocean ridges, where two plates move apart.



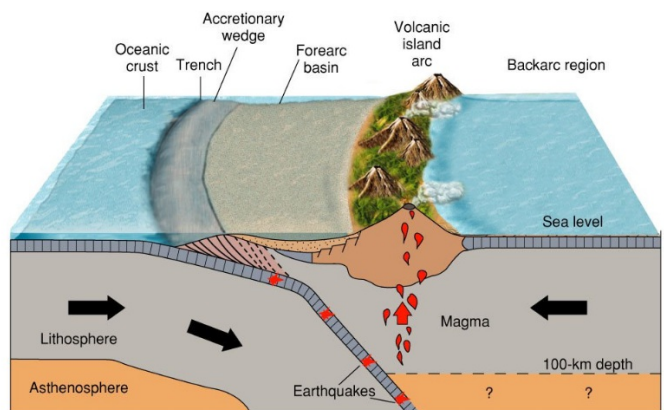
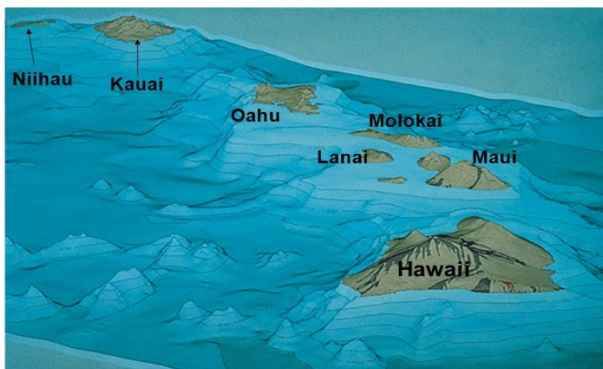
Great Rift Valley in East Africa

Convergent Boundaries

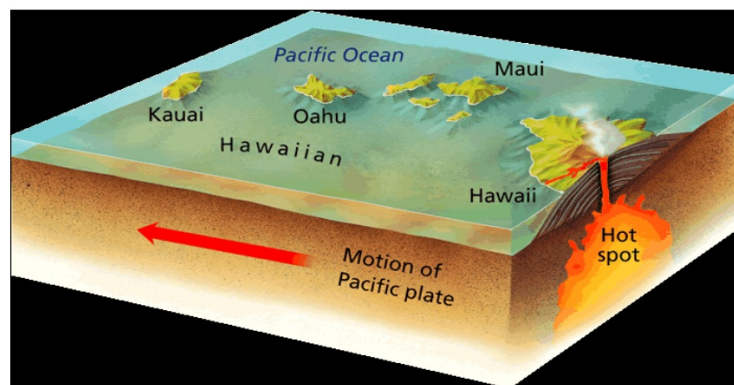
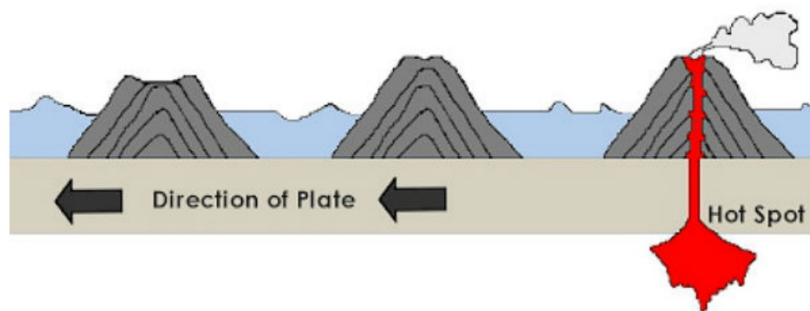
Many volcanoes form near converging plate boundaries, where two oceanic plates collide.

Island Arc

Hawaiian Islands



Hot Spots - area where material from deep within the earth's mantle rises through the crust and melts to form magma.



