



Republic of the Philippines  
Department of Education  
**NATIONAL CAPITAL REGION**  
Misamis Street, Bago-Bantay, Quezon City

## UNIFIED SUPPLEMENTARY LEARNING MATERIALS (USLeM)



### SCIENCE 6 WEEK 2

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# UNIFIED SUPPLEMENTARY LEARNING MATERIALS

## Grade 6 SCIENCE

### PRECAUTIONARY MEASURES BEFORE, DURING, AND AFTER EARTHQUAKES AND VOLCANIC ERUPTIONS

#### Expectations

This Unified Supplementary Learning Material will help you to:

- enumerate what to do before, during, and after earthquakes and volcanic eruptions; and
- design a preparedness plan/emergency plan and kit in case of earthquakes and volcanic eruptions.

#### Pre-Test

**DIRECTIONS:** Encircle the letter of the **best** answer.

1. Which shows a precautionary measure **after** an earthquake?  
A. Secure heavy furniture such as cabinets to a wall.  
B. Be ready for aftershocks; check yourself and others for injuries.  
C. Protect yourself by wearing long sleeves, pants, and a face mask.  
D. Store food, water, prepare an emergency kit, and practice emergency drill plans.
2. Which should be done while you are inside a building **during** an earthquake?  
A. Do not use elevators.  
B. Be familiar with the exit routes.  
C. Store breakable materials properly.  
D. Check yourself and others for injuries.
3. Which is **NOT** a safety precaution after a volcanic eruption?  
A. Perform the "Duck, Cover, and Hold".  
B. Stay indoors until authorities say it is safe to go outside.  
C. Clear your house from ashfall that may cause roofs to collapse.  
D. Listen to the latest updates on areas affected by the volcanic eruption.
4. In relation to earthquakes and volcanic eruptions, when do we prepare an emergency plan and survival kit?  
A. after                      B. before                      C. during                      D. before, during, and after
5. Which should be included in your emergency plan and kit in case of an earthquake and volcanic eruption?  
I. laptop  
II. first aid kit  
III. emergency hotlines  
A. I and II                      B. II and III                      C. I and III                      D. I, II, and III

# UNIFIED SUPPLEMENTARY LEARNING MATERIALS

## Grade 6 SCIENCE

### Looking Back

**DIRECTIONS:** Unscramble the clue letters to identify what is being described in the given statement.

S	L	D	A	I	N	L	D	E

1. It occurs when a large mass of rock or earth slides down a slope.

F	A	L	S	L	H	A

2. These are very fine particles of rock ejected explosively into the air by a volcano.

A	L	C	I	T	Q	U	O	E	N	F

3. It happens when loosely packed sediments at or near the ground surface lose their solidity as a result of a strong earthquake.

A	R	H	A	L

4. It is a mudflow composed of volcanic materials and water that flows down at volcanic slope.

N	T	A	S	M	U	I

5. It is a huge underwater wave caused by earthquake under the sea.

### Brief Introduction

Volcanic eruptions and earthquakes can and will occur when we least expect them. Disaster preparedness is the key to effective planning and response to these unexpected events. To avoid unnecessary property damage or death during these natural disasters, precautionary steps should be taken.

### Safety Precautions Before, During, and After an Earthquake

#### BEFORE AN EARTHQUAKE

- I. The key to effective disaster prevention is planning:
  - Know the earthquake hazards in your area.
  - Follow structural design and engineering practices when constructing a house or building.
  - Evaluate the structural soundness of the buildings and houses; strengthen or retrofit if necessary.
- II. Prepare your homes, workplace, or schools:
  - Strap or bolt heavy furniture/cabinets to the walls.
  - Check the stability of hanging objects like ceiling fans and chandeliers.
  - Breakable items, harmful chemicals, and flammable materials should be stored properly in the lowermost secured shelves.
- III. Familiarize yourself with the exit routes.
- IV. Know where the fire extinguishers, first aid kits, alarms, and communication facilities are located. Learn how to use them beforehand.
- V. Prepare a handy emergency supply kit with first aid kit, canned food and can opener, water, clothing, blanket, battery-operated radio, flashlights and extra batteries.
- VI. Conduct and participate in regular earthquake drills.

