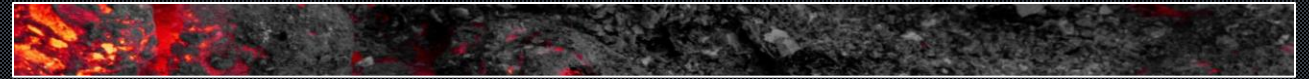




VULCANOLOGY

Physiography



11TH GROUP

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TOPIC

A decorative graphic on the left side of the slide. It features a series of concentric circles in a dark gray color. Overlaid on these circles are several lines that radiate from the center towards the right. Each line is composed of a thin gray line and a thicker yellow line, creating a layered effect. These lines point towards the text items on the right.

Definition of Vulcanology

The Process of Forming a Volcano

Types of Volcanoes

Volcanic Eruption Results

Positive and Negative Impacts of Volcanic Eruptions

Volcanic Eruption Disaster Mitigation

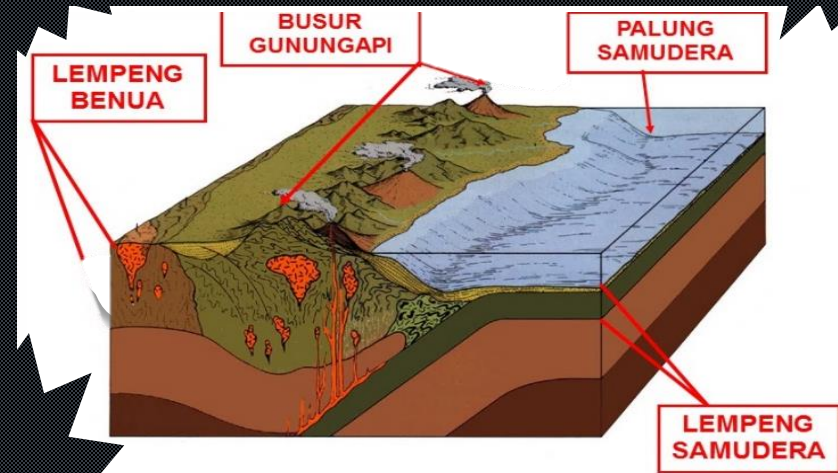
DEFINITION OF VULCANOLOGY

Volcanology is a branch of science in the earth sciences that studies the ins and outs of volcanoes.



THE PROCESS OF FORMING A VOLCANO

Volcanoes are formed due to plate movements that have continued to press since millions of years ago until now, the movement of the earth's crustal plates facilitates the emergence of a bulge from the earth's surface and the meeting between the plates also gives rise to four different volcanic arcs as in the illustration on the side:

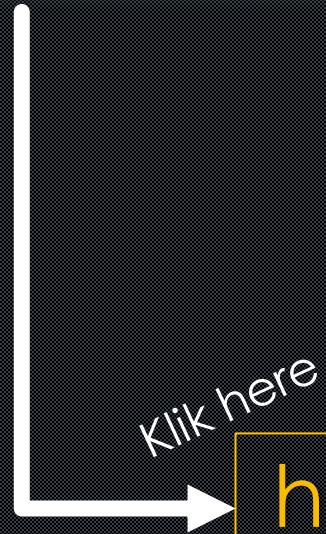


The movement of the earth's crust plates is the beginning of the process of forming volcanoes with the following links:

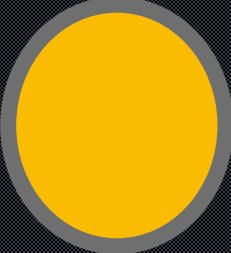
- 1. The expansion of the continental crust**
As a result, it allows magma to move to the surface and then forms a volcano arc in the middle of the ocean.
- 2. Collisions between crusts**
As a result, there was rock smelting and rock melting.
- 3. The continental crust is moving away from each other horizontally**
As a result, it becomes a path for molten rock or magma to the surface.
- 4. Depletion of the oceanic crust**
As a result, it provides an opportunity for magma to break through to the ocean floor.



