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Earthquakes

- All natural earthquakes occur in the lithosphere.
- Seismic waves studies offer a full picture of the layered interior.
- An earthquake is, simply put, shaking of the earth's crust.
- It is caused due to the energy release which triggers waves that travel in all directions
- The emanation of the energy occurs along a fault.
- A fault is a sharp break in the crustal rocks.

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Earthquake waves are of two types

- P-waves are also known as the Primary waves. They are the first waves to arrive at the surface.
- S-waves arrive after some time after the happening of Earthquake and they are called secondary waves.
- All earthquakes are different in their intensity and magnitude. The instrument for the measurements of vibrations is known as seismograph.
- Richter is used to measure the magnitude of the earthquake.

Homework

Earthquake Cross-Section

Tectonic plates

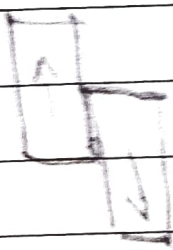
The 7 major tectonic plates are:-

- The Pacific plate
- The North American Plate
- The South American Plate
- The Eurasian Plate
- The African Plate
- The Indo Australian plate
- The Antarctic Plate

Tectonic Plates movement

Convergent plate movement

Divergent plate movement



Transform plate movement

How do earthquakes happen?

Ans- Sudden movements deep beneath the surface, like rupture of rocks and the collision of tectonic plates, release an huge amount of energy in the form of seismic waves or shock waves. These waves travel to the surface and cause earthquakes.

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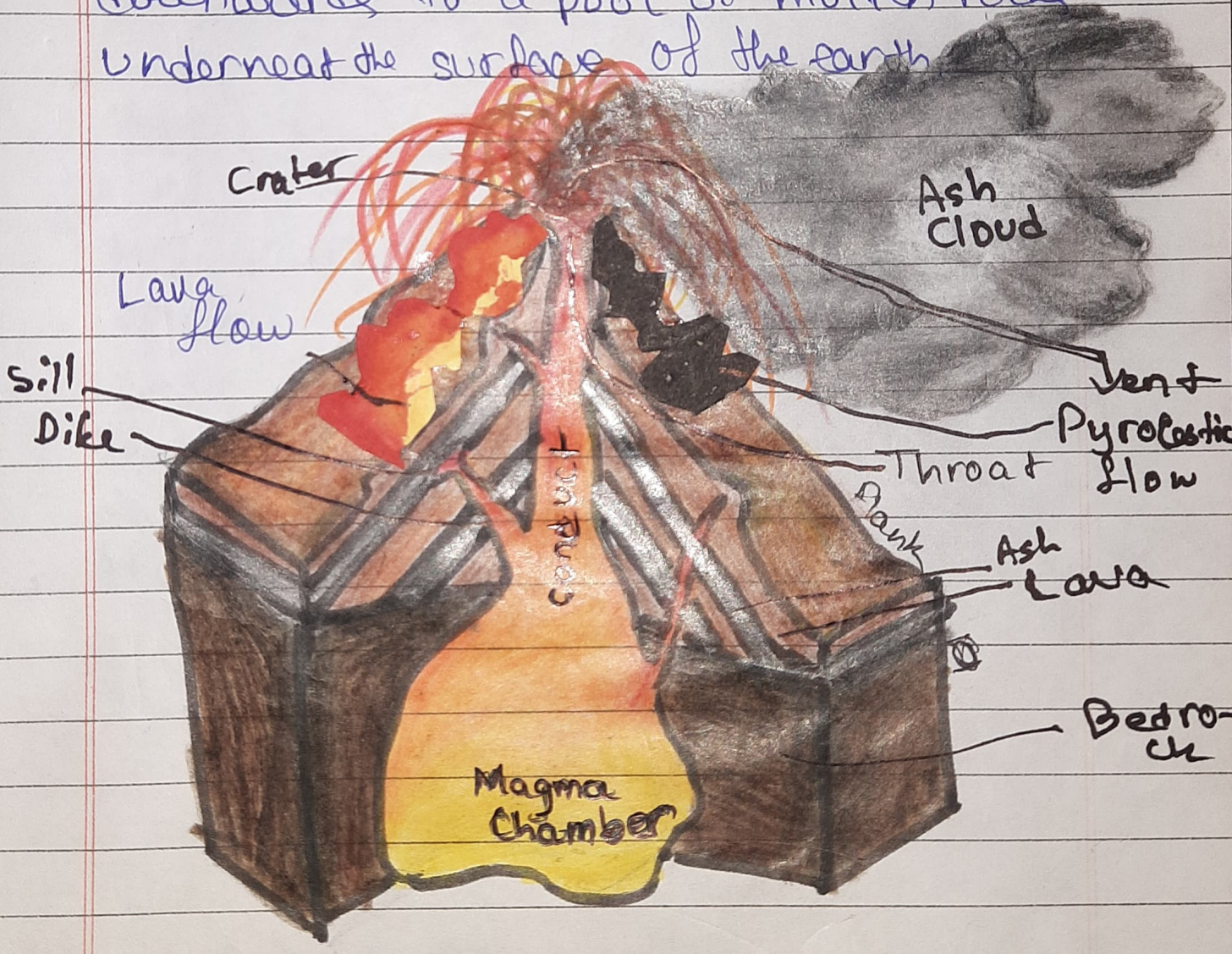
Volcano