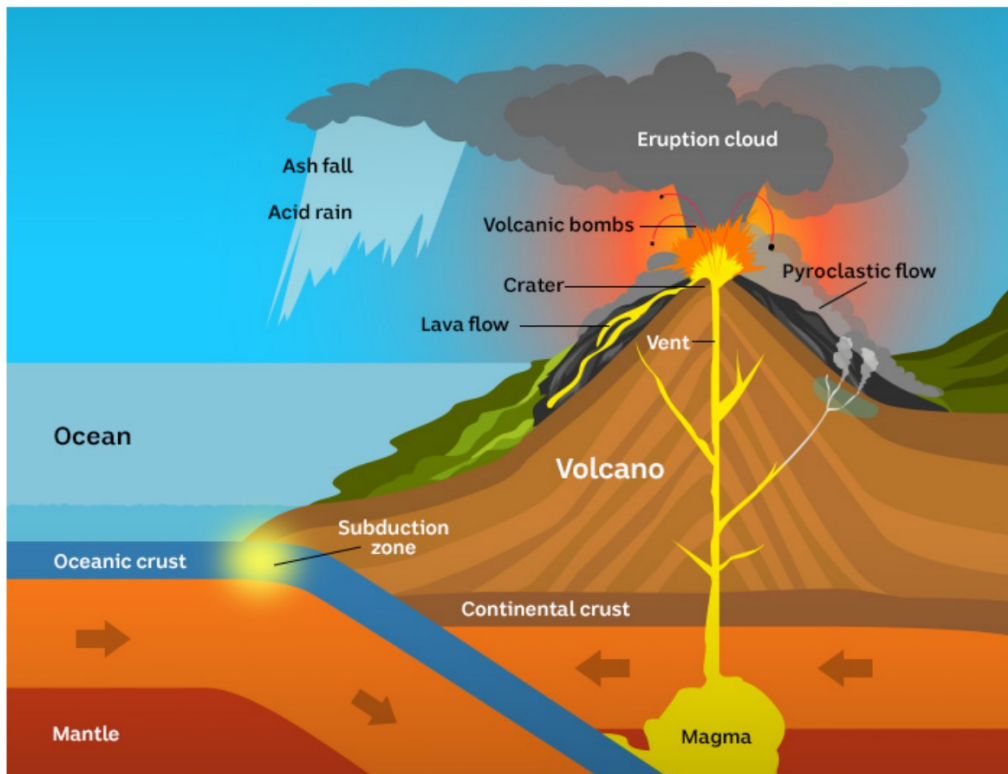
A volcano forms above a hot spot when magma erupts through the crust and reaches the surface.

<https://www.youtube.com/watch?v=Be7o6BYVOzA>

Volcanic Eruptions:

What Happens When a Volcano Erupts?

What Are the Stages of Volcanic Activity?



