Week 2

LESSON PLAN GENERAL INFORMATION

Name of Teacher: Kpaku Goriya

Date:

Class: ss1

Average age of students: 14

Term: third

Academic Year: 2019/2020

Number of students:40

Gender: Female

Week: 2

Subject: Physics

Topic/Title of lesson: Description and concept of fields

Sub-Topic: Concepts of fields

Duration: 40

Period:

Time:

c. LESSON PLAN GENERAL PROCEDURES

Instructional Media: Diagrams and charts

Instructional technique(s): discussion, demonstration and experimental methods

Instructional Objectives:

By the end of the lesson the learners should be able to:

- 1. Define field
- 2. State the two types of field.
- 3. List at least two examples of vector field.

Entry Behaviour/Previous Knowledge:

The students have be thought electrostatic

Introduction/Set Induction:

The teacher introduces the lesson by asking the student question on their previous knowledge

d. INSTRUCTIONAL PROCEDURES/PRESENTATION

Teachers' Activity	[Step 1]	Learners' Activity
The teacher presents the lesson by defining field		the students listen attentively
Teachers' Activity	[Step 2]	Learners' Activity
The teacher mention the two types of field		the students listen attentively
Teachers' Activity	[Step 3]	Learners' Activity
The teacher gives examples of vector field		the students listen attentively

e. GENERAL LEARNERS' ACTIVITY (IF ANY)

f. EVALUATION

- 1. Define field
- 2. State the two types of field.
- 3. List at least two examples of vector field

g. SUMMARY/CONCLUSION

The teacher concludes the lesson by given more explanation on the areas the students found difficulty and allowed them to copy the summary on the white board.

h. CLASS WORK (IF ANY)

- i. ASSIGNMENT/HOME WORK (IF ANY)
- j. References
 - 1. Senior Secondary School Physics by P.N. Okeke et al. 2011.
 - 2. New School Physics for Senior Secondary Schools by Anyakoha, M.W. 2010
 - 3. Physics formulae book by kpaku Goriya 2018
 - 4. Physics workbook for senior secondary one by kpaku Goriya 2018

k. LESSON NOTES:

Sub-Topic 1: CONCEPTS OF FIELDS

A field is a region under the influence of some physical agencies such as gravitation, magnetism and electricity.

There are two types of field:

- Vector field
- Scalar field.

A vector field is that field which is usually represented by lines of force; while a scalar field is that field that is not represented by lines of force.

Examples of vector fields include gravitational field, magnetic field and electric field. Examples of scalar fields include regions with distribution of temperature, density, etc.

i) Gravitational field

Gravitational field is a region of space or a force field surrounding a body that has the property of mass. In this region, any object that has mass will experience a force of attraction, called gravitational force.

Gravitational force is responsible for the fact that any object thrown up must definitely fall back. This force of gravity pulls every object towards the centre of the earth. That is to say, gravitational force causes a body which is not in contact with the earth to fall to the ground. This therefore means that the earth exerts an attractive force on every object either on it or near it.

Similarly, two objects of different masses exert equal and opposite forces of attraction on each other.

The radial field near a planet (e.g, earth) is shown below:



ii) Magnetic Field

Magnetic field is a region around a magnet where it exerts force on other magnets. It is also a region where magnetic force is felt.

The patterns of the magnetic lines of force are shown below:

MAGNETIC FIELD PATTERN

1. Field of a bar magnet:



2. Attraction between unlike poles:





NP means Neutral Point. In this point, no magnetic influence is felt.

iii) Electric Field

An electric field is a region around an electric charge where it exerts force on other charges. It is a field where an electric influence is felt.

The patterns of the electric lines of force are shown below:

1. Isolated positive and negative charge field lines:





2. Attraction between unlike charges:



3. Repulsion between like charges:



NP means Neutral Point. In this point, no electrical influence is felt.