

Sample Learning Plan (UbD Based)

Science and Health VI

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Sample Guide for Teachers

Topic: The Changing Earth

Time Frame: 18 days

<p>Day 1 Explore</p> <ul style="list-style-type: none"> - assessment of learners' prior knowledge - introduce the topic and sub topic - present the EQ - inform the pupils about product 	<p>Day 2 Firm Up</p> <p>Sub topic: Structure of the Earth</p>	<p>Day 3 Firm Up</p> <p>Sub topic: Structure of the Earth</p>	<p>Day4 Firm Up</p> <p>Sub topic: Movements of the Earth's Crust</p>	<p>Day5 Firm Up</p> <p>Sub topic: Movements of the Earth's Crust</p>
<p>Day 6 Firm Up</p> <p>Sub topic: Earthquakes</p>	<p>Day 7 Firm Up</p> <p>Sub topic: Earthquakes</p>	<p>Day 8 Firm Up</p> <p>Sub topic: Earthquakes</p>	<p>Day 9 Firm Up</p> <p>Sub topic: Earthquakes</p>	<p>Day 10 Firm Up</p> <p>Sub topic: Earthquakes</p>
<p>Day 11 Firm Up</p> <p>Sub topic: Earthquakes</p>	<p>Day 12 Firm Up</p> <p>Sub topic: Volcanic Eruptions</p>	<p>Day 13 Firm Up</p> <p>Sub topic: Volcanic Eruptions</p>	<p>Day 14 Firm Up</p> <p>Sub topic: Volcanic Eruptions</p>	<p>Day 15 Firm Up</p> <p>Sub topic: Tsunami</p>
<p>Day 16 Deepen</p> <p>Encourage students to reflect, rethink, revise their understanding.</p> <p>Have students express their understanding by answering the EQ.</p>	<p>Day 17 Deepen</p> <p>Summative Test</p>	<p>Day 18 Transfer</p> <p>Group Presentation of the comprehensive guide for safety and protection based on the following criteria:</p> <ul style="list-style-type: none"> ➤ Clarity ➤ Practicality ➤ Comprehensive ness ➤ Accuracy 		

Quarter ____ : Earth and Space	Topic: The Changing Earth	Time Frame: 18 days
Stage 1		
Content Standard: The learner demonstrates understanding of managing effects of events associated with the changes that happens on planet earth.	Performance Standard: Learners, working in pairs, integrate their understanding of the changes that happens on planet earth by making a clear, practical/applicable and comprehensive guide on safety and protection.	
Essential Understanding(s): Changes that occur on the planet earth helps us realize that there are many events whose effects should be managed because they certainly affect human lives and the environment.	Essential Question(s): What does understanding of the changes that happens on planet earth tell us?	
Learners will know: I. Structure of the Earth <ul style="list-style-type: none"> • Layers of the earth II. Movement of the Earth's Crust <ul style="list-style-type: none"> • Drifting Continents • Spreading Ocean Floor • Plate Tectonics • Plate Boundaries and Associated Changes • Why Crustal Plates Move III. Earthquakes <ul style="list-style-type: none"> • What is an Earthquake • How earthquakes are detected and observed • Places where earthquakes occur • Effects of Earthquakes • Precautionary measures before, during and after Earthquakes IV. Volcanic Eruptions <ul style="list-style-type: none"> • What is a volcano • How a volcano forms • How a volcano erupts • Active and Inactive Volcanoes • Hazards Associated with Volcanic Eruptions • Beneficial Effects of Volcanic Eruptions • Precautionary measures before, during and after volcanic eruptions 	Learners will be able to: 1. Describe the different layers of the earth (interior) <ol style="list-style-type: none"> 1.1 Describe the characteristics of each layer 2. Explain how an earthquake occurs <ol style="list-style-type: none"> 2.1 Demonstrate how blocks of rock/plates move along faults of the earth's crust 2.2 Illustrate the three types of plate movements 2.3 Differentiate intensity from the magnitude of an earthquake 2.4 Describe the effects of an earthquake (e.g. landslide, tsunami, destruction of property, loss of lives, etc.) 2.5 Practice precautionary measures before, during and after an earthquake 3. Explain how volcanic eruption occurs <ol style="list-style-type: none"> 3.1 Describe how volcanic eruption occurs 3.2 Differentiate an active from an inactive volcano 3.3 Describe the effects of a volcanic eruption 3.4 Practice precautionary measures before, during and after volcanic eruptions 	

