



**Scholars
Program**



AIMS

African Institute for
Mathematical Sciences
NEXT EINSTEIN INITIATIVE



SAMPLE LESSON: MATHEMATICS

Class:Form 1

Title of Module: Introduction to plane geometry

Title of Chapter: Symmetry

Title of Lesson: Point Symmetry

Duration of Lesson: 50 mins

Name of Authors: Mrs Mafor Gladys



Scholars
Program



AIMS

African Institute for
Mathematical Sciences
NEXT EINSTEIN INITIATIVE



School: G.B.H.S Etoug-Ebe

CLASS: Form1 **Number on roll:** 60 **Boys:** 22 **Girls :** 38 **Duration :** 50 mins **Sequence** 3; **Date:** 25/01/2018

Module 2 : Introduction to plane geometry

Topic: Symmetry

Lesson: Point (central) symmetry and properties of point symmetry

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

- Define point symmetry
- List properties of point symmetry
- Identify cases of point symmetry in nature and in real life.

Motivation: Symmetry is an important geometrical concept, commonly exhibited in nature and is used almost in every field of activity. Artists, designers of clothing or jewellery, car manufacturers, architects and many others make use of the idea of symmetry. Some examples of point symmetry in nature are: sunflower, honeycomb, some letters of the alphabet— everywhere you find symmetrical designs.

PREREQUISITE KNOWLEDGE: sense of order/direction in turning, angles, point and its notation

DIDACTIC MATERIALS: worksheet, sunflower, sizable mirror

REFERENCE: - August 2014 Mathematics teaching syllabus Form one. Ministry Of Secondary Education, Cameroon.

-Study.com >academic>lesson>point-symmetry

Stages/ Duration	Teaching /learning activities	Teacher's Activities	Learners' Activities	Learning Point
Introduction (8 mins)	A/- control of prerequisite 1)What is a circle? 2)What is the radius of a circle ? 3) what is the diameter of a circle? B/- Problem situation You are provided with a mirror , what do you observed when you touch the mirror with your finger? -Are the two fingers of the same distance from the point of contact ? -Are the two fingers pointing in the same direction. What is the point where your finger touches the mirror called?	Asks orally and note the responses of students. He emphasizes on the 'centre' Writes the exercise on the board or from the chart ,read out carefully to the students.	Students respond to the questions. listen attentively.	The point where the finger touches the mirror is the same point where the image of the finger seems to be touching the mirror. This point is called the central point.
Lesson development (25 mins)	Activity 1 1. write an uppercase X on a piece of paper. 2. At the point where the lines cross, place a noticeable dot or point. 3. Try to turn the piece of paper Can you identify the different arms? What do you notice? Do you see two Vs, but one is opposite? 4. write an S, Is there a place where you could	Teacher explains instructions, moves round to assist learners as they carry out the activity -teacher emphasizes there are two Vs but one is opposite.	Follow instructions and carry out activity	Point symmetry -point symmetry occurs when there exists a position or a central point on an object such that 1-The central point splits the object or shape into two parts. 2-Everywhere on each has a matching part that is the same distance from the central point. 3-Both parts face opposite direction.

	place a point so that you have the same effect as with X? What do you notice? Activity 2 Draw the letters T, B, A on the same piece of paper and repeat the process above. What do you notice? Rotate each piece through 180 degrees. What have notice?			NOTE; if a figure is rotated 180 degrees about a point and it coincides with its original position, then it is said that the figure has a point symmetry. Examples include letter S and X
Summary (10mins)	We notice the point splits both letters into 2 similar shapes , but they face opposite direction.	Teacher writes summary on the board	copy	
Application exercise (10mins)	on the worksheet provided are some examples of symmetry in real life , discuss with your bench mates and state which of them is/are example(s) of point symmetry.	Teacher distributes worksheet to students in groups.	Students exploit images in groups according to their benches and identify which images has point symmetry	



Scholars
Program



AIMS

African Institute for
Mathematical Sciences
NEXT EINSTEIN INITIATIVE



Conclusion (5mins)	Assignment write other examples of point symmetry in nature -areas where point symmetry is useful -draw letter T, B and A on a piece of paper and repeat the first activity above with a line instead of a point. write down what you notice.	Teacher copies the questions on the board.	Students copy	
-------------------------------	---	--	---------------	--

Worksheet

Below are images of some objects showing symmetry in real life.

- Identify which of the images have point symmetry

Images of some examples of symmetry in real life

