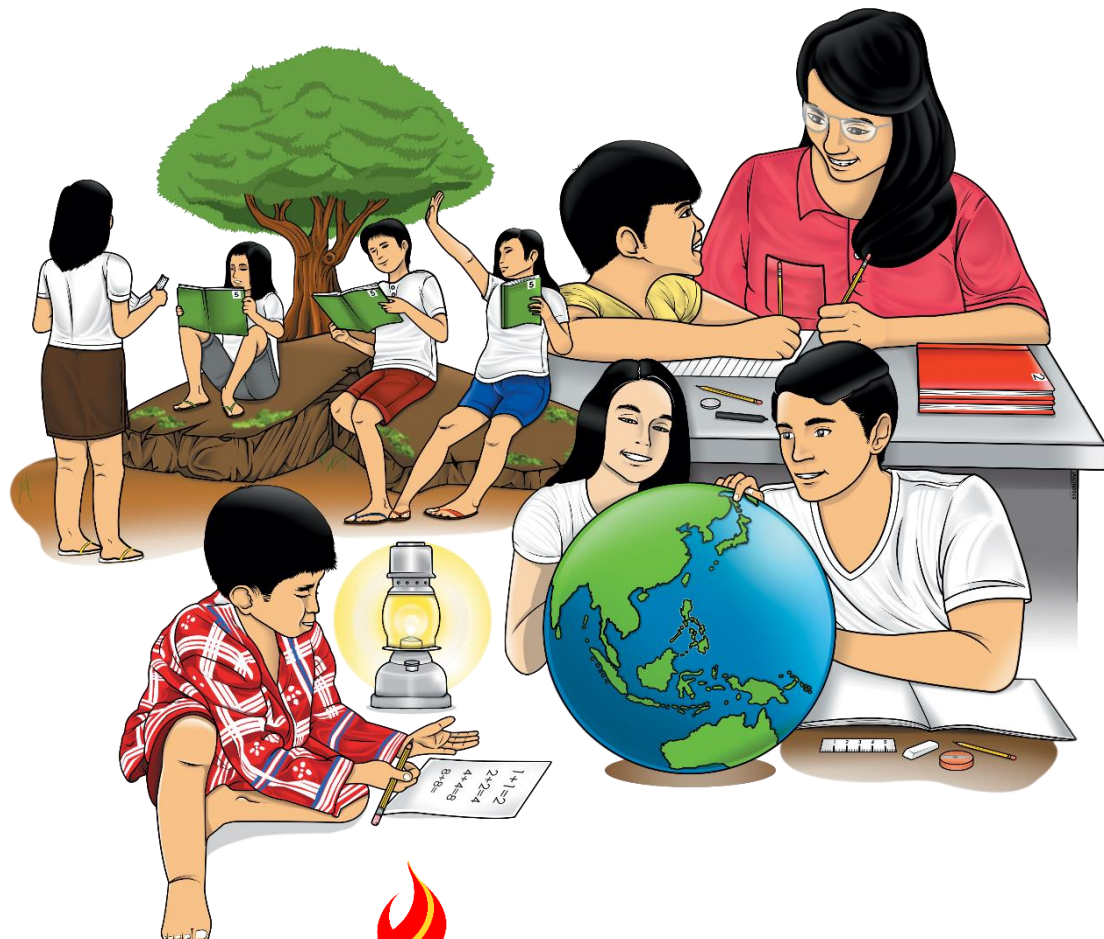


# Science

## Quarter 4 – Module 1A: Changes on the Surface of the Earth as a Result of Volcanic Eruption



**Science– Grade 6**  
**Alternative Delivery Mode**  
**Quarter 4 – Module 1A: Changes on the Surface of the Earth as a Result of Volcanic Eruption**  
**First Edition, 2020**

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# Science

## Quarter 4 – Module 1A: Changes on the Surface of the Earth as a Result of Volcanic Eruption

# **Introductory Message**

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



## ***What I Need to Know***

This module was designed and written with you in mind. It is here to help you master the nature of the Earth. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

The module is divided into two lessons, namely:

- **Lesson 1** – How Volcanic Eruptions Occur
- **Lesson 2** – Changes of the Earth’s Surface as a Result of Volcanic Eruption

After going through this module, you are expected to:

1. explain how volcanic eruptions occur;
2. describe the changes that occur on the Earth’s surface as a result of volcanic eruptions; and
3. show appreciation of the advantages brought about by volcanic eruptions.



## ***What I Know***

Read each item carefully. Answer the questions by writing the letter of your choice on your answer sheet.

