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DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Science

Quarter 3
Lesson
3

Lesson Exemplar for Science
Quarter 3: Lesson 3 of 8 (Week 3)
SY 2025-2026

Development Team

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SCIENCE (EARTH AND SPACE) /QUARTER 3 / GRADE 8

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	*The learners learn that:* (2) Volcanic terrain is built by the slow accumulation of erupted lava.
B. Performance Standards	*Learners demonstrate* an appreciation of the large-scale features of the 'blue planet' Earth. They identify and describe the nature and impact of volcanic activity in building new crust and identify that these crust forming processes account for patterns and changes in the distribution of volcanoes, earthquakes, and mountain chains that have occurred over time.
C. Learning Competencies and Objectives	***Learning Competency 3:*** *The learners* describe the different types of volcanoes found around the world according to their: a. activity, b. type of eruption and c. location in the crust; and, ***Learning Competency 4:*** *The learners* relate the shape of a volcano's cone to its composition. Learning Objective 1: Describe the formation and composition of the magma. Learning Objective 2: Explain the effect of temperature and composition on its viscosity. Learning Objective 3: Relate the characteristics of magma with the type of volcanic eruption.
D. Content	**Types of Eruption** - One of the major factors that affects the nature of volcanic eruption is the composition of silica poor magma and silica rich magma. 1. **Quiet Eruption** -Magma that is relatively low in silica is called basaltic magma. It is fluid and produces quiet, nonexplosive eruptions such as those at Kilauea. Distribution of active volcanoes: *(Glencoe Earth Science: geology, the Environment & the Universe. Franscisco J.Borrero,Frances Scelsi Hess,Juno Hsu,Gerhard Kunzae,Steph Leslei,Stephen letro,Michael Manga,Len Sharp, Theodore Snow,Dinah Zike.(2017)*  https://www.britannica.com/science/pyroclastic-flow 2. **Explosive Eruption** - Explosive Magma Silica-rich, or granitic, magma produces explosive eruptions. Silica-rich granitic magma is thick, and gas gets trapped inside, causing pressure to build up. When an explosive eruption occurs. The gasses expand rapidly, carrying pieces of lava as shown in the explosion below.

E. Integration	• Disaster preparedness - Students will consider the impact of volcanoes on the human ecosystem. • Resilience – Students will develop a culture of preparedness and safety in school as well as resilience in school communities/ can simulate a self- rescue action in the event of a catastrophic volcano eruption.

II. LEARNING RESOURCES

Philippine Institute of Volcanology and Seismology. (2024). Eruption History.
https://wovodat.phivolcs.dost.gov.ph/volcan/erupt-history
Campbell, Jessica. Volcanoes and Viscosity BSU (4-6). PDF (www.bridgew.edu)
San Pedro, Flordeliza L. Quarter 3, Science 9 - Self-Learning Module 3: Active and Inactive Volcanoes. Department of Education. SDO Pasig City. 2020

III. TEACHING AND LEARNING PROCEDURE

A. Activating Prior Knowledge

1. Short Review

A. Recall the difference between Magma and Lava through completing the table below:

MAGMA vs LAVA		
Features	**Magma**	**Lava**
Location		
State		
Temperature		
Composition		
Movement		

NOTES TO TEACHERS

Have students fill in the following information on what they can remember. Or you can provide the answers and let them identify in which column do each belong.

ANSWER KEY:

Features	Magma
Location	Beneath the Earth's surface
State	Molten rock within the Earth
Temperature	Extremely hot (up to 1300°C)
Composition	Silicate minerals,

Effect		
Occurrence		

B. Illustrate the Layers of the Earth through by showing its similarities with a hard-boiled egg. Compare the parts of the egg and explain how it is similar with the layers of the Earth

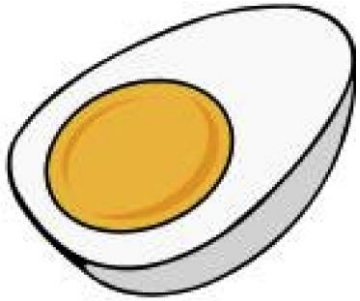


Image Source: clipartmax.com

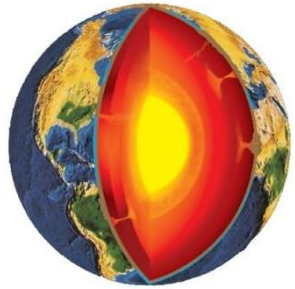


Image Source: alisonsmontessori.com

2. Feedback (Optional)

This optional sub-component involves giving qualitative feedback to performance or products done through homework or classroom activity from the previous day/week or lesson.