(Source: DOST-PHIVOLCS Pocketsize-Earthquake-Preparedness-Guide, 2009)

# UNIFIED SUPPLEMENTARY LEARNING MATERIALS

## Grade 6 SCIENCE

### DURING AN EARTHQUAKE

I. STAY CALM.

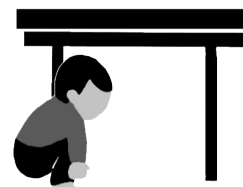
II. When you are **INSIDE** a structurally sound building or home... **STAY THERE!** Do the "DUCK, COVER, and HOLD".

- If possible quickly open the door for exit.
- Duck under a sturdy desk or table, and hold on to it, or protect your head with your arms.
- Stay away from glass windows, shelves, cabinets, and other heavy objects.
- Beware of falling objects. Be alert and keep your eyes open.

III. If you are **OUTSIDE**... move to an open area!

- Move away from steep slopes which may be affected by landslides.
- If you are near the shore and feel an earthquake, especially if it is too strong, move quickly to higher grounds. Tsunamis might follow.

IV. If you are in a moving vehicle, **STOP** and get out! Do not attempt to cross bridges, overpasses, or flyovers which may have been damaged.



**Duck**



**Cover**



**Hold**

*Illustrated by Shydney A. Bayanito*

*(Source: DOST-PHIVOLCS Pocketsize-Earthquake-Preparedness-Guide, 2009)*

### AFTER AN EARTHQUAKE

I. Be prepared for aftershocks. Once the shaking stops, take the fastest way out of the building.

II. Do not...

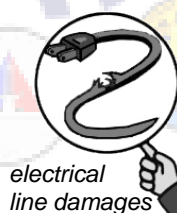
- ... use elevators.
- ... enter damaged buildings.
- ... use telephones unless necessary.
- ... PANIC

III. Check...

- ...yourself and others for injuries.
- ...water and electrical lines for damages.
- ...for spills of chemical, toxic, and flammable materials.
- ...and control fires that may spread.

IV. If you need to evacuate your residence, leave a message stating where you are going and bring your emergency supply kit.

V. Keep updated on disaster prevention instructions from battery-operated radios.



*Illustrated by Shydney A. Bayanito*

*(Source: DOST-PHIVOLCS Pocketsize-Earthquake-Preparedness-Guide, 2009)*

# UNIFIED SUPPLEMENTARY LEARNING MATERIALS

## Grade 6 SCIENCE

### Safety Precautions Before, During, and After Volcanic Eruption

#### BEFORE VOLCANIC ERUPTION

- Close windows and doors to reduce the entry of ash if heavy ashfall is expected to hit the community
- Bring animals and livestock into safe shelters.
- Prepare evacuation plans and conduct evacuation drills.
- Avoid low places or areas vulnerable to rock falls, lava flows, and mudflows.
- Prepare for evacuation if a warning for upcoming volcanic eruptions or mudflows is raised.
- Know the ways of protecting your house from ashfall, landslides, and debris flows by consulting your local disaster coordinating council.
- Know the areas vulnerable to volcanic hazards and assess your risk for dangers.
- Learn about your community warning systems and emergency plans.
- Be familiar with the permanent danger zone of a volcano.
- Prepare a survival kit.

#### DURING VOLCANIC ERUPTION

- Stay alert and awake.
- Follow the instructions that go with the warning. If there is a directive to evacuate, do so immediately.
- Protect their heads and get away from the area right away if caught in a small rockfall.
- Give priority for evacuation outside the area of ash shower to persons with breathing problems. They should be advised to cover their nose, preferably with a wet piece of cloth.
- Scrape off ashes to prevent heavy loading of the roofs. When doing so, the following precautionary measures should be observed:
  - Wear long-sleeved shirts and long pants;
  - Wear goggles and eyeglasses instead of contact lenses;
  - Avoid running car or truck engines. Driving a vehicle can stir-up volcanic ash that can clog engines, damage moving parts, and stall vehicles.

