

Ch.13 Volcanoes, Earthquakes, and Tidal waves.

New words

1. volcanoes
2. crater
3. frequency
4. eruption
5. dormant
6. extinct
7. tremor
8. focus
9. epicentre
10. seismograph
11. seismologist
12. gigantic
13. harbour

Define

1. Focus: The point under the ground where the earthquake begins is called the focus.
2. Epicentre: The spot corresponding to the focus on the Earth's surface is called the epicentre.
3. Seismograph: An instrument used to measure and record the intensity, direction and duration of earthquakes is called seismograph.

* Answer the following questions.

1. What are volcanoes?
→ Cracks in the Earth's crust out of which molten magma comes out is called a volcano.

2. How do volcanoes erupt? Name three types of volcanoes.

→ Volcanoes erupt when hot, melted rock called magma builds up pressure deep underground and pushes its way through weak spots in Earth's surface. Magma burst out of crater, bringing along with it hot gases, dust and ashes.

- The three types of volcanoes are - active, dormant and extinct volcanoes.

3. What is magma? How is it different from lava?

→ Very hot, liquid rock inside the Earth is called magma. When magma reaches the Earth's surface it is called lava.

4. What is an earthquake? How do we measure its intensity?

→ - An earthquake is a sudden movement of a part of the Earth's surface.

- The intensity of an earthquake can be determined from the recording made by a seismograph using a scale known as Richter Scale.

5. What is tidal wave? How is it caused?

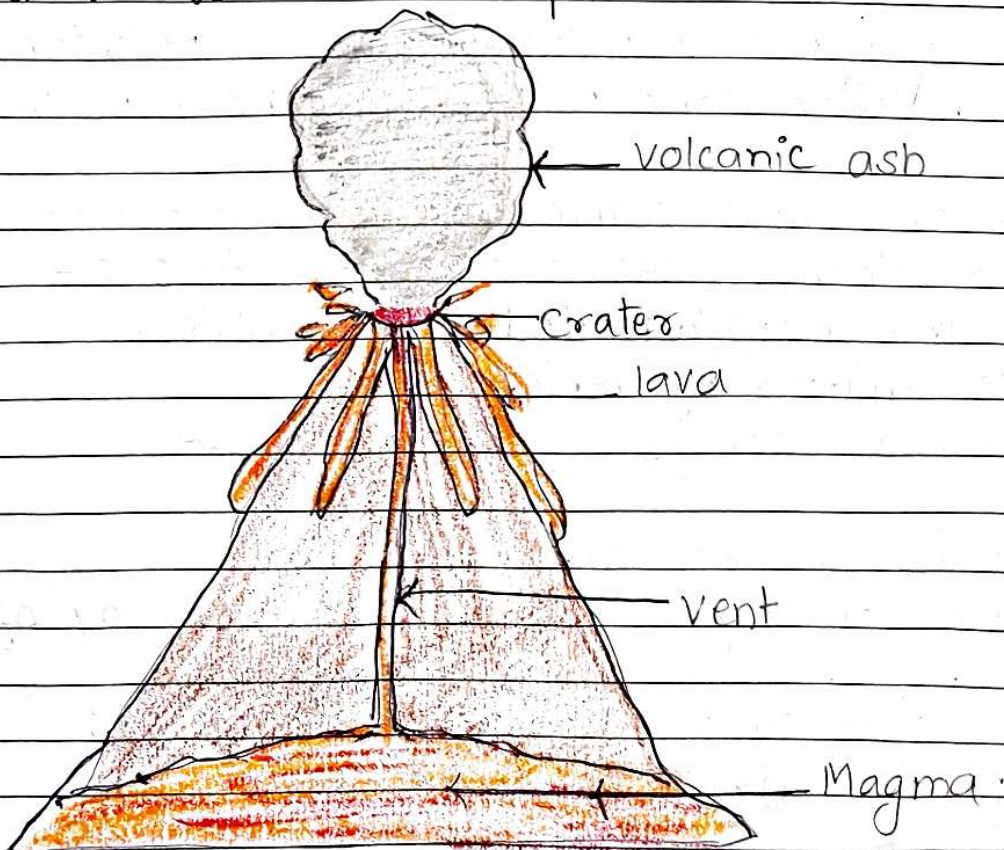
- A tidal wave is the periodic rise and fall of sea level.
- It is caused by the gravitational forces acting between the Sun, moon and the Earth.