For more details, let's watch a video that explains the formation of the following volcanoes :



<https://bit.ly/Vulcanology11>



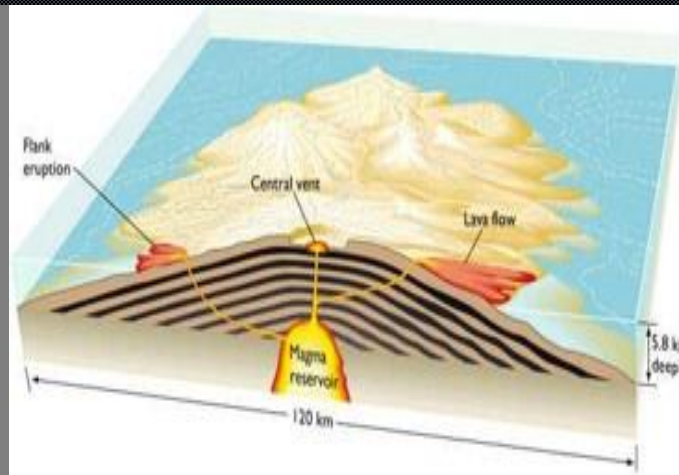
TYPES OF VOLCANOES



Rekahan (*Fissure*)

A type of volcano that has craters in the form of straight lines that form along faults in the earth's crust

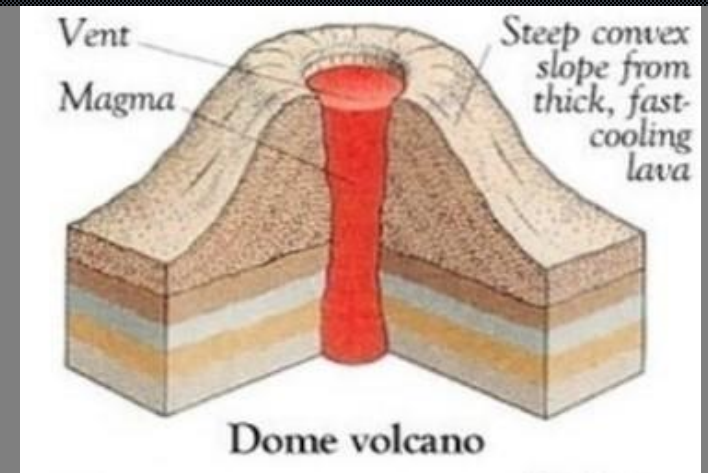
the example is :
Mount Laki in Iceland



Perisai (*Shield*)

A type of volcano similar in shape to a wide shield with a few peaks that were not as high as the shield placed on the ground.

the example is :
Mount Kilauea in Hawaii

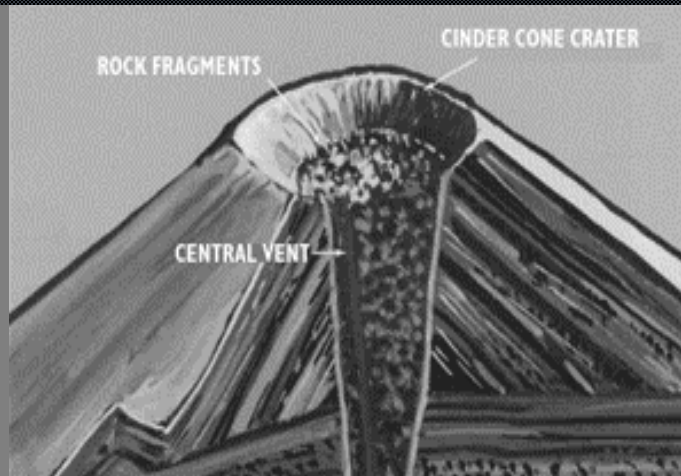


Kubah Lava (*Dome*)

A mound-shaped bulge resulting from viscous lava from the volcano.

the example is :
Mount Pelee in France

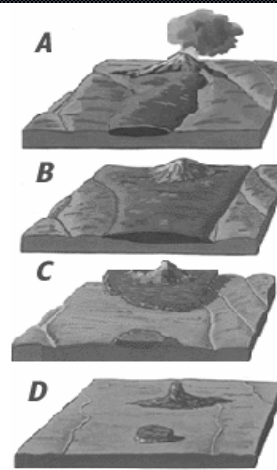
TYPES OF VOLCANOES



Cinder Cone

Volcanoes that are cone-shaped and formed due to volcanic eruption material which is a mixture of effusive and explosive eruptions

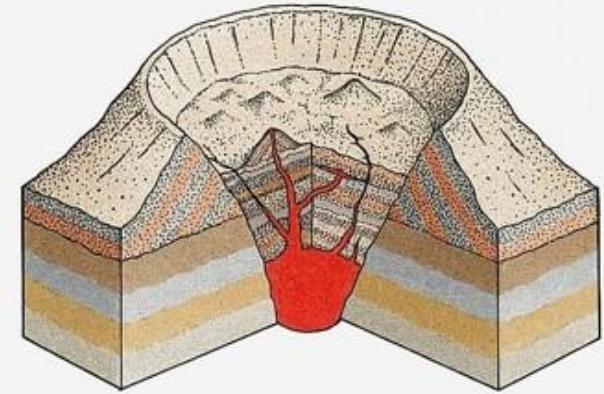
the example is :
Mount Paricutin in Mexico