1. The following are the harmful effects of volcanic eruption **EXCEPT**:
  - A. mudflow
  - B. ash deposit
  - C. volcanic landslide
  - D. making the soil fertile
2. Which of the following will likely form when ash from a volcanic eruption, and water from typhoon rains combine?
  - A. acid rain
  - B. fertilizer
  - C. lava flow
  - D. mudflows
3. Which volcanic material refers to molten rocks inside a volcano?
  - A. magma
  - B. lava flow
  - C. ash deposit
  - D. volcanic rock

4. Which natural phenomenon will happen when lava, rocks, gases, and other hot materials from the interior of the earth are thrown out of the volcano?
  - A. tsunami
  - B. landslides
  - C. earthquake
  - D. volcanic eruption
  
5. Which causes the rocks to melt in the interior of the Earth?
  - A. high pressure
  - B. gravity of the Earth
  - C. very high temperature
  - D. forces beneath the surface
  
6. How can a volcanic eruption bring positive effect?
  - A. It emits different gases to the atmosphere.
  - B. It can cause damage to the environment.
  - C. It makes the soil fertile.
  - D. It can displace people.
  
7. Which volcanic material can rise up to 35-kilometers and cover sunlight to reduce the temperature of the atmosphere?
  - A. lava
  - B. ash cloud
  - C. ash deposit
  - D. gas emission
  
8. Which is referred to as the molten rocks inside the volcano?
  - A. lava
  - B. rocks
  - C. ashes
  - D. magma
  
9. How do volcanic eruptions happen?
  - A. because of low temperature inside the Earth
  - B. because of high pressure inside the Earth
  - C. because of ashes inside the Earth
  - D. because of gases inside the Earth
  
10. What builds up inside the Earth as a result of high temperature?
  - A. lava
  - B. ashes
  - C. gases
  - D. pressure

## Lesson

# 1

# How Do Volcanic Eruptions Occur

A volcano is an opening in the Earth's crust where lava, pyroclastic materials, and gases are ejected onto the surface during eruptions. Volcanic eruption changes the landscape in a violent manner.

In this module, you will learn to describe how volcanic eruptions occur **(S6ES-IVa-1)**.



## *What's In*

**Directions:** Identify the changes that occur on the surface of the Earth due to earthquakes. Choose your answer from the box and write them on a separate sheet of paper.

tsunami

ground shaking

ground rupture

landslide

- \_\_\_\_\_ 1. It is series of waves in a body of water such as a large lake or ocean caused by the displacement of a large volume of water.
- \_\_\_\_\_ 2. It is the movement of several forms of mass such as rock, mud and debris, down a slope.
- \_\_\_\_\_ 3. It is caused by the push and pull of the ground causing surface to tear apart.
- \_\_\_\_\_ 4. It is the shaking of the ground as an effect of earthquake.



## What's New

### Activity 1: The Earth Speaks Out!

Due to heat, pressure builds up deep inside the Earth. This causes magma to rise and escape through volcanic craters. This is how volcanic eruption occurs.

Take a look at the illustrations below and do as instructed.

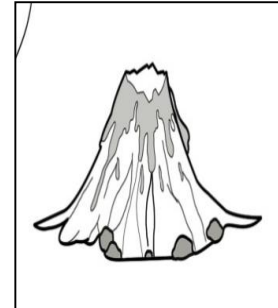
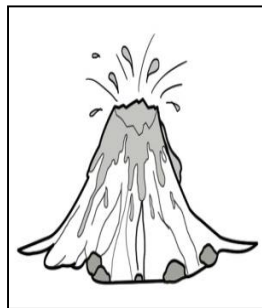
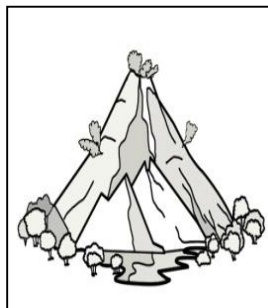
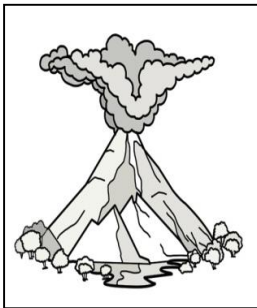
- 1.A. **Directions:** Based on the description of the given volcanic eruption below each illustration, sequence the events by writing numbers **1- 4** in the box above it. Alternatively, write your answers on a separate paper.

1

2

3

4



Magma shoots up out of the volcano and runs down the side of the mountain. It also spills ash and gases.

Temperature inside the Earth is very high that causes the rocks to melt. Pressure builds up deep inside the earth reaching a critical status.

Magma rises and escapes through the hole created by colliding plates because of pressure.

The magma that comes out of the volcano flows down the slope of the volcano as lava flow. When a volcano continues to erupt over time, lava will build up forming a mountain.

*(Illustrated by Orencio D. Estrera and Francis Gonzales)*



1.B. **Directions:** Answer the following questions below. Choose the appropriate description that answers the question from the boxes provided below. Write your answers on a separate sheet of paper.