NOTE TO TEACHER:

Test student understanding of Earth's structure based on composition with this activity. Students collaborate to compare the structure of a hard-boiled egg to the composition of the earth's interior. Students compare layers of egg (shell, white, yolk) to the structure based on composition (basic layers) of earth (crust, mantle and core).

From this, encourage students to observe the different parts of the egg and discuss how they relate to the layers of the Earth. Talk about the characteristics of each layer, such as its composition, thickness, and temperature.

	gases, and solids
Movement	Moves through the Earth's crust
Effect	May solidify to form igneous rocks
Occurrence	Found beneath the Earth's surface in magma chambers

Features	**Lava**
Location	Above the Earth's surface
State	Molten rock erupted onto the surface
Temperature	Remains hot but can cool down
Composition	Similar composition to magma but may contain fewer gases
Movement	Flows on the Earth's surface
Effect	Forms volcanic landforms and structures
Occurrence	Erupts during volcanic activity

B. Establishing Lesson Purpose	**1. Lesson Purpose** **Activity 1.** This can be done through pairs or by group. In this activity, students will share thoughts about each statement. In this activity, their prior understanding about Volcano is tested. **2. Unlocking Content Area Vocabulary** **Activity 2.** This word chop activity can be done as a summary of all the vocabularies students encountered. You may also use this as a recall for each day. But remember to choose the items you have already discussed.	See Learning Activity Sheet: *Activity #1: Fact or Bluff* Note that, this activity will be checked only after the discussion. They may change their answer provided that they can explain why do they believe that it is a Fact/Bluff. See Learning Activity Sheet: *Activity #2: Word Chop* **ANSWER KEY:** 1. Lava 2. Magma 3. Eruption 4. Active Volcanoes 5. Inactive Volcanoes 6. Viscosity 7. Basaltic magma 8. Andesitic magma 9. Rhyolitic magma 10. Phreatic 11. Phreatomagmatic 12. Strombolian 13. Vulcanian 14. Plinian 15. Ash fall 16. Mud flow 17. Lava flow 18. Pyroclastic flow
C. Developing and Deepening Understanding	**SUB-TOPIC 1: DIFFERENT TYPES OF VOLCANOES** **1. Explicitation** *Think-Ink-Share***.** Below are pictures of different volcanoes found in the Philippines. Have students analyze and classify them into two groups. *T* *hink*: Instruct your students to think about the given illustrations and classify them into two groups. *Ink*: students give individual written responses on how did they classify the pictures in their science notebooks. *Share*: After writing their responses, they will share their answers with their seatmates or in front of the class.	Begin the lesson by presenting the students with pictures of some famous volcanoes found in the Philippines. You may start the activity through introducing each (include its location). For struggling students, provide sentence starters or prompts to guide their thinking during the Think-Ink-Share activity.

Mt. Mayon
Image Source: philstar.com

Mt. Bulusan
Image Source: gmanetwork.com

Mt. Taal
Image Source: gmanetwork.com

Mt. Makiling
Image Source: r1.community.samsung.com

Mt. Batulao
Image Source: r1.community.samsung.com

Mt. Arayat
Image Source: tripadvisor.com

Suggested Answers:

Group A:
Mt. Mayon, Mt. Bulusan and Mt. Taal
Based on the pictures, these are the volcanoes that have recently erupted. Mt Mayon – February 2024, Mt. Bulusan – January 2022 and Mt. Taal – July 2021/January 2020.

Group B:
Mt Makiling, Mt. Batulao and Mt. Arayat
These are the volcanoes with no known eruption history. Hiking trails lead up to most of these volcanoes, which are popular tourist destinations.

In this activity, the term Volcanic Eruption should arise. Continue the conversation by asking them, "Have you ever seen a live volcanic eruption? How did that make you feel?". Acknowledge all the responses but emphasize on the two classifications of Volcanoes based on their activity: Active and Inactive Volcanoes.