#### AFTER VOLCANIC ERUPTION

- Clear the canals and pathways of ash and other debris.
- Hose down the accumulated ash and plant leaves on roofs.
- Stay away from the slide area. There may be a danger of additional slides.
- Check for injured and trapped persons near the slide, without entering the direct slide area. Direct rescuers to their locations.
- Listen to local radio or television stations for the latest emergency information.
- Watch for flooding, which may occur after a landslide or debris flow.
- Report broken utility lines and suspected damaged buildings to appropriate authorities.
- If you have a respiratory ailment, avoid contact with ash. Stay indoors until local health officials advise it is safe to go outside. Volcanic ash can cause great damage to breathing passages and the respiratory system

(Source: DOST-PHIVOLCS Flyer-Ashfall-Preparedness-Guide 2015 and Disaster Risk Reduction Resource Manual 2008)



# UNIFIED SUPPLEMENTARY LEARNING MATERIALS

## Grade 6 SCIENCE

### Activities

#### Activity 1: My Safety Checklist!

**DIRECTIONS:** Put a checkmark in the box with correct safety precautions **before**, **during**, and **after** an **earthquake**.

#### Safety Precautions Before, During, and After an Earthquake

BEFORE	DURING	AFTER
<input type="checkbox"/> Check yourself and others for injuries.	<input type="checkbox"/> Stay calm.	<input type="checkbox"/> Be ready for aftershocks.
<input type="checkbox"/> Secure Strap or bolt heavy furniture/ cabinets to the walls.	<input type="checkbox"/> Know the earthquake hazards in your area.	<input type="checkbox"/> Check and control fires that may spread.
<input type="checkbox"/> Breakable items should be stored properly.	<input type="checkbox"/> Perform the "Duck, Cover and Hold".	<input type="checkbox"/> Check water and electrical lines for damages.
<input type="checkbox"/> Be familiar with the exit routes.	<input type="checkbox"/> If you are near the shore and feel an earthquake, especially if it is too strong, move quickly to higher grounds.	<input type="checkbox"/> Stop and get out of a moving vehicle.
<input type="checkbox"/> Prepare evacuation plan and handy emergency supply kit.	<input type="checkbox"/> Check for spills of chemical, toxic, and flammable materials.	<input type="checkbox"/> Cover containers to avoid contamination from ash.

#### Activity 2. Volcano Alert!

**DIRECTIONS:** Analyze the volcanic events below then list two precautionary measures for each situation.

Volcanic events	Precautionary measures
A. Smoke can be seen rising from the volcano. The alert level has been declared.	
B. A red or orange glow can be seen as the hot magma reaches the surface of a volcano.	
C. The eruption is over, and magma is no longer rising into the volcano.	



# UNIFIED SUPPLEMENTARY LEARNING MATERIALS

## Grade 6 SCIENCE

### Remember

- An earthquake and volcanic eruption can have devastating effects on people and the environment.
- You and your family will have a greater chance of surviving these natural disasters if you practice precautionary measures before, during, and after an earthquake or volcanic eruption.
- Preparedness will reduce the number of casualties or injured, which is why you should have a plan ahead of time in case of these natural disasters.

### Checking Your Understanding

**DIRECTIONS:** Read the situations carefully then, write the things that you should do to survive.

**Situation 1**  
You are hearing a rumbling sound that is getting louder and louder. The ground seems to be shaking. Hanging materials are swaying.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Situation 2**  
There is a huge explosion. Dust, steam, and pyroclastic materials are expelled into the atmosphere. A fast-moving flow of hot volcanic materials followed.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# UNIFIED SUPPLEMENTARY LEARNING MATERIALS

## Grade 6 SCIENCE

### Post-Test

**DIRECTIONS:** Encircle the letter of the **best** answer.

- Which precautionary measures for an earthquake are **correct**?
  - Before**- participate in earthquake drills
  - During**- store food, water, prepare an emergency kit, and practice emergency drill plans
  - After**- be ready for aftershocks; check yourself and others for injuries