A. Magma shoots up out of the volcano and runs down the side of the mountain. It also spills ash and gases.

B. The magma that comes out of the volcano flows down the slope of the volcano as lava flow. When a volcano continues to erupt over time, lava will build up forming a mountain.

C. Temperature inside the Earth is very high that causes the rocks to melt. Pressure builds up deep inside the earth reaching a critical status.

D. Magma rises and escapes through the hole created by colliding plates because of pressure.

1. When does a volcanic eruption begin?

2. What will happen to the magma as a result of high pressure beneath the surface of the earth?

3. What happens to the magma as it rises and escapes from the opening created by colliding plates?

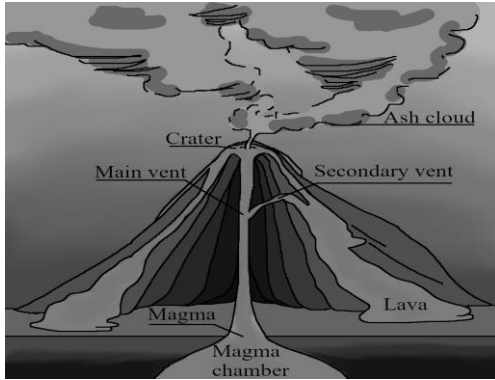
4. What happens to magma when it comes out of the volcano?



## ***What is It***

The eruption of a volcano is a process. A **volcanic eruption** is a way for magma from inside the Earth to escape.

Deep within the Earth the temperature is high that causes the rocks to melt and form magma. There are several factors that can trigger a volcanic eruption. The triggers could be the rising of a less dense magma, the pressure associated with gases in magma and the injection of magma in an already filled magma chamber.



### Parts of a Volcano

(Illustrated by Luke D. Granada)

carbon dioxide, expands as temperature rises contributing to higher pressure. In some cases, new magma gets injected to an already filled magma chamber causing pressure to build up and contribute to eruption. During the eruption, magma shoots up out of the volcano and flows down the side of the mountain as hot flowing lava. Magma that reached the surface becomes lava. The volcano also releases ashes and gases.

The main parts of a volcano are the magma chamber, conduits, vents and craters. The hollow spot within the volcano is the magma chamber where gases and magma accumulates. Magma is less dense compared to rocks making them rise towards the surface of the Earth. **Pressure** builds up deep inside the Earth that causes magma to rise and escape through the openings called volcanic vent. Gases in the magma chamber, such as water vapor and

**A volcanic eruption** affects people, economy, and the environment. It can pose a threat to people's health. Toxic volcanic ashes and gases can affect human's respiratory system, eyes and skin, as well as psychological well-being. People get sick because of materials released from an erupting volcano. It can affect the economy as well through the destruction it brings by destroying houses, buildings and other properties. Ash ruins crops and becomes a reason for the closure of businesses.

Volcanic eruptions can change the surface of the Earth. It creates new land by lava hardening like mountains and plateaus. It can change the landscape of a place through the lava that flows out from the volcanic vent.

Volcanic eruptions also bring positive effects like creating new land and making the soil fertile. On the other hand, it also causes volcanic landslide, lava flow, mud flow, ash deposits and emits gases that bring changes on the surface of the Earth. It can even bury villages.

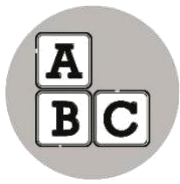
The pictures below show the most recent volcanic eruptions in the Philippines.



Taal Volcano Eruption January 12, 2020  
Photo Credit: PHILVOLCS- Taal Volcano Observatory



Canlaon Volcano Eruption, June 18, 2016  
Photo Credit: PHIVOLCS-Kanlaon Observatory



## What's More

**Directions:** Volcanic activities are written inside the box below. Using the ladder organizer, sequence the events about how volcanoes erupt. On the first step of the ladder, write what happened first and so on by writing the letters of the activities. Write your answers on a separate paper.

- A. The magma that comes out of the volcano's crater flows down the slope of the volcano as lava flow.
- B. Magma rises and escapes through the crater because of pressure.
- C. Magma, ashes and gases shoots up out of the volcano.
- D. Temperature inside the Earth is very high that causes the rocks to melt. Pressure builds up deep inside the earth.

1.

2.

3.

4.



## ***What I Have Learned***

**Directions:** Read and answer the following items by choosing the word that correctly completes the given statements. Write your answers on a separate sheet of paper.

### **I have learned that...**

1. A volcanic eruption occurs because of a very high **(acid, temperature)** inside the Earth.
2. Deep inside the Earth **(pressure, lava)** builds up because of high temperature.
3. Magma is pushed **(up, down)** and escapes through a hole called a vent.



## ***What I Can Do***

**Directions:** Read the task below. Write your output on a separate sheet of paper.

What can I do during a volcanic eruption? Shade the box before the things that you must do to keep you safe during a volcanic eruption.

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Cover your nose and mouth with a damp cloth.

Get an emergency kit.