Komposit/Stratovolcano

Volcano built up by many layers (strata) of hardened lava and tephra.

the example is :
Mount Fuji in Japan



Caldera

Caldera is a volcanic feature that is formed from the fall of land after volcanic eruption.

the example is :
Mount Toba in Indonesia

VOLCANIC ERUPTION RESULTS

ash rain

It is, very fine material that is ejected into the air during an eruption

Lahar

Lahar is lava that has been mixed with rock, water and other materials

2

3

4

Hot Clouds

It is, the resulting eruption that flowed like a roll of clouds.

Volcanic Gas

Gas released by a volcano when it erupts

1

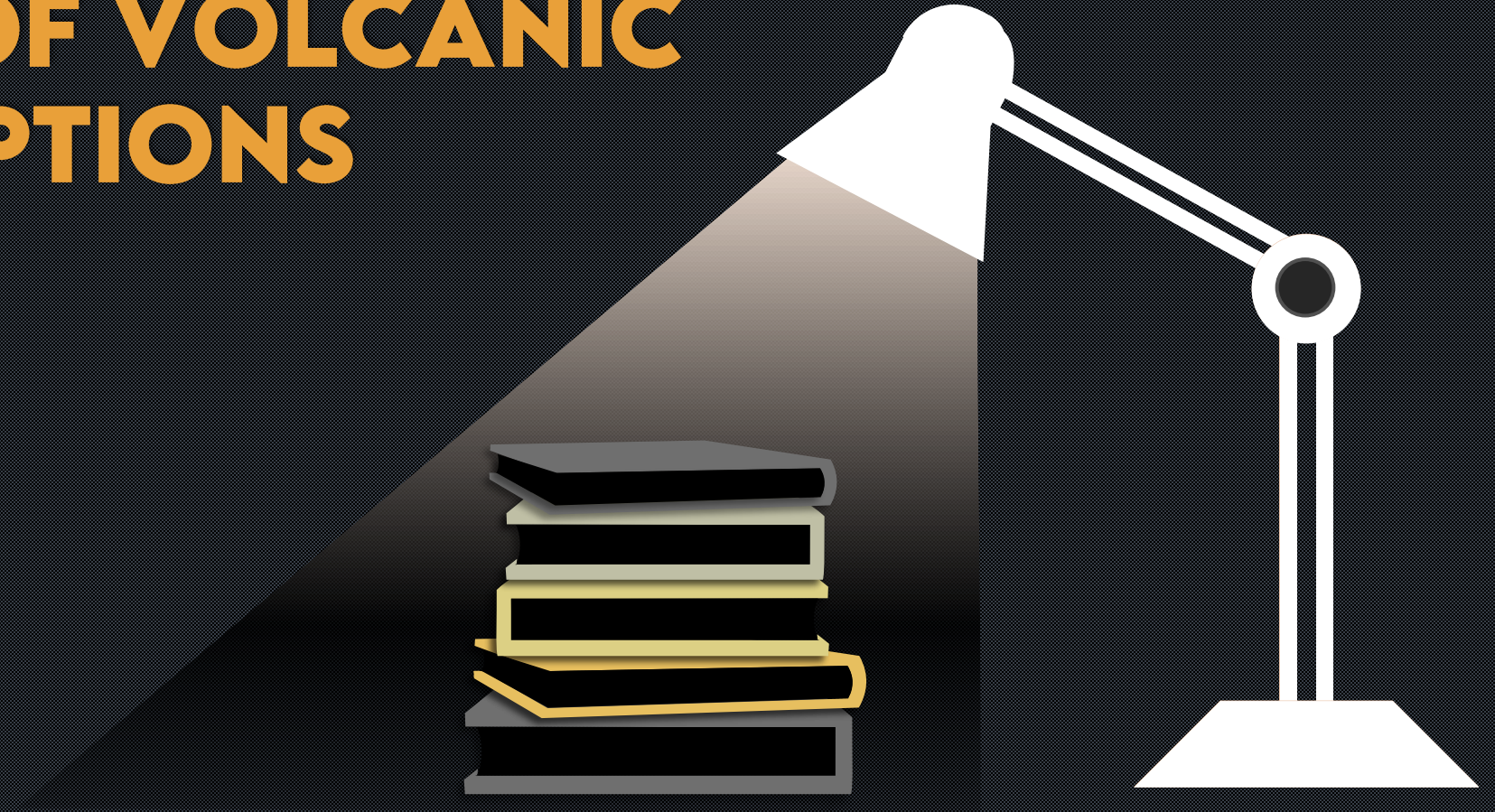
Lava

Lava is a liquid solution of magma flowing towards the outside and in the bowels of the earth through the crater of the volcano