6. What is a tsunami? What happens in a tsunami?

- A tsunami is a massive ocean waves caused by undersea earthquakes, volcanic eruption and landslides.

- In a tsunami, large amounts of water move at a great speed and as the waves reach the land, they swell up into gigantic waves. The water level at sea, as seen from land appears to rise considerably.

Diagram: Volcanic eruption



Tsunami is a Japanese word meaning 'harbour wave'. Japan is the most tsunami-prone area of the world. The tsunami in 2004 was caused by an earthquake in the Indian Ocean. A lot of people in the coastal areas of Tamil Nadu and Kerala died in this disaster. It also devastated the Andaman and Nicobar islands and the islands of Indonesia. Sri Lanka was also affected.



Volcano

Cracks in the Earth's crust out of which molten magma comes out is called a volcano.

Earthquake

A sudden movement of a part of the Earth's surface is called earthquake.

Focus

The point under the ground where the earthquake begins is called the focus.

Epicentre

The spot corresponding to the focus on the Earth's surface is called the epicentre.

Seismograph

An instrument used to measure and record the intensity, direction, and duration of earthquakes is called seismograph.

Richter scale

A scale used to determine the intensity of an earthquake from the recording made by a seismograph is called Richter scale.

Volcanoes may be active, dormant, or extinct.

Earthquakes are caused by severe shock waves that travel through the solid rocks from the Earth's crust to the surface.

Earthquakes can also happen under the sea.

The strength of an earthquake is determined by using an instrument called a seismograph.

Tsunami is caused by undersea earthquakes, volcanic eruptions, and landslides.

Exercises

UNDERSTAND



Multiple type questions

1. Fill in the blanks with the correct words.

1. A _____ (seismograph/seismometer) is used to measure the intensity of an earthquake.
2. Molten rock that has come out of an opening in the earth's crust is called _____ (magma/lava).



3. The periodic rise and fall of sea level caused by the gravitational forces acting between the sun, moon, and the Earth is called a _____ (tsunami/tidal wave).
4. The intensity of an earthquake can be determined using the _____ (Richter/Richard) scale.
5. Violent shaking movements caused by shifting of rocks is called _____ (tidal/shock) waves.

II. Write T for the true and F for the false statement.

1. The solidification of magma causes the formation of rocks. T
2. All volcanoes remain active all the time. F
3. The Emperor Seamount chain in the Pacific Ocean is a dormant volcano. F
4. An earthquake can lead to fires. T
5. An earthquake measuring 2 on the Richter scale is considered to be massive. F

III. Choose the correct option.

1. Which of these comes out of a volcano?
 - a. Vent
 - b. Crater
 - c. Magma
 - d. Tidal waves
2. Which of these is not a type of volcano?
 - a. Active
 - b. Molten
 - c. Dormant
 - d. Extinct
3. Which of these are active volcanoes?
 - a. Mount Vesuvius
 - b. Mount Erebus
 - c. Mount Fuji
 - d. All of these
4. What are the scientists who study earthquakes called?
 - a. Seismologists
 - b. Seismographs
 - c. Astronomers
 - d. Earthquakers
5. What is the point under the ground where the earthquake begins known as?
 - a. Focus
 - b. Epicentre
 - c. Central point
 - d. Focal point
6. Which of these instruments is used to measure the intensity of an earthquake?
 - a. Stethoscope
 - b. Barometer
 - c. Weathercock
 - d. Seismograph
7. Which of these words mean the same as 'tsunami'?
 - a. Coastal waves
 - b. Sea waves
 - c. Harbour waves
 - d. Gigantic waves
8. Which of these is a cause for tsunamis?
 - a. The gravitational pull of the sun
 - b. Heavy rainfall
 - c. Severe storm over the sea
 - d. An undersea earthquake

Match the columns.

Column A

1. Vent
2. Andaman Islands
3. Emperor Seamount
4. Richter scale
5. Tidal wave

1-e
2-a
3-d
4-b
5-c

Column B

- a. Dormant volcano
- b. Earthquake
- c. Gravitational forces
- d. Extinct volcano
- e. Tunnel

short answer questions

Give two examples of the following.