Scream and run around in panic.

Take a video of the erupting volcano.

Calm down and assess the situation.

Evacuate to a safe place or evacuation area.

Ignore the commotion.

Listen to news report.

Pay attention to the warnings of local authority.

Close the doors and windows and stay inside.

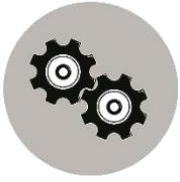


## **Assessment**

**Directions:** The questions below are the description of how volcanic eruptions occur. Read each item carefully. Write the letter of the correct answer on your answer sheet.

1. In what way does magma come out from the interior of the earth?
  - A. flooding
  - B. Landslide
  - C. earthquake
  - D. volcanic eruption
  
2. How would the temperature within the Earth be described?
  - A. low temperature
  - B. high temperature
  - C. average temperature
  - D. below average temperature
  
3. Which of the following are hot, molten rocks found in the Earth's interior?
  - A. magma
  - B. lava flow
  - C. ash deposit
  - D. volcanic rock
  
4. When lava, rocks, gases, and other hot materials from the interior of the earth, are thrown out of the volcano, what phenomenon is happening?
  - A. tsunami
  - B. landslide
  - C. earthquake
  - D. volcanic eruption
  
5. What will build up inside the Earth with the continuous heating and melting of rocks in the Earth's interior?
  - A. mudflow
  - B. pressure
  - C. rocks
  - D. lava

6. Which of the following is geologic structure on the surface of the Earth where molten rocks from the Earth's interior come out during eruption?
  - A. mountain
  - B. landslide
  - C. earthquake
  - D. volcano
  
7. Which of the following refers to the molten rocks that reached the surface of the Earth?
  - A. fertilizer
  - B. acid rain
  - C. lahar
  - D. lava
  
8. What is a volcano?
  - A. a very high mountain with trees
  - B. a set of plates that bump into each other to form a landform
  - C. a violent shaking of the Earth that occurs when two plates collide
  - D. an opening in the Earth's crust where magma passes to the surface
  
9. What is a hot molten material from the Earth's mantle that flows out of volcanoes?
  - A. tectonic plate
  - B. crustal rock
  - C. magma
  - D. cinder
  
10. What causes the rocks to melt inside the Earth?
  - A. high temperature
  - B. high pressure
  - C. weight
  - D. force



## ***Additional Activities***

**Directions:** Prepare on a sheet of paper, a similar set of blocks, arrows and blanks as the ones below. Draw inside the boxes you have drawn, the correct sequence of events on how a volcanic eruption occurs. Describe what happens in each event by filling in the blanks under each drawing. Place your output on a separate paper.

1	2	3	4
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

## Lesson

# 2

## Changes that Occur on the Surface of the Earth as a Result of Volcanic Eruption

Volcanic activity changes landforms in an unpredictable and often in a violent manner. For a period of time, the movement of Earth's plates slowly breaks apart continents.

In this lesson, you will learn about the changes that occur on the surface of the Earth as a result of a volcanic eruption (**S6ES-Iva-1**).



### *What's In*

**Directions:** Sequence the following events of a volcanic eruption by writing **1-4** on the blank, with 1 referring to the first event and 4 as the last event. Write the answers on your answer sheet.

- \_\_\_\_\_ 1. Because of its lower density compared to its surrounding, magma rises and escapes through the vent of the volcano created by colliding plates.
- \_\_\_\_\_ 2. Magma shoots up out of the volcano and runs down the side of the mountain. It also spills ash and gases.
- \_\_\_\_\_ 3. The magma that comes out of the volcano flows down its slope as lava flow. When the volcano continues to erupt over time, lava will build-up forming a mountain.
- \_\_\_\_\_ 4. The temperature deep in the earth's mantle is high that causes the rocks to melt and form magma with lower density under high pressure.





## ***What's New***

### **Activity 1: Transforming the Earth**

**Directions:** Below is a write-up about the eruption of a volcano and its effects on the environment. Read and study the write-up to answer the activity that follows. Write your answers on a separate sheet of paper.

#### **The Eruption of a Volcano**

One of the biggest volcanic eruptions that happened in Philippine history was the eruption of Mt. Pinatubo in Central Luzon on June 15, 1991.

**Volcanic landslides, emission of gas, mudflow, lava flow, a cloud of hot volcanic ash, and ash deposit** are some of the effects of the eruption. Many places, even miles away, were affected. **Volcanic landslide** refers to large masses of rock and soil that fall, slide, or flow rapidly due to gravitational force during a volcanic activity. The hot lava flowing from an erupting volcano reaches surrounding communities and burns or destroys everything in its path, including people and infrastructures like roads and bridges. Gases and ashes are released to the air. **Emission of gases** during a volcanic eruption refers to the release of gases such as carbon dioxide, sulfur dioxide, and hydrogen sulfide to the atmosphere.