<p>V. Tsunamis</p> <ul style="list-style-type: none"> • What is Tsunami • How a tsunami • Signs that a tsunami is Approaching • Precautionary measures before, during and after tsunamis 	
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Stage 2

<p>Product or Performance Task: Learners need to manage the effects on human lives and the environment of the events associated with the changes that happens on planet earth by making a clear, practical/applicable and comprehensive guide on safety and protection</p>	<p>Evidence at the level of understanding: Learners should be able to demonstrate understanding by covering the following six facets of understanding:</p> <p>EXPLANATION Describing the different layers of the earth (interior).</p> <p>Explaining why there are many volcanoes along the Pacific Ring of Fire.</p> <p>INTERPRETATION Interpreting the movement of tectonic plate as shown in the world map.</p> <p>APPLICATION Proposing safety measures during the occurrence of earthquakes, tsunamis and volcanic eruptions.</p> <p>PERSPECTIVE Analyzing government efforts (international, national and local) in reducing damages of earthquakes, tsunamis and volcanic eruptions based on cost effectiveness.</p> <p>EMPATHY Assuming the role of the people who live in areas who often experience earthquakes, tsunamis or volcanic eruptions.</p> <p>SELF-KNOWLEDGE Reflecting how the ways of reducing damages of earthquakes, tsunamis and volcanic eruptions</p>	<p>Evidence at the level of performance: Performance assessment of a Comprehensive Guide on Safety and Protection during Earthquakes, Volcanic Eruptions and Tsunamis(print and non-print) based on the following criteria:</p> <ul style="list-style-type: none"> • Clarity • Practicality • Comprehensiveness • Accuracy
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	shapes/influences one's beliefs and values on the spirit of volunteerism.	
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STAGE 3: Teaching/ Learning Sequence

Date:
DAY 1

Element of teaching Guide: EXPLORE

Objectives:

The Learner Shall:

- undergo an assessment of their understanding of structure of the earth, movement of the earth crust, earthquake and volcano.
- be introduced to the topic and its subtopics.
- be given time to formulate other questions leading to Essential Question focusing on *what does understanding of the changes that happens on planet earth tell us.*
- be informed that they need to demonstrate understanding of the changing earth by making a clear, practical/applicable and comprehensive guide on safety and protection.

Resources/ Materials: activity sheet

Learner's Activities:

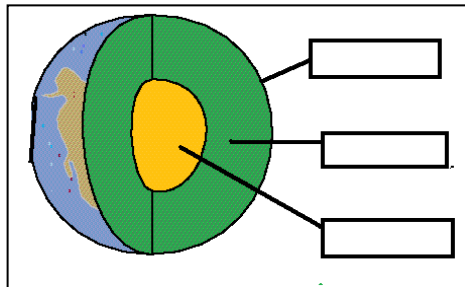
1. Assess the pupils understanding of structure of the earth, movement of the earth crust, earthquake and volcano. See attach sheet (TN: Take note of pupil's prior knowledge and misconceptions).
2. Show Pictures of volcanic eruptions, earthquakes, faults and tsunami to identify the topic and its sub topics.
3. Let the pupils formulate questions related to the topic. Then group the pupils and let them share their important question about the topic. Have the group choose the most important question for the topic.
4. Let the group present their most important question to the class. (TN: Cluster these to initially find out what is/are interesting for them).
5. Present the Essential Question to the class. (TN: Allow the pupils to answer the Essential Question. Take note of their prior knowledge and misconceptions).
6. Inform the pupils that they need to demonstrate understanding of the topic *The Changing Earth* by making a clear, practical/applicable and comprehensive guide on safety and protection.

Learning Activity: What a Journey!

Directions:

You have just returned from an exciting adventure, a journey to the center of the earth! Describe what you have experienced from your travel.