A. I & II                      B. II & III                      C. I & III                      D. I, II & III
- Which should **NOT** be done while you are inside a building **during** an earthquake?
  - Perform the "Duck, Cover and Hold".
  - Look for protection under a sturdy table.
  - Run to the elevator doors and get inside.
  - Stay away from glass, heavy, and hanging objects.
- Which precautionary measure should be done **before** a volcanic eruption?
  - Go to an open sea.
  - Watch an erupting volcano.
  - Cover your face with a mask or damp cloth.
  - Prepare an emergency plan and survival kit.
- What should be done **after** a volcanic eruption?
  - Practice evacuation drill.
  - Cross bridges if you are driving a car.
  - Stay indoors until authorities say it is safe to go outside.
  - Learn about the community's emergency alert systems and plans.
- What should be considered in preparing an emergency plan and kit in case of earthquake and volcanic eruption?
  - Food, hygiene kit, camera, tent, watch, clothes
  - Newspaper, contact numbers, food, camping materials
  - Clothes, food, cooking utensils, mattresses, meeting area
  - Emergency hotlines, exit routes, food, hygiene kit, first aid kit

### References

- Disaster Risk Reduction Resource Manual.* (2008). Department of Education. Retrieved from: <https://psba.edu/wp-content/uploads/2018/07/Disaster-Risk-Reduction-Resource-Manual-2008.pdf>
- DOST-PHIVOLCS Flyer-Ashfall-Preparedness-Guide.* (2015). Retrieved from [www.phivolcs.dost.gov.ph:https://drive.google.com/file/d/0B8\\_KPQhbpktXeXVRcFNiRnEtNjA/view](http://www.phivolcs.dost.gov.ph:https://drive.google.com/file/d/0B8_KPQhbpktXeXVRcFNiRnEtNjA/view)
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# UNIFIED SUPPLEMENTARY LEARNING MATERIALS

## Grade 6 SCIENCE

### Answer Key

**Post-test:** 1. C 2. C 3. D 4. C 5. D

I. I will...

-stay calm

-do the "DUCK, COVER, and HOLD"

-stay away from glass windows, shelves, cabinets, and other heavy objects. Be alert and keep my eyes open.

Refer to page 4 for other possible answers. - During an earthquake

II. I will...

-stay alert and awake

-follow the instructions that go with the warning

-scrape off ashes to prevent heavy loading of the roofs.

-wear long-sleeved shirts and long pants

Refer to page 5 for other possible answers. - During volcanic eruption

**Check Your Understanding:**

**A. Household members**

Phone numbers \_\_\_\_\_

Father \_\_\_\_\_

Mother \_\_\_\_\_

Brother \_\_\_\_\_

Sister \_\_\_\_\_

Other members \_\_\_\_\_

Meeting Place \_\_\_\_\_

**B. Go Bag includes:** B, C, E, G, I, J, K, L

Plan for household member with disability \_\_\_\_\_

Escape routes \_\_\_\_\_

Disaster to affect household \_\_\_\_\_

Other things to consider: \_\_\_\_\_

Police station \_\_\_\_\_

Barangay hall \_\_\_\_\_

Fire station \_\_\_\_\_

Emergency hotlines: \_\_\_\_\_

Hospitals \_\_\_\_\_

City health office \_\_\_\_\_

Rescue office \_\_\_\_\_

**Activity 3: Juan with a Plan!**

Volcanic events	Precautionary measures
A. Steam can be seen rising from the volcano. The alert level has been declared.	-Close windows and doors to reduce the entry of ash if heavy ashfall is expected to hit the community
B. A red or orange glow can be seen as the hot magma reaches the surface of a volcano.	-Stay alert and awake.
C. The eruption is over, and magma is no longer rising into the volcano.	-Follow the instructions that go with the warning. If there is a directive to evacuate, do so immediately.
	Refer to page 5 for other possible answers. - During volcanic eruption
	-Clear the canals and pathways of ash and other debris.
	-Hose down the accumulated ash and plant leaves on roofs.
	Refer to page 5 for other possible answers. - After volcanic eruption

**Activity 2: Volcano Alert!**

**BEFORE**

-Strap or bolt heavy furniture/cabinets to the walls.

-Breakable items should be stored properly.

-Be familiar with the exit routes.

-Prepare evacuation plan and handy emergency supply kit.

**DURING**

-Stay calm.

-Perform the "Duck, Cover and Hold".

-If you are near the shore and feel an earthquake, especially if it is too strong, move quickly to higher grounds.

**AFTER**

-Be ready for aftershocks.

-Check and control fires which may spread.

-Check water and electrical lines for damages.

**Activity 1: My Safety Checklist!**

**Pre-test:** 1. B 2. A 3. A 4. B 5. C