Inside a Volcano

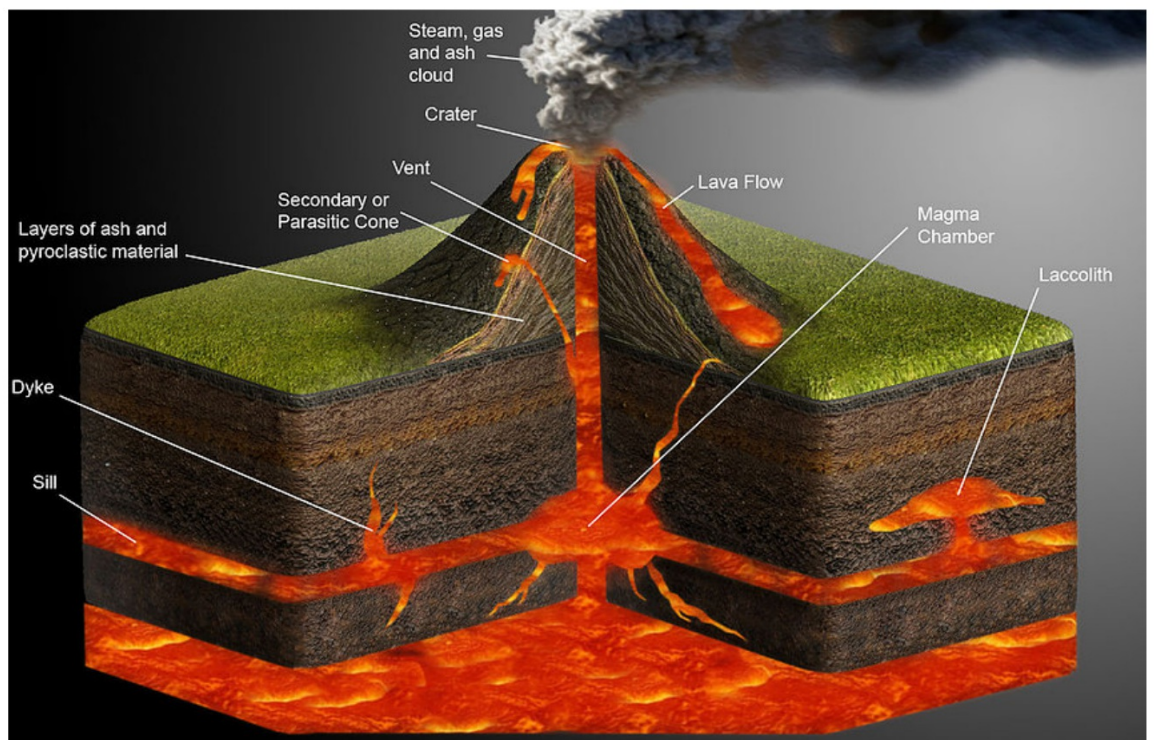
Magma Chamber

Vent (central, side)

Pipe

Lava Flow

Crater



Volcanic Eruptions

When a volcano erupts, the force of the expanding gases pushes magma from the magma chamber through the pipe until it flows or explodes out of the vent.

Quiet Eruption

Explosive Eruption



Pyroclastic Flow - mixture of hot gases, ash, cinders and bombs that flow down the sides of a volcano when it erupts explosively.



Stages of Volcanic Activity

Active - Erupting or signs of eruption in the near future

Dormant - Scientist expect to become active in the future

Extinct - Unlikely ever to erupt again



Volcanic Landforms:

What Landforms Do Lava and Ash Create?

What Landforms Does Magma Create?



Ash



Cinder



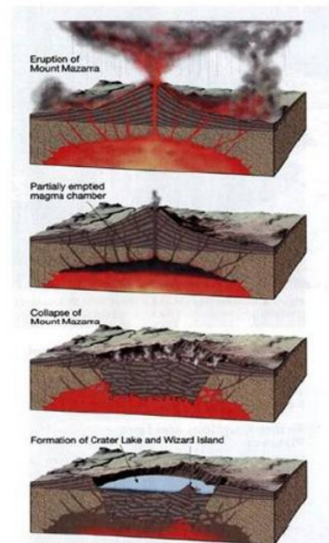
What Landforms Do Lava and Ash Create?

Volcanic eruptions create landforms made of lava, ash, and other materials. These landforms include shield volcanoes, cinder cone volcanoes, composite volcanoes and lava plateaus.

Calderas - huge holes left by the collapse of volcanoes.



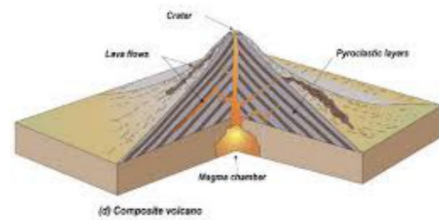
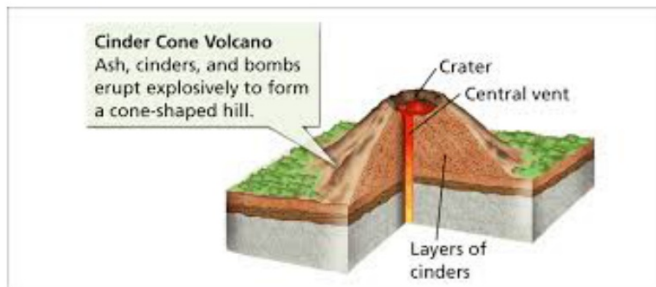
Caldera Formation