1. Things carried by magma
2. Active volcanoes
3. Dormant volcanoes
4. Extinct volcanoes
5. Places in India where earthquakes have occurred

Dust, Ash
Mount Vesuvius, Mount Fuji
Narcondam, Mount Kilimanjaro
Emperor seamount chain, Zaidwal volcano
Gujarat, Maharashtra

Give one word for the following.

1. The vertical tunnel through which magma flows out in a mountain
2. The point under the ground where the earthquake begins
3. Smaller quakes that happen after a big earthquake has occurred
4. The instrument used to determine the strength of an earthquake
5. The scale used to record the intensity of an earthquake

Vent
Focus
After shocks
Seismograph
Richter scale

Answer the following.

What are volcanoes?

How do volcanoes erupt? Name three types of volcanoes.

What is magma? How is it different from lava?

What is an earthquake? How do we measure its intensity?

What is a tidal wave? How is it caused?

What is a tsunami? What happens in a tsunami?

Recall and complete the concept map given below.

Types of volcanoes

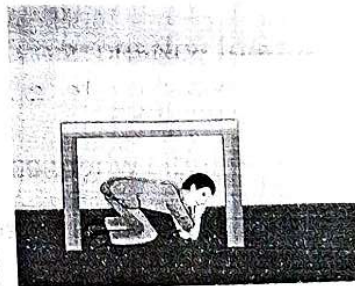
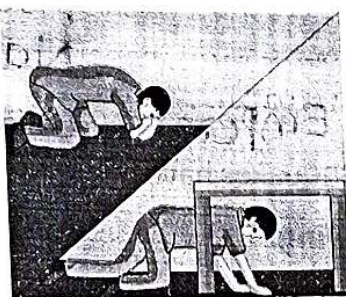
Type: Active volcanoes
Example: Mount Vesuvius volcano

Type: Dormant volcanoes
Example: Narcondam volcano

Type: Extinct volcano
Example: Zuidwal volcano

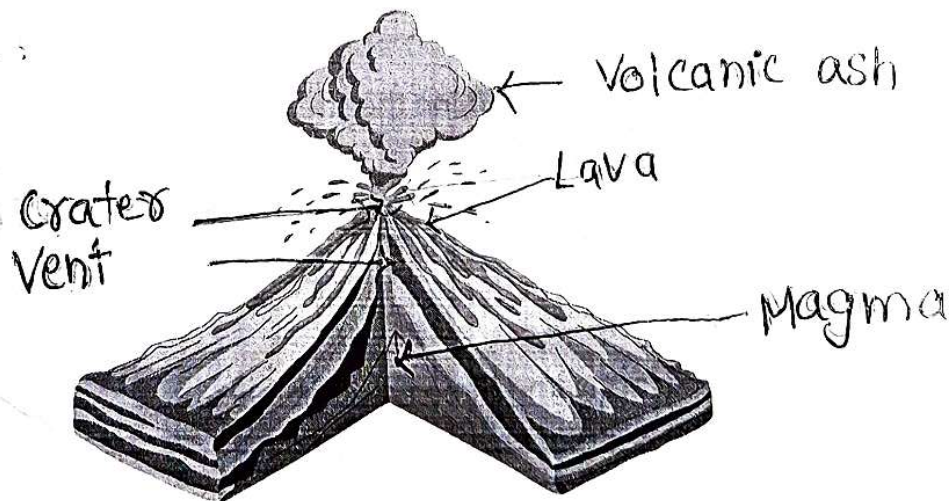
LET'S OBSERVE

1. Look at the image and answer the following questions: **LO 6**



Earthquake

- During which natural disaster should we follow the action of drop, cover and hold on?
 - How does the action of drop, cover and hold on reduce the risk of injury?
- It will protect us from things falling
2. Complete the picture given alongside and label the vent, crater, magma, and lava. Fill colours in the picture.



LET'S CONNECT



SOCIAL STUDIES

Find the places in the world which have active, dormant, and extinct volcanoes. Mark them with different colours on a world map. Find out when they last erupted and if they can erupt again in the future.