**An ash cloud** estimated to be 35-kilometers rose high into the air. It covers the incoming sunlight, thus reducing the temperature. It affects temperature of places globally.

**The eruption** causes destruction to the place. It causes volcanic landslide that covers a large area down the slope of the volcano with large heap of volcanic soil. The eruption also causes thousands of roofs to collapse due to the weight of the ash mixed with rainwater. **Ash deposits** and lava when mixed with rainwater form giant mudflows that bring more destruction to the place because it buries villages. **Mudflows** are very rapid to extremely rapid surging movement of debris with significant amount of water. Indeed, the eruption of Mount Pinatubo changed the landscape of the place.

As a result of volcanic eruptions, not just by Mount Pinatubo, new landforms will be created. Landforms created by volcanic eruption include **domes, plateaus, and volcanoes**. A lava plateau is a wide, flat surface formed when a large amount of highly fluid lava flows over an area.



**Eruption of Mt. Pinatubo, June 15, 1991**

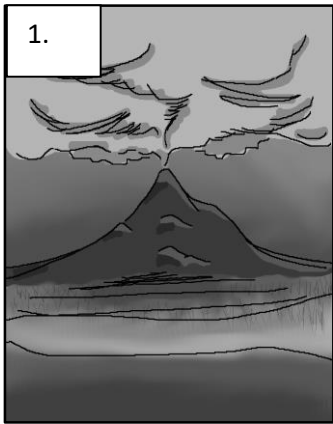
Source: Wikimedia Commons

The volcanic eruption also provides agricultural benefits as it provides the most fertile soil after an eruption.

**1. A. Directions:** The effects of volcanic eruptions are listed in **column A** of the table below and the description of each effect is listed in **column B**. Match the effects with its description by choosing the letter of the correct answer. Write your answers in on a separate paper.

<b>Column A</b> <b>Effects of Volcanic Eruption</b>	<b>Column B</b> <b>Description</b>
____ 1. lava flow	A. combination of lava, mud, and water that can bury villages
____ 2. mud flow	B. The flow of molten rock out of an erupting volcano that can destroy almost everything along its path
____ 3. volcanic landslide	C. a wide, flat surface formed when a large amount of highly fluid lava flows over an area
____ 4. fertilize soil	D. large heaps of wet or dry rock and soil that slide, or flow speedily down the slope of a due to gravitational force during a volcanic activity
____ 5. lava plateau	E. benefit of a volcanic eruption
	F. the fall of ashes after a major volcanic eruption

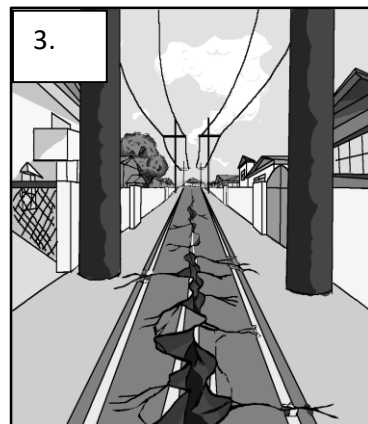
**1. B. Directions:** Look at the pictures below. Put a checkmark (✓) if it shows effect of volcanic eruption and (✗) if not. Write your answers on a separate sheet of paper. (All illustrations in this section are made by Luke D. Granada)