Cinder Cone



Composite Volcanoes



Paricutin, Mexico

Fuji, Japan

Shield Volcanoes



Lava Plateau

Fissure Eruptions Form Lava Plateaus

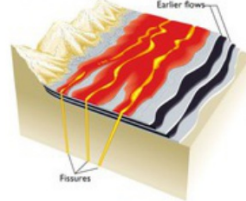
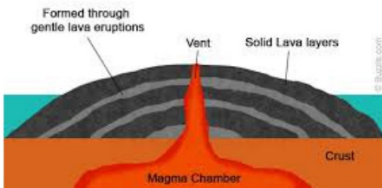


Fig. 5.20



The Anatomy of a Shield Volcano

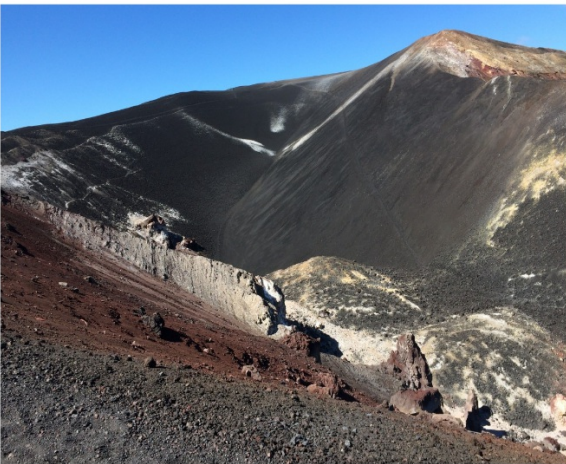


Mauna Loa, Hawaii



Land Features Formed by Lava and Ash

- 1.
- 2.
- 3.
- 4.
- 5.

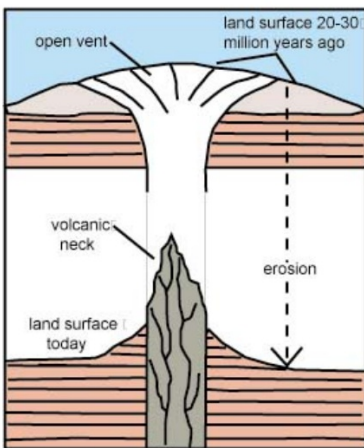


What Landforms Does Magma Create?

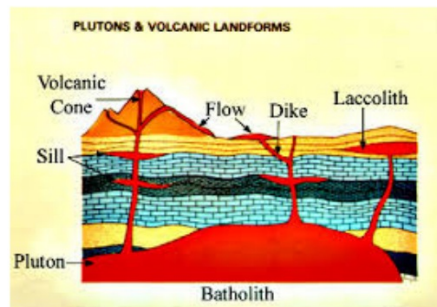
Volcanic Necks



Devils Tower, Wyoming



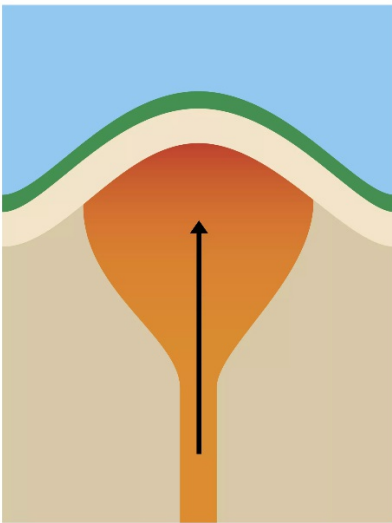
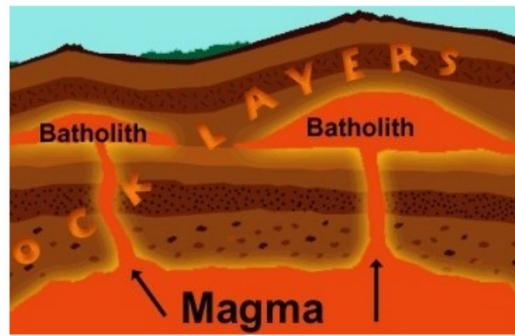
Dikes and Sills



Dome Mountains



Batholiths



Landforms formed by Magma

- 1.
- 2.
- 3.
- 4.