5



POSITIVE AND NEGATIVE IMPACTS OF VOLCANIC ERUPTIONS



POSITIVE IMPACT

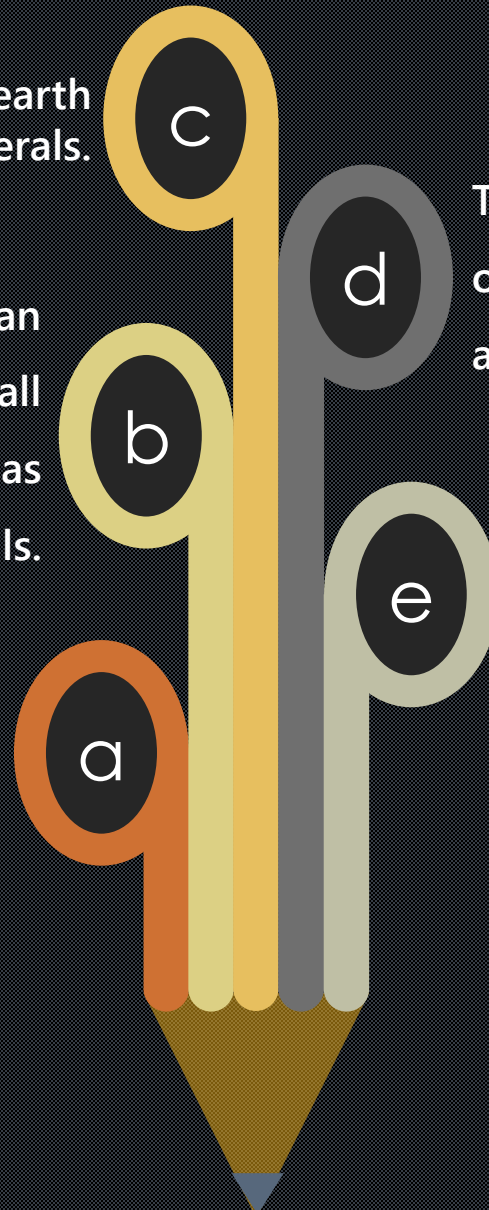
Magma that reaches the surface of the earth carries a lot of metal minerals and other minerals.

The material released by the volcano during an eruption is in the form of sand, gravel, large stones, all of which are industrial minerals that can be used as building materials.

