**REX CHRISTUS COLLEGE, KUBWA.**

**LESSON PLAN FOR WEEK ONE, ENDING 20TH SEPTEMER, 2024.**

**LESSON ONE**

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| **SUBJECT** | GEOGRAPHY |
| **THEME** | Earths internal processes. |
| **DATE** | 16/9/2024 |
| **CLASS** | SS3 |
| **TIME** | 8:00-9:20am |
| **DURATION** | 80 minutes |
| **UNIT TOPIC** | VULCANICITY |
| **LESSON TOPIC** | Instrusive features of vulcanicity |
| **SPECIFICT OBJECTIVES** | At the end of the lesson, the learners should be able to A a. Define the term vulcanicity  b. Explain the intrusive features of vulcanicity  c. Draw batholith, sill and dykes |
| **INSTRUCTIONAL MATERIALS** | Pictures of Intrusive vulcanicity. |

**PRESENTATION**

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| **STAGES** | **TEACHER’S ACTIVITIES** | **STUDENTS’ ACTIVITIES** | **MODE** |
| **STEP 1**  **IDENTIFICATION OF PRIOR IDEAS** | The teacher asks the learners to define an earthquake and mention three effects of earthquake. | The students defines earthquake also explaining the effects. | Individual |
| **STEP 2**  **EXPLORATION** | The teacher shows the learners different features of vulcanicity | The learners listen attentively and ask questions. | Group |
| **STEP 3**  **DISUSSION** | The teacher explains the following to the learners.  MEANING OF VULCANICITY  Vulcanicity can be defined as the process by which molten magma is forced into the earth crust or on the earth surface. The instrusive features of vulcanicity includes the following.   1. Batholith 2. Laccolith 3. Sill 4. Dykes 5. Phacolith 6. Lapolith   BATHOLITH  This is a domed shaped mass of igneous rock formed deep down the crust. It is larger than the laccolith.  DYKES  Dykes result when an intrusion of magma is made vertically within the sedimentary rocks.  SILL  A sill is a sheet of solidified magma which lies condently to the bedding planes of sedimentary rocks.  G:\Laccoliths-Lopoliths-Phacoliths-Batholiths.jpg | The learners participate in the lesson and take down notes. | Group |
| **STEP 4**  **APPLICATION** | The teacher asks the learners to draw different features of vulcanicity. | The students participates in the lesson and ask questions. | Individual |
| **STEP 5**  **EVALUATION** | The teacher asks the students the following questions.  A. Define the term vulcanicity  b. Explain three intrusive features of vulcanicity.  c. Draw batholith, sills and dykes. | The students answer the questions as asked by the teacher. | Group |
| **CONCLUSION** | The teacher summarizes the lesson for better understanding by the students. | The students listens attentively and take down notes. | Individual |
| **ASSIGNMENT** | Explain five effects of vulcanicity | Students write down assignment. | Individual |
| **REFERENCES** | 1. Essential geography for senior secondary schools by O.A. Iwena. 2. Comprehensive geography for senior secondary schools by Peter Oluwafemi |  |  |

**LESSON ONE**

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| **SUBJECT** | GEOGRAPHY |
| **THEME** | Earths internal processes. |
| **DATE** | 19/9/2024 |
| **CLASS** | SS3 |
| **TIME** | 11:50-12:30pm |
| **DURATION** | 40 minutes |
| **UNIT TOPIC** | VULCANICITY |
| **LESSON TOPIC** | Extrusive features of vulcanicity |
| **SPECIFICT OBJECTIVES** | At the end of the lesson, the learners should be able to  a .Describe the features of extrusive landforms of vulcanicity.  b. List the types of volcanoes.  c. Draw the composite cone.  d. Draw the caldera |
| **INSTRUCTIONAL MATERIALS** | A chart showing pictures of landforms of vulcanicity |