Before discussions on Active and Inactive Volcanoes start, help students grasps the different vocabularies needed to fully understand the lesson.

2. Worked Example

Part A. *Unlocking of Vocabulary:* Unscrambled the given words to reveal the correct answer.

1. *VTEACI* -Volcanoes that have record of eruption within the last 600 years or those that erupted 10,000 years ago.

2. *NIACVITE*-Volcanoes that have not erupted for the last 10 ,000 years and their physical form is being changed by agents of weathering and erosion through formation of deep and long gullies.

3. *OTUNEDGLI* - The term used to describe how far east to west it is located from an imaginary line that connect the earth.

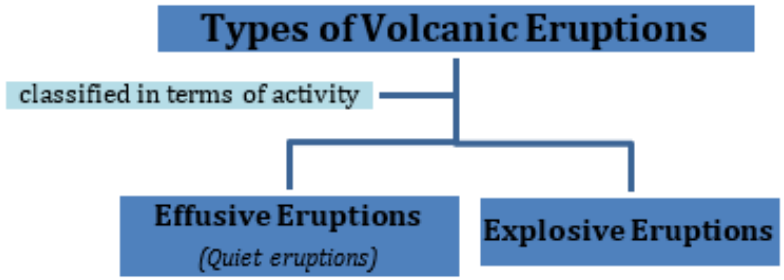
4. *LITEUDAT*- the term that describes how far south or north from the equator the location is.

Activity 3.

Part B. Using the blank Philippine map, locate and plot the volcanoes below. This activity aims mainly to help students differentiate active and inactive volcanoes. Additionally, teach them how to use coordinates in map. This may be done collaboratively

3. Lesson Activity

A thorough discussion on different types of eruptions should be done. Teacher may use this concept map to differentiate each.



ANSWER KEY:

1. ACTIVE
2. INACTIVE
3. LONGITUDE
4. LATITUDE

You may recall how to locate places on the globe by giving examples of coordinates (latitude and longitude)

Check the understanding of the students in locating places using latitude and longitude
a. lat 12° N, long 122° E - *Philippines*
b. lat 21° N, long 79 ° E – *India*

See Learning Activity Sheet: *Activity #3: Spot those Volcanoes*

For an easier understanding of the topic, use a concept map that shows differences of each type of Eruptions

Emphasis should be given to the information about effusive and explosive eruptions. ***Explosive eruptions*** are characterized by gas-driven explosions that propels magma and tephra. ***Effusive eruptions***, meanwhile, are characterized by the

Phreatic	Hawaiian	Strombolian	Vulcanian	Plinian
LOCATION IN THE CRUST				
Diverging Plate Boundaries	Hotspots	Diverging or Converging Plate Boundaries	Converging Plate Boundaries	Converging Plate Boundaries

From the discussion on the concept map, let students research at least one real-life example of each type of eruptions. Ask them to provide a picture or a video to show the class.

Examples may be:

1. Phreatic eruption - Taal Volcano eruption and Mayon Volcano's eruption in 2018.
2. Hawaiian eruption- happened in 1959 in the Kilauea Iki Crater of Kilauea Volcano in Hawaii.
3. Strombolian eruption - Mexico's Paricutin Volcano, which lasted from 1943 to 1952.
4. Vulcanian eruption - occurred in Sakurajima Volcano in Japan.
5. Plinian eruption - 1991 Pinatubo explosion in Zambales, which is also known as the second-largest volcanic eruption of the 20th century.

Check for student's conceptual understanding on this. Correct misconceptions as it surfaces or as you have observed them.

outpouring of lava without significant explosive eruption.

Beside is diagram of subtypes arranged from weakest to the strongest eruptions (Phreatic, Hawaiian, Strombolian, and Vulcanian, Plinian). In Phreatic eruptions (Hydrothermal) are generally weak, although there have been exceptions. Some phreatic events may be triggered by earthquake activity, another volcanic precursor, and they may also travel along dike lines. *Source: freepreset.net*

Include also where can each type of eruptions occur. You can add a recall about the plate boundaries. A more specific details about the location will be discussed in the next lesson, this includes the magma composition and its viscosity.