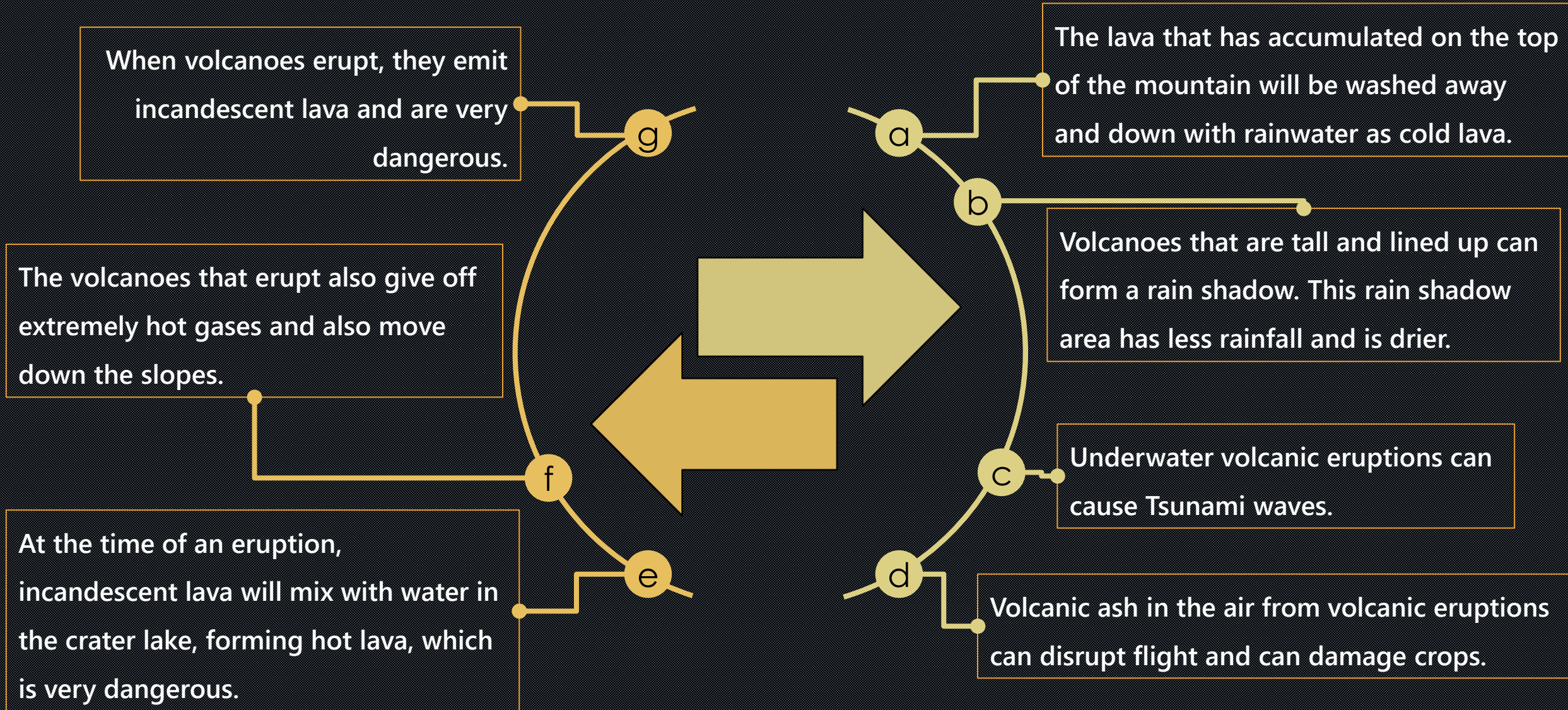
Volcanic ash released during a volcanic eruption (eruption) can fertilize farmland because many contain plant nutrients.

The existence of high volcanoes causes orographic rains, so that the area becomes an area that has a lot of rain.

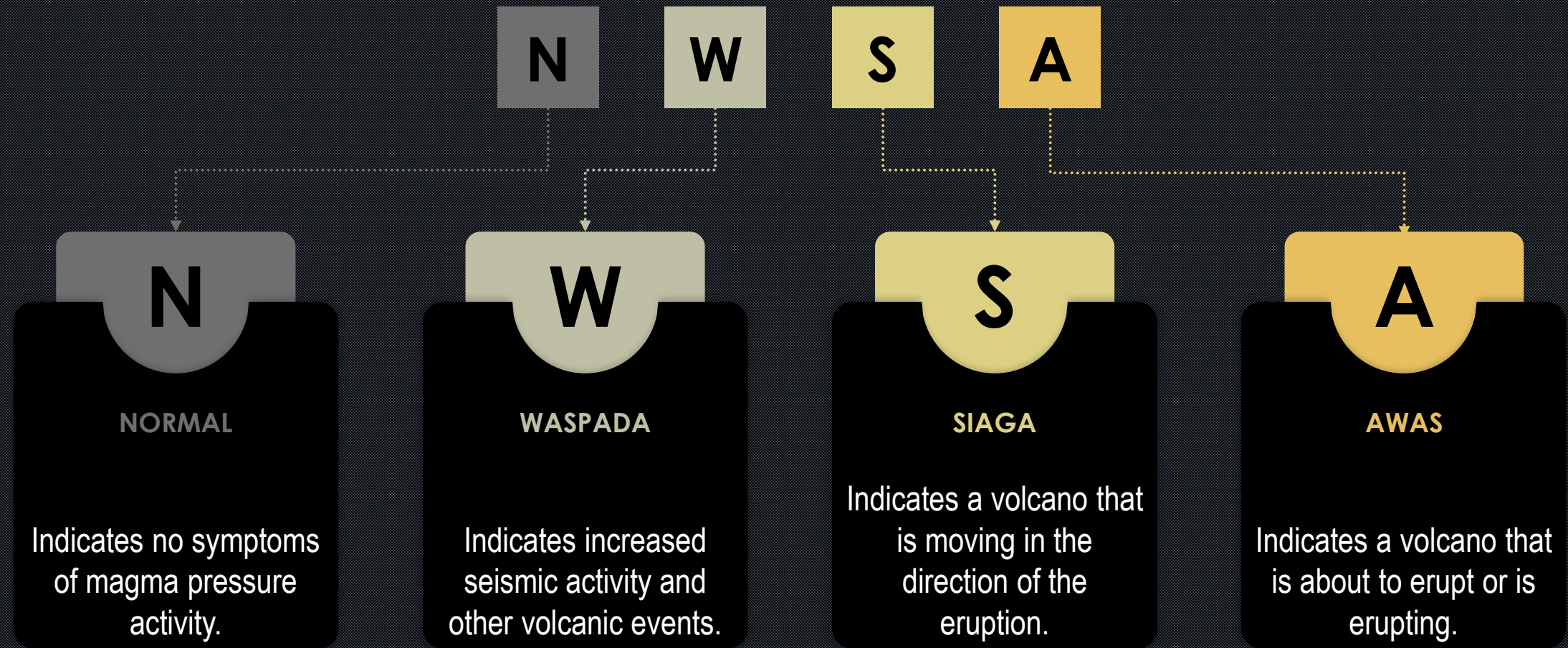
Areas with mountains of fire are usually high areas, so that they can be used as forest areas, plantations, and tourism areas.