Ash cloud



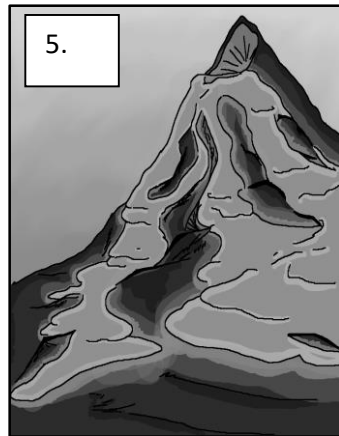
mudflow



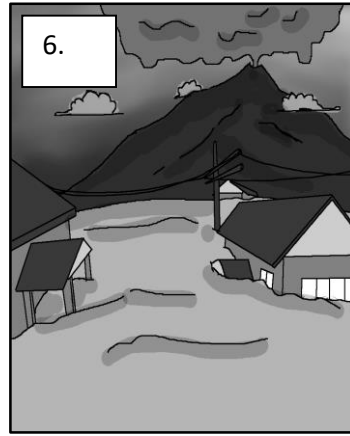
ground rupture



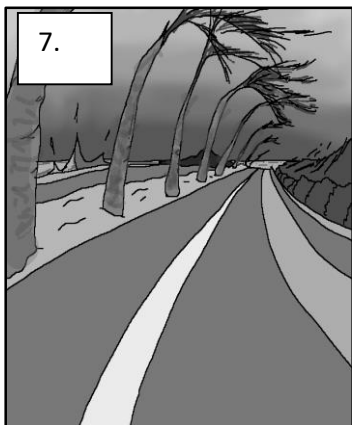
ash deposit



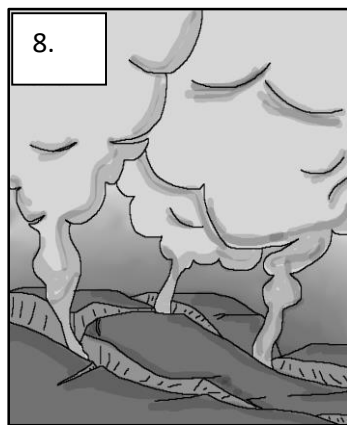
lava flow



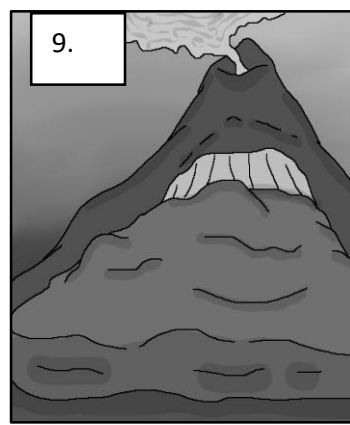
buried villages



typhoon



emission of gases

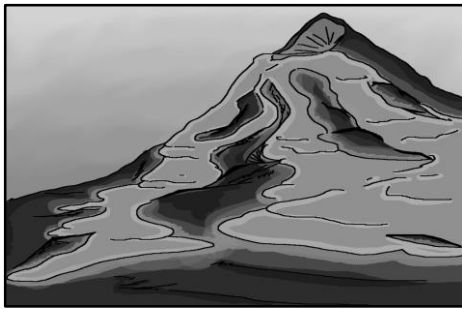


volcanic landslide



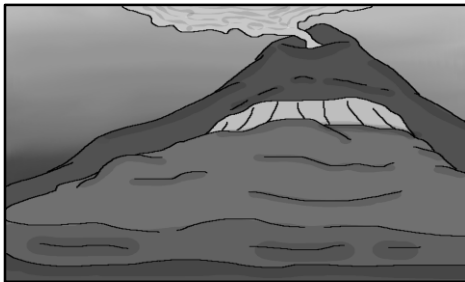
## What is It

Volcanic landslides, emission of gas, mudflow, lava flow, clouds of hot volcanic ash, ash deposits, and formation of new landforms are some of the effects of a volcanic eruption. Many places, even miles away, could be affected by a single volcanic eruption. The following describes some of these major effects of volcanic eruptions.



Hot flowing lava

**Hot flowing lava** from an erupting volcano can reach surrounding communities. Lava that leaves the vent of a volcano can reach around 1,200 degrees Celsius immediately after being released. The temperature of the flowing lava drops significantly as it is exposed to the air but is still able to maintain a significantly high temperature sufficient to burn almost everything on its path, including people and infrastructures like roads and bridges.

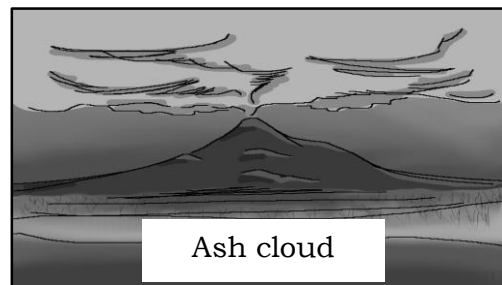


Volcanic eruptions are associated with vibrations of the ground called tremors. These tremors disturb the balance in the soil that results to **Volcanic landslides**, which are large heaps of wet or dry rock and soil that slide, or flow speedily down the slope of a volcano due to gravitational force during a volcanic activity. Volcanic landslides may contribute

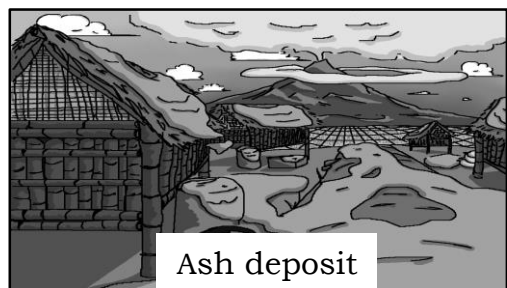
to mudflow that can travel as much as 200-kilometers downstream.

Volcanic eruptions contribute to burning where ash is a common by product. Violent volcanic eruptions contribute to a significant amount of ash that can be released into the atmosphere forming **ash clouds** that cover the incoming sunlight. Because of this, major volcanic eruptions contribute to a significant reduction in local or even global temperature. With gravitation pull, ashes eventually fall to the ground.