	SUB-TOPIC 2: SHAPE OF A VOLCANO'S CONE TO ITS COMPOSITION **1. Explicitation** Have students recall the different types of volcanic eruptions. **Jumbled Words:** Identify what is being asked in each number. Arrange the letters to get the correct answer. _____1. (MOTIASRBONL) a periodic weak to a violent eruption characterized by a fountain of lava. _____2. (CITAMGAMOTAERHP) a violent eruption due to the contact between water and magma. _____3. (IPANLIN) excessively explosive type of eruption of gas and pyroclastic. _____4. (CUVNNIAL) characterized by tall eruption columns that reach up to 20 km high with pyroclastic flow and ash fall tephra. _____5. (IHRPATCE) a stream-driven eruption as the hot rocks come in contact with water. **2. Worked Example** **Activity 4.** Review the different shapes of Volcanoes. Identification: Write Cinder, Composite or Shield based on the given description. Discuss that the Composite or Stratovolcanoes have much more explosive violent eruptions. Show the students a video of a composite volcano eruption. Japan Stratovolcano: https://www.youtube.com/watch?v=LXDvpOQf2xE **3. Lesson Activity** **Crossword Puzzle.** Look for the following words that are related in the formation of magma. Words to find: Magma – Lava – Basaltic – Rhyolitic – Oxygen - Silicon Temperature – Pressure – Melting - Rocks After students find all the words in the crossword puzzle, let them relate each word to unlock the topic.	This activity will serve as a recall and a lesson starter. Students will unscramble the letters to answer what is being described in each number. Show pictures of each. Let students compare the physical characteristics of each pictures. You may also include videos of the eruptions and discuss the lava flows. See Learning Activity Sheet: *Activity #4: Shapes of Volcanoes* **ANSWER KEY:** 1. Shield 2. Composite 3. Shield 4. Cinder 5. Shield 6. Shield 7. Cinder 8. Composite 9. Composite 10. Cinder Go over with the students how the differences in the magma cause the different shapes as well as the different types of eruptions. See Learning Activity Sheet: *Activity #5: Crossword Puzzle*

Rock Analysis. Identify what rocks are formed from magma.

Source: sciencefacts.net

Question: Which among these rocks came from volcano?

Introduce the idea of viscosity and discuss with them how the different magmas have different viscosities.

Magmas are different from each other because they contain a different chemical composition (different amounts of silica), which causes them to have different minerals present and results in rocks of different colors. Rhyolites have more silica and form lighter colored minerals, while basalt has less silica and forms darker colored rocks.

Magmas can vary widely in composition, but in general they are made up of only eight elements; in order of importance: oxygen, silicon, aluminum, iron, calcium, sodium, magnesium, and potassium (Figure). Oxygen, the most abundant element in magma, comprises a little less than half the total, followed by silicon at just over one-quarter. The remaining elements make up the other one-quarter. Magmas derived from crustal material are dominated by oxygen, silicon, aluminum, sodium, and potassium.

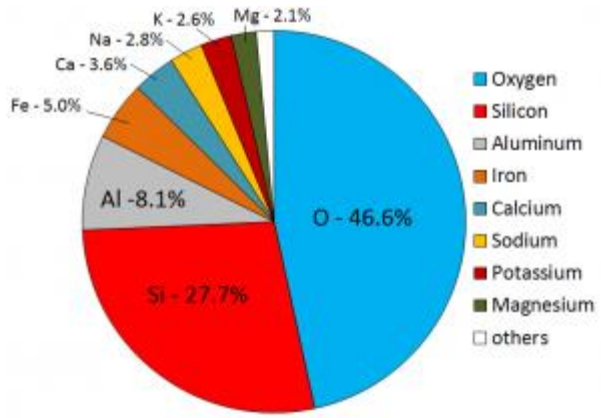
Answers may be:

- Composition of magma
- Different types of rocks formed by the Volcanoes
- Difference between Magma and Lava

Show the students the different rock specimens provided (if rocks are not available in your school, you may opt to use pictures of it). Let the students handle the rocks and use hand lenses to get a closer look. Have them discuss and make some general observations about the rocks (can they see crystals, rock color, etc.)

Ask them if they can guess which rocks were formed from magma and which ones were not. You can go through each one and have the class vote on it. Sort them into categories of what they think is or is not a volcanic rock. Then tell them that they are all volcanic rocks!!