A. Label the Structure of the Earth



B. Read the definitions on the box to label the outer layer of the earth

Lithosphere- composed of the crust and the rigid, upper mantle.

Continental Crust - the thick parts of the Earth's crust located above the ocean.

Ocean- large bodies of water at the top of oceanic crust

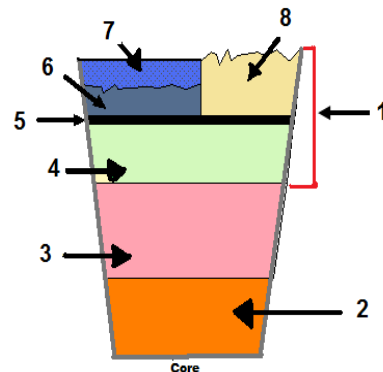
Oceanic Crust - thin parts of the earth's crust found under the oceans

Lower Mantle – a semi rigid and the deepest parts of the mantle located above the core.

Mohorovicic discontinuity – it separates the crust and the upper mantle

Upper Mantle - rigid uppermost part of the mantle, which is also a part of the lithosphere

Asthenosphere - the lower part of the upper mantle that behaves like plastic (flowing) properties. It is located below the lithosphere (the crust and upper mantle).



Questions

1. What materials have you observed in your travel? Can you describe them?
2. Were you comfortable in your journey? Why or why not?
3. What have you noticed as you go deeper into the earth's interior?
4. Was it an exciting journey? Why or why not?

STAGE 3: Teaching/ Learning Sequence

Date:

DAY 2 and 3

Element of teaching Guide: Firm Up

Sub topic: Structure of the Earth

Objectives:

The Learner Shall:

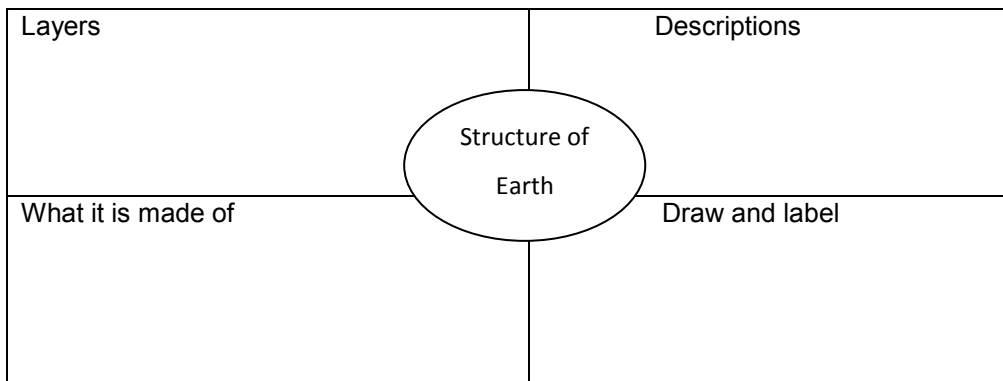
- describe the structure of the earth.
- identify and describe each layers of the earth.

Resources/ Materials:

- picture of an erupting volcano and avocado, Styrofoam ball, color, 15g corn starch, two small glasses, medicine dropper, water,
- Science , Health and Environment 6 Series (Textbook and Teachers Manual)

Learner's Activities:

1. Show a picture of an erupting volcano. Ask: What materials comes out from a volcano? Describe the materials. Let the pupils infer why the materials are hot.
2. Present a picture of the Earth's interior vis-à-vis of a cut round avocado. Compare the layers of the earth with that of avocado. Introduce the terms *crust*, *mantle*, *outer core*, *inner core*.
3. Let the pupils read pages 194-197 of Science, Health and Environment 6 Series to complete the graphic organizer below.



4. Let them perform *Do these* on page 198 of Science, Health and Environment 6 Series.
5. Discuss the result of the activity.
6. Have them answer *Self – Check* on page 197 of Science, Health and Environment 6 Series.

Formative Assessment

Let the pupils accomplish Exercise on page 199 of Science, Health and Environment 6 Series.