**PRESENTATION**

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| **STAGES** | **TEACHER’S ACTIVITIES** | **STUDENTS’ ACTIVITIES** | **MODE** |
| **STEP 1**  **IDENTIFICATION OF PRIOR IDEAS** | The teacher asks the learners to define vulcanicity and mention three intrusive features. | The students defines vulcanicity and mentions intrusive features like sill, dyke, batholith etc | Individual |
| **STEP 2**  **EXPLORATION** | The teacher shows the learners different extrusive features of vulcanicity | The learners listen attentively and ask questions. | Group |
| **STEP 3**  **DISUSSION** | The teacher explains the following to the learners. **FEATURES OF EXTRUSIVE VOLCANICITY**  A Volcano is a hill or mountain having an opening through which ashes, gases, cinder etc are forced out in an eruption. A volcano results from accumulation of ejected materials (lava, ashes etc) on the surface of the earth.  **CLASSIFICATION OF VOLCANOES**  Volcanoes can be classified into three groups namely;  (i) Active Volcanoes  (ii) Dormant volcanoes, and  (iii) Extinct Volcanoes  ***ACTIVE VOLCANOES:*** Theseare those that are still erupting e.g. Fujiyama in Japan. These are well over five hundred active volcanoes. Most of them are located in the pacific region and are termed the ***Pacific ring of fire.*** The chains of volcanoes extend over 3200km from the Athenian Island in Kamchatka in Japan, Philippines and Indonesia, the southwards into the Pacific island of Solomon, New Hebrides, Tonga and North Island, New Zealand. It also continues in the other side from Andes to Central America etc.  ***DORMANT VOLCANOES***  These are volcanoes that do not erupt now, but stand the chance of erupting in future. There are many dormant volcanoes in the Atlantic coastal areas e.g. in Madeira, Etna in Sicily, those in Iceland, St. Helen, Canary Islands and Cape Verde islands.  ***EXTINCT VOLCANOES***  These are the volcanoes which have not experienced any eruption in historical times e.g. Mt Kenya, Kilimanjaro and those in Himalaya Mountains.  Based on structure and composition of the volcanic cones, we can classify volcanoes into the following order   1. Lava cones 2. Ash and Cinder cones 3. Composite volcanoes 4. Caldera volcanoes 5. Fissure cones 6. Geysers and hot springs   **(i) *LAVA CONES***  This comes is made up entirely of lava which has solidified. There are two types of lava cones;  (a) Acid lava cone  (b) Basic cone  **(a) *Acid lava cone:*** Here the lava is quite viscous with high melting point, and therefore is able to solidify. The lava is made up of large percentage of silica which is of high density and light in colour. Therefore, the lava flows slowly and solidifies quickly. The result is a conical hill in its best shape e.g. Mt. Pelee, Devils’ dome in USA.  **(b) *Basic Lava Cone:*** This is made up of very hot lava with temperature of about 100oC and therefore is in liquid form. They flow for relatively long distance before solidifying. Therefore there are referred to as mobile lava. They are dark in colour and rich in iron but poor in Silica. The resultant volcanic cone is gently sloping with wide diameter, e.g. Manna of the Pacific.  **C:\Users\wilson\Desktop\2013-08-31 jo\batholith 001.jpg**  **Diagram of basic cone**  **(ii) *ASH AND CINDER VOLCANO***  These are volcanic cones which are made up mainly of ash and cinder e.g. Volcano de Fu ego in Guatemala, Ikere cone in Ekiti district (Nigeria). They are usually small and occur in groups.  C:\Users\wilson\Desktop\2013-08-31 jo\batholith 001.jpg  **Diagram of ash and cinder volcano**  **(iii) *COMPOSITE CONE***  These are large steep-sided volcanoes built up of alternating layers of lava flow, volcanic ash and cinder from several parasitic cones or vents. Whenever a composite volcano explodes, its top is blown off and it breaks down into pieces of rock mass, ashes and bombs. The highest and most common volcanoes are composite volcanoes. From the magma reservoir below, a main conduit pipe leads up and feeds the volcano to grow steadily in different phases which gave rise to the layering. Examples of composite volcanoes are Mt. Mayon in the Philippines, Mt. Fujiyama in Japan, Mt. Vesuvius in Italy, Mt. Cameroon and Mt. Kilimanjaro in Kenya.  C:\Users\wilson\Desktop\2013-08-31 jo\batholith 001.jpg  **Diagram of composite cone**  **(iv) *CALDERA***  These are huge craters of volcano surrounded by the shattered remains of the cone. Caldera often result from violent eruption of the volcanic cone to the effect that the original crater is blown off giving rise to an excessively huge crater often several kilometers across. Where water accumulates, a caldera lake is formed. Examples are Lake Toba in Sumatra Crater Lake in Oregon, Panyan in Pankshin near Jos, Plateau state Nigeria. Mt. Krakatoa, which lies a few tens of metres above sea levels in Indonesia; has an important caldera which have suffered from several historic but violent destruction of the cone.  G:\images (3)crater.jpg  **(v) *FISSURE CONES***  These are long linear cones with characteristic fissures through which magma escapes down the sides of the cone. They have linear vents and usually give rise to extensive plateaux. Explosions take place relatively quietly through the numerous linear fissures (linear fractures) and spread over a wide expanse of the country e.g.  (a) Deccan Plateau in India  (b) Giant cause way in Antrim  (c) Columbia and Snake River plateau in western U.S.A.  **HOT SPRINGS AND GEYSERS**  Apart from the above materials which characterize most eruptions hot water has been associated with some areas of past and present volcanic activity e.g.  (a) Hot spring and Geyser  (b) Hot spring and thermal springs which emit hot water quietly without any violent eruption. Water rises up from the rock to the surface without any explosion. Some springs contain dissolved materials which may have medicinal values. Such springs are common in Iceland and some of them have been harnessed to heat courses, swimming pools and for other domestic purposes. They provide tourist attractions e.g. Ikogosi hot spring in Ondo State Nigeria and those in Japan and Hawaii  Geysers are not only more violent than hot springs but emit super heated steam which may sprout up to a height of 46m from the earth beneath.  Examples of major Geysers are found in;  (a) Iceland  (b) North Island of New Zealand  (c) Yellow stone National Park USA etc | The learners participate in the lesson and take down notes. | Group |
| **STEP 4**  **APPLICATION** | The teacher asks the learners to draw different features of vulcanicity. | The students participates in the lesson and ask questions. | Individual |
| **STEP 5**  **EVALUATION** | The teacher asks the students the following questions.  a .Describe the features of extrusive landforms of vulcanicity.  b. List the types of volcanoes.  c. Draw the composite cone.  d. Draw the caldera | The students answer the questions as asked by the teacher. | Group |
| **CONCLUSION** | The teacher summarizes the lesson for better understanding by the students. | The students listens attentively and take down notes. | Individual |
| **ASSIGNMENT** | Explain any three extrusive features of vulcanicity | Students write down assignment. | Individual |
| **REFERENCES** | 1. Essential geography for senior secondary schools by O.A. Iwena. 2. Comprehensive geography for senior secondary schools by Peter Oluwafemi |  |  |