Discuss with the class that not all magma is made up of the same material. There are differing amounts of each element within a magma and once that magma cools, different minerals will form depending



Average elemental proportions in Earth's crust, which is close to the average composition of magmas within the crust.

Source: collegesidekick.com

upon what elements are present in the rocks. For example, basaltic rocks have lower silica and much higher iron content (hence their darker color). Rhyolite magmas have higher silica and form minerals that are lighter in color, resulting in pink to grey rocks.

LEARNING ACTIVITY:
Activity 6.

This experiment has been adapted from *PBS's 'Volcano under a City'*. In this activity you will learn about how viscosity controls how far a liquid can travel. This concept directly applies to volcanoes and how their shape is controlled by the viscosity of the magma!

Do the experiment and fill out the Viscosity of Liquids: Data.

After students have completed the experiment, have them fill out the questions work sheet describing and interpreting their results.

Have a class discussion about their results. Which liquid was the most viscous? Which was the least? How far/fast did each of them flow? Go through their worksheets and discuss/correct their answers.

In *question no. 3*, images of the shield volcano and composite volcano were shown, discuss their sizes again. Have the students lead the discussion (asking guiding questions) to lead them to the conclusion that lower viscosity magmas flow farther creating wider, more shallow sloped volcanoes, and that high viscosity magmas do not flow as far and create typical conical steeply sided volcanoes.

See Learning Activity Sheet: *Activity #6: Viscosity Experiment*

From this, introduce the experiment. Describe how they will be modeling lava flows using liquids with different viscosities. The liquids will represent the different types of lava flows and they will see how far/easily they flow down a slope.

Break the students into groups of three.

Give each group 3 test tubes, 3 droppers, a stopwatch, 9 paper clips, ruler, masking tape, a wooden block, and a sheet pan.

For *number 4*, discuss how the viscosity of a magma controls both a volcano's shape and the style of eruption. Use the viscosity diagram if needed to reinforce the concept.

Use the table of Magma composition and characteristics to understand why there are volcanoes who erupt effusively while some erupt explosively.

LEARNING ACTIVITY:

Classifications of Magma. Magma can be classified into **basaltic** or mafic, intermediate or **andesitic** and **Rhyolitic**/granitic or felsic.

Based on the table below, identify what type of magma each picture represents.

Table: ***Magma composition and characteristics***

Composition	Viscosity	Temperature	Gas Content	Silica content	Explosiveness
Basaltic magma	Low	1000°C - 1200°C	1-2 %	About 50 %	Least explosive
Andesitic magma	Intermediate	900°C - 1000°C	3-4 %	About 60 %	Intermediate
Rhyolitic magma	High	750°C - 900°C	4-6 %	About 70 %	Most explosive

Each group will fill their test tubes with the three liquids to the same height (marked on the test tubes). One tube should be filled with syrup. A second tube with oil. And a third tube with water. Have the students us masking tape to label their tube with the appropriate liquid.

Image Source: en.meteorologiaenred.com

Image Source: flickr.com

1. _____

2. _____

Image Source: flickr.com

3. _____

Guide Questions:

1. Which type of eruption will give the most viscous magma?
2. How does the temperature of magma affect its viscosity and ability to flow?
3. Can you describe the different types of magma based on their silica content?
4. How does silica content influence magma viscosity and eruption style?
5. Can you explain the differences between basaltic, andesitic, and rhyolitic

Identify what kind of magma/lava does each picture represent.

ANSWER KEY:

1. Rhyolitic
2. Andesitic
3. Basaltic

Have students compose a conclusion by answering the guide questions.

Magmas differ in composition, which affects viscosity. Magma composition has a large effect on how a volcano erupts.
Basaltic magma is not viscous and will flow easily to the surface. Rhyolitic magma is viscous and does not flow easily. Most Rhyolitic magma will stay deeper in the crust and will cool to form igneous intrusive rocks such as granite and granodiorite. If Rhyolitic magma rises into a magma chamber, it may be too viscous to move, so it gets stuck. Dissolved gases become trapped by thick magma. The magma churns in the chamber and the pressure builds.