What are volcanoes?

A volcano is a landform, a mountain, where molten rocks erupt through the surface of the planet. The volcano mountain opens downwards to a pool of molten rocks underneat the surface of the earth.



volcanic eruption

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Pressure builds up in the earth's crust and this is the reason why eruptions occur. Gases and igneous rocks shoot up and splash over and fill the air with lava fragments. The volcano eruption can cause hot ash, lateral blasts and lava flow, mudslides, and more.

Formation of Volcanoes:

A volcano mountain is formed by the surface eruption of magma from within the earth's upper mantle. The magma that erupts to the surface and forms a lava flow that deposits ash. As the volcano continues to erupt, a new layer of lava is added to the surface accumulating to form a mountain.

Different stages of Volcanoes:

They tend to be conical although there are a variety of forms, depending upon:

- The nature of the material erupted
- The type of eruption
- The amount of change since in eruption.

Volcanoes are categorised into 3 main categories:

- **Active volcanoes:** A volcano will be classified as an active volcano if at the present time it is expected to erupt or is erupting already.

- Dormant Volcanoes: The classification of volcanoes which is called dormant would be a volcano that is not erupting or predicated to erupt in the near future.
- Extinct Volcanoes: An extinct volcano is a volcano that no one expects will ever have another eruption.

Worksheet

1. Which of the following volcano hazards is made up of rocky particles about the size of a grain of sand?

a) Volcanic bombs
b) Volcanic dusts
c) Volcanic ash

2. Which type of rock would you expect to form from magma?

a) Igneous rocks
b) Sedimentary rock
c) Metamorphic rock

3. Before the lava reaches the surface, the molten material is called magma.

a) rock
b) magma
c) volcanic ash

4. The Ring of Fire refers to the volcanoes that are located around the borders of the Pacific ocean surrounding continents
a) located in Africa
b) Located at hot spots
c) Located around the borders of the Pacific Ocean and surrounding continents

5. What is the most abundant gas associated with volcanic activity?
a) Chlorine
b) Sulphur oxide
c) Carbon dioxide

6. A volcano is
a) A mountain or hill formed around a crack in the earth's crust.
b) A mountain with a jagged peak
c) A mountain or hill with a flat top

7. The hot rock that flows down the sides of the volcano is
a) lava
b) magma
c) dormant

8. The opening created in top of a volcano after a volcanic eruption is a crater.
a) crater
b) chamber
c) vent

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9. Volcanoes erupt because of
a) the pressure in the earth forcing the hot rock through a crack
b) an earthquake happening nearby
c) the earth getting overheated.