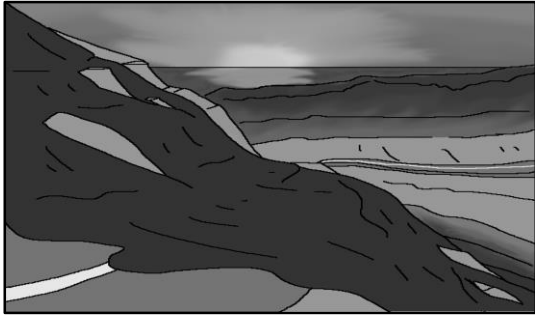
**Ash deposits** are ashes that usually deposit on roofs of houses and other buildings. An eruption causes many roofs to collapse because of the weight of the ash deposit made wet by heavy rains. Volcanic eruptions also provide agricultural benefits as the soil becomes fertile after an eruption.



Ash cloud

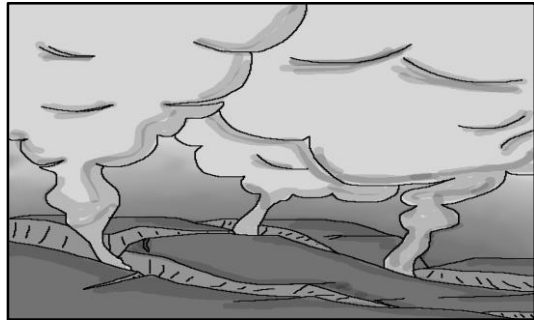


Ash deposit



Mudflow

When ash deposits and mud mix with rainwater, they become **mudflow**. Mudflows cause further destruction than the eruption itself as it buries villages. *Lahar* may also result as an effect of volcanic eruption, which is a violent type of mudflow or debris flow composed of volcanic materials, rock debris, water, etc.



Emission of gases

Volcanic eruptions also **emit gases** such as water vapor, carbon dioxide, hydrogen sulfide, hydrochloric acid, sulfur dioxide, and carbon monoxide, which can cause air pollution and is dangerous to human health.

Volcanic eruptions can change the landscape of the Earth. New landforms can be created by volcanic eruptions. Landforms created by lava include domes, plateaus, and volcanoes.



## ***What's More***

**Directions:** Match the effects of a volcanic eruption in column **A** with its description in column **B**. Write your answers on another paper.

<b>A</b>	<b>B</b>
____ 1. lava flow	A. provides fertile soil
____ 2. agricultural benefit	B. create lava domes, plateaus, and volcanoes
____ 3. volcanic landslide	C. ash deposits and mud mixed with rain water
____ 4. mudflow	D. hot flowing molten materials from an erupting volcano
____ 5. formation of new landforms	E. large heaps of wet or dry rock fragments that slide down the slope of a volcano due to gravitational force
	F. hot molten materials melt everything on its path



## ***What I Have Learned***

**Directions:** Read each statement and choose the correct answer from the options inside the box. Write your answers on a separate sheet of paper.

### **I have learned that...**

fertile	changes	beneficial
ash deposit	mudflow	loss of lives
harmful	volcanic landslide	lava flow

1. Volcanic eruptions can bring \_\_\_\_\_ to the surface of the Earth.
2. Volcanic eruption have \_\_\_\_\_ and \_\_\_\_\_ effects on the environment.
3. The harmful effects of volcanic eruption are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
4. The beneficial effect of volcanic eruption is making the soil \_\_\_\_\_.



## ***What I Can Do***

A volcanic eruption is a natural calamity that can bring danger to people's lives without warning. Victims are usually left with nothing but their lives.

**Directions:** Suggest ways on how you can help victims of a volcanic eruption. Choose your answer from the box below. Write the letters of your choice on another paper.

- |   |
|---|
| <p>A. donate clothes and other things they need<br/>         B. let only the government help them<br/>         C. donate money to buy their basic needs<br/>         D. donate food for them to survive</p> |
|---|

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



## **Assessment**

**Directions:** Read each item carefully. Write the letter of the correct answer on your answer sheet.

1. Which of the following is a benefit of volcanic eruptions?
  - A. attracts tourists
  - B. prevents flooding
  - C. controls landslide
  - D. makes the soil fertile
  
2. Which material will form when ash deposits and mud from the eruption mixed with rain water from monsoon or typhoon?
  - A. fertilizer
  - B. acid rain
  - C. lava flow
  - D. mudflows
  
3. How can volcanic eruptions change the landscape of the Earth?
  - A. It forces people to transfer residence.
  - B. It provides agricultural benefits.
  - C. It turns gases into islands.
  - D. It creates volcanic islands.
  
4. Which of the following causes roofs to collapse when mixed with rainwater because of its weight?
  - A. ash deposit
  - B. ash cloud
  - C. mudflow
  - D. lava
  
5. Which of the following is a good effect of a volcanic eruption?
  - A. It covers the land with lahar.
  - B. It makes the soil rich and fertile.
  - C. It forces people to transfer residence.
  - D. It brings destruction to the environment.
  