Rhyolitic lavas are more viscous and erupt explosively or do not erupt.

	magmas in terms of their silica content, viscosity, and eruption style? Have students, generate ideas on how Volcanic eruptions affect you and other living things. Discuss the following Volcanic Hazards that are common in the Philippine active volcanoes: ● Ash fall – pulverized rocks, sand, gritty and harsh glasses shoot out in the air by volcano. ● Mud flow – mixture of water, molten rocks and debris flowing down from the side of volcano to the ground. It is also called as Lahar. ● Lava flow – streams of molten rocks and other fragmented materials emitted by erupting volcano. ● Pyroclastic flow – fast moving hot mixtures of gas, ash, and molten rocks moving away from the volcano to the ground. **LEARNING ACTIVITY** **Activity 7.** List down the effects of the following materials on human and other living things.	Basaltic lavas are less viscous and erupt effusively. **ANSWER KEY: (Activity 7)** 1. Death of Plants and animals 2. Crop failure, burns due to high temperature 3. Damage on vegetation, suffocation, respiratory illness 4. Difficulty in breathing, respiratory illness 5. Eyes and skin itchiness and irritation
D. Making Generalizations	**1. Learners' Takeaways** 1. How might an evacuation plan differ for a volcano with a more viscous magma than one with a less viscous magma? 2. How does understanding magma composition and characteristics help scientists predict volcanic activity and assess volcanic hazards? **2. Reflection on Learning** Now that students are expected to have a deeper understanding of volcanoes, it's time to go back to the statements they have filled up in the first part of this module. This time in the RESPONSE COLUMN, write Fact if you think the statement is a true or Bluff if false.	In both questions, disaster preparedness and resilience can be integrated. Differences in evacuation procedures that might be implemented at a shield volcano vs. a composite volcano. Composite volcanoes will need a larger evacuation area due to higher gas content, explosive eruptions, and pyroclastic flows, which are much more unpredictable and can cause much more damage to human life. Near a shield volcano,

Expectation	*Statements*	*Response*
	All volcanoes erupt violently.	
	Volcanoes are made only of lava.	
	All volcanoes are cone shaped with steep sides.	
	The largest volcanoes are found on land.	
	Lava flows are the most dangerous volcanic hazard.	
	All volcanoes have the same dangers.	
	It is never possible to evacuate people from a volcano.	
	Volcanic eruptions only affect local areas.	
	Volcanoes are described according to their shape and type of eruption.	
	There are no volcanoes in the ocean.	

authorities would need to evacuate areas near the lava flow.

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION	**NOTES TO TEACHERS**
A. Evaluating Learning	**1. Formative Assessment** 1. Viscosity is a measure of a material's resistance to flow. Which DOES NOT affect the viscosity of magma? A. location of magma
	ANSWER KEY: 1. A

	B. temperature of the magma C. chemical composition of the magma D. presence of dissolved gases in the magma 2. Which is TRUE about the composition of magma? A. It contains ash, dust, and lava B. It contains dissolved gases only. C. It contains fragmented rocks only. D. It contains both dissolved gases and fragmented materials. 3. Several kilometers from a volcano, a geologist observes an old lava flow made up of dark- colored basalt rock. The geologist infers that the lava must have had_____. A. low viscosity B. high viscosity C. medium viscosity D. high silica content 4. Which type of lava will offer the least resistance to flow? A. Andesitic B. Basaltic C. Rhyolitic D. Basaltic and Rhyolitic 5. The magma in the chamber of a volcano has a very high amount of silica. If the volcano would erupt, which might happen? A. The lava would flow very slowly B. The volcano would erupt violently C. The volcano would erupt non-explosively D. There would be a build-up of pressure below the crater 6. Which is NOT a common gas in magma? A. methane gas B. carbon dioxide C. sulfur dioxide D. water vapor *For question 7 - 8, refer to the table on the next page:*	2. D 3. A 4. B 5. C 6. A 7. B 8. D 9. C 10. D

Magma Type	*Chemical Composition*	*Temperature*	*Viscosity*	*Gas Content*
Basaltic	45-55 SiO_2 %, high in Fe, Mg, Ca, low in K, Na	1000 - 1200 ^oC	Low	Low
Andesitic	55-65 SiO_2 %, intermediate in Fe, Mg, Ca, Na, K	800 - 1000 ^oC	Intermediate	Intermediate
Rhyolitic	65-75 SiO_2 %, low in Fe, Mg, Ca, high in K, Na.	650 - 800 ^oC	High	High