NEGATIVE IMPACT



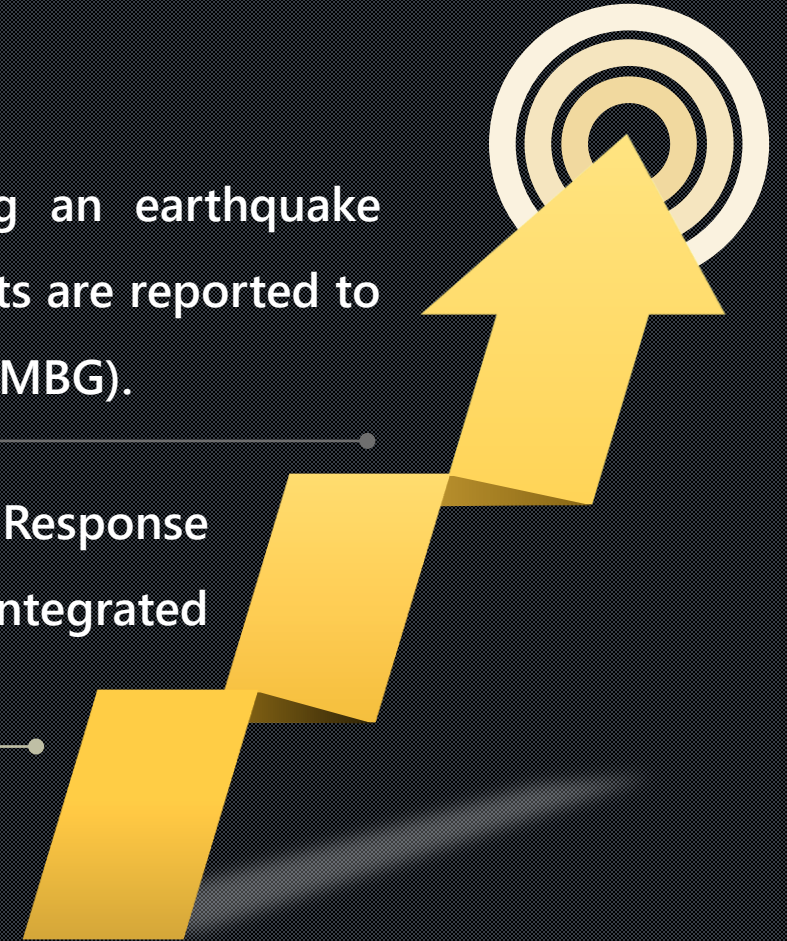
VOLCANO ERUPTION STATUS



VOLCANIC ERUPTION DISASTER MITIGATION

Monitoring, volcanic activity is monitored for 24 hours using an earthquake recording device (seismograph). Daily data from monitoring results are reported to the Center for Volcanology and Geological Disaster Mitigation (PVMBG).

Evaluating reports and data (PVMBG), forming an Emergency Response team, sending a team to the location, and conducting an integrated inspection.



VOLCANIC ERUPTION DISASTER MITIGATION

Investigations volcano using various methods of geoscience.

Socialization to local governments and communities, especially those who live around volcanoes. The form of socialization can be in the form of sending information to the local government and direct counseling to the community.



THANK YOU!



lets go to discuss!