6. What will develop over time when the lava builds up as a result of volcanic eruption?
  - A. lakes
  - B. Valleys
  - C. streams
  - D. plateaus



7. Which of the following happens when a large heap of wet or dry rock fragments slides down the slope of a volcano due to gravitational pull?
  - A. lahar
  - B. mudflow
  - C. lava flow
  - D. volcanic landslide
  
8. Which can cause air pollution as a result of volcanic eruptions?
  - A. emission of gases
  - B. lahar flow
  - C. ash cloud
  - D. mudflow
  
9. When released during a volcanic eruption which of the following will cover incoming sunlight and reduce the temperature?
  - A. mudflow
  - B. ash cloud
  - C. lahar flow
  - D. emission of gases
  
10. Why is volcanic eruption dangerous to human health?
  - A. It brings out lava to the environment that can burn the skin.
  - B. It emits volcanic gases which is dangerous to human health.
  - C. It makes the soil in the area fertile which is good for planting.
  - D. It forces people to transfer residence very far from their homes.



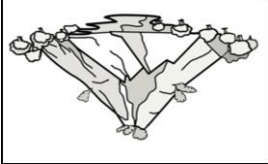
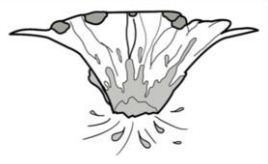
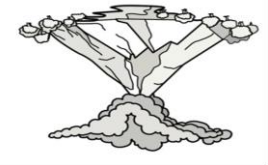

## ***Additional Activities***

**Directions:** Read the descriptions of the effect of the volcanic eruption below and supply the missing letters to complete the word before it. Write your answers on a separate sheet of paper

1. M_D FL_W	ash deposits and mud mix with rainwater
2. L_ _ A FL_W	hot flowing lava from an erupting volcano
3. A_H CL_ _D	cloud of ash from an erupting volcano
4. _ SH D_PO_ IT	ashes usually stocked on roofs of houses
5. V_LC_NIC L_ND_ L_DE	large masses of soil that slide down the slope



# Answer Key

<p><b>What I Know</b></p> <p>1. D 2. D 3. A 4. D 5. C 6. C 7. B 8. D 9. B 10. D</p> <p><b>What's In</b></p> <p>1. tsunami 2. landslide 3. ground rupture 4. ground shaking</p> <p><b>What's New</b></p> <p><b>Activity 1 - The Earth Speaks Out</b></p> <p><b>A.</b></p> <p>1. 3 2. 1 3. 2 4. 4</p> <p><b>B.</b></p> <p>1. C 2. D 3. A 4. B</p>	<p><b>What's More</b></p> <p>1. D 2. B 3. C 4. A</p> <p><b>What I have Learned:</b></p> <p>1. temperature 2. pressure 3. up</p> <p><b>What I Can Do:</b></p> <p>1. Cover your nose and mouth with a damp cloth. 2. Get an emergency kit. 3. Calm down and assess the situation 4. Evacuate to a safe place. 5. Listen to news report. 6. Pay attention to the warnings of the local authority.</p> <p><b>Assessment:</b></p> <p>1. D 2. B 3. A 4. D 5. B 6. D 7. D 8. D 9. C 10. A</p>	<p><b>Additional Activity:</b></p> <p>1.  1. Temperature inside the Earth is very high, pressure builds up.</p> <p>2.  2. Magma rises and escapes through the hole.</p> <p>3.  3. Magma shoots up out of the volcano and runs down the side of the mountain.</p> <p>4.  4. The magma that comes out of the volcano flows down the slope.</p>
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## Lesson 1: How Volcanic Eruptions Occur

<p><b>What's In</b></p> <p>1. 2 2. 3 3. 4 4. 1</p> <p><b>What's New</b></p> <p><b>A.</b></p> <p>1. B 2. A 3. D 4. E 5. C</p> <p><b>B.</b></p> <p>1. ✓ 2. ✓ 3. x 4. ✓ 5. ✓</p> <p>6. ✓ 7. x 8. ✓ 9. ✓</p>	<p><b>What's More</b></p> <p>1. D 2. A 3. E 4. C 5. B</p> <p><b>What I Have Learned:</b></p> <p>1. changes 2. beneficial and harmful 3. ash deposit, lahar, mudflow, volcanic landslide, hot flowing lava 4. fertile</p> <p><b>What I Can Do:</b></p> <p>1. A 2. C 3. D</p>	<p><b>Assessment:</b></p> <p>1. D 2. D 3. D 4. A 5. B</p> <p>6. D 7. D 8. A 9. B 10. B</p> <p><b>Additional Activities:</b></p> <p>1. mudflow 2. lava flow 3. ash cloud 4. ash deposit 5. volcanic landslide</p>
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**Lesson 2: Changes of the Earth's Surface as a Result of Volcanic Eruption**

## ***References***

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