7. Which type of magma has the lowest chemical and gas content?
   A. Andesitic
   B. Basaltic
   C. Rhyolitic
   D. None of the choices
8. Which statement is NOT true based from the given data in the table?
I. Higher silica content allows magma to trap more gas.
II. Viscosity increases with increasing temperature of the magma.
III. Viscosity decreases with increasing SiO2 concentration in the magma.
IV. The more silica in the magma, the more viscous or resistant to flow it is.
   A. I and II
   B. I and III
   C. III and IV
   D. II and II
9. What can be inferred about the silica content and temperature of magma if it has a low viscosity?
   A. a high silica content and high temperature
   B. a high silica content and low temperature
   C. a low silica content and high temperature
   D. a low silica content and low temperature
10. Water vapor is one of the dissolved gases released by erupting volcano. It is present in large amounts, and is considered harmless. When will it become

harmful to the living things and environment?

A. when it is in the lower atmosphere
B. when it is in the middle atmosphere
C. when it is in the upper atmosphere
D. when it combines with other dissolved gases

2. Unlocking Content Area Vocabulary

Pick out the word/s from the list below to complete the statement.

Vesiculation	volcano	decompression	water vapor
tephra	respiratory	dissolved gases	magma
crystallization	viscosity	basaltic	andesitic
lava	carbon dioxide	sulfur dioxide	rhyolitic

The opening in the Earth's crust that allows molten rocks, debris, and gases to escape to the surface is called 1. _____. Molten materials or 2. _____ is composed of minerals, fragments of rocks and dissolved gases such water vapor, carbon dioxide and sulfur dioxide. When these molten materials have reached the Earth's surface, it is now called 3. _____. Due to high temperature, the rocks in the mantle partially melting, thus, forming the magma. Explosive eruption is triggered by the formation of bubbles which is referred to as 4. _____ and can be induced by 5. _____, wherein pressure is reduced and by 6. _____ which increases vapor pressure. The amount of 7. _____ in the magma contributes to the driving force for explosion and eruptions. 8. _____ is one of the gases in magma that is present in large amounts. Also, the nature of volcanic eruptions is related to magma's 9. _____ which depends on temperature and composition of magma. There are 3 types of magma depending on their temperature, composition, and viscosity namely: 10. _____ 11. _____ 12. _____. Volcanic eruption affects not only the environment but also the human being. When large amounts of fragmented rocks or debris called 13. _____ are released during the volcanic eruption, it can lead to deaths due to collapse of roofs. Ashes dispersed onto the surrounding, when inhaled can cause 14. _____ diseases for human. 15. _____, a greenhouse gas, traps the heat from the lower atmosphere that leads to global warming and 16.

ANSWER KEY:

1. Volcano
2. Magma
3. Lava
4. Vesiculation
5. Decompression
6. Crystallization
7. Dissolved Gases
8. Water vapor
9. Viscosity
10. Basaltic
11. Andesitic
12. Rhyolitic
13. Tephra
14. Respiratory
15. Carbon dioxide
16. Sulfur dioxide

<table>
<tr><td></td><td colspan="3">_____ can cause global cooling and air pollution.</td><td></td></tr>
<tr><td rowspan="6">B. Teacher's Remarks</td><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td><td rowspan="6">The teacher may take note of some observations related to the effective practices and problems encountered after utilizing the different strategies, materials used, learner engagement and other related stuff.

Teachers may also suggest ways to improve the different activities explored/lesson exemplar.

Teacher's reflection in every lesson conducted/ facilitated is essential and necessary to improve practice. You may also consider this as an input for the LAC/Collab sessions.</td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>Others</td><td></td><td></td></tr>
<tr><td colspan="3">Reflection guide or prompt can be on:

▪ <u>principles behind the teaching</u>
What principles and beliefs informed my lesson?
Why did I teach the lesson the way I did?

▪ <u>students</u>
What roles did my students play in my lesson?
What did my students learn? How did they learn?

▪ <u>ways forward</u>
What could I have done differently?
What can I explore in the next lesson?</td></tr>
</table>