

LESSON PLAN CLASS 9



Class	Subject	Time Slot	Lesson	Topic P1
IX	Maths	35 Mins 1 Pd	Coordinate Geometry	Introduction

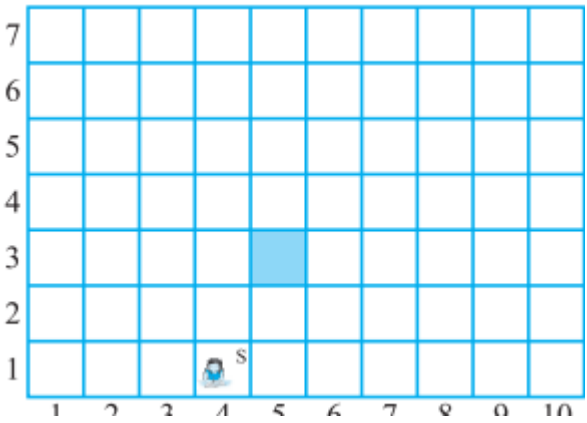
Expected Learning Outcome :The learners will be able to :

1. Describe the position of a point with reference to x – axis and y – axis
2. Draw a plan for any given situation
3. Appraise the Cartesian system.

Expected skill development:

- Communicating using mathematical terminology while doing abscissa and ordinates etc.
- Representation skills while plotting coordinates on the graph paper.
- Thinking skills while locating the position of a point in a plane.

FLOW OF LESSON WITH RESPECT TO TIME (Introduction/warm-up, Content, Think Line, Closure)

Pedagogy	Content
<u>(10 Mins) Warm Up</u> <u>Demonstration by Learners</u> Class will start with the activity (to be done in the notebook) Q1 Describe your sitting position to your Facilitator. (not more than 5 lines) Q2 Draw plan of your class room. Represent each desk as a square. Describe the position of every student by using two independent information : i) The column in which you sits. ii) The row in which you sits.	The response of learners will be checked by facilitator by taking round in class and by looking work of each individual. The helping hand will be provided to the slow learners. 

<u>(25 mins) Instructions by facilitator on Board</u> <u>(Demonstration / Discussion method)</u> The facilitator gives above two situations to the learners and ask them to do the following question 1. How will you describe the position of a table lamp on your study table to another person? (Street Plan) : A city has two main roads which cross each other at the centre of the city. These two roads are along the North-South direction and East-West direction.	The facilitator gives 10 mins to the learners to do the question. Learners will read the answer which may be quite different from others. Then facilitator explains how to decide the position of any point. The position of any object lying in a plane can be represented with the help of two perpendicular lines and this has given rise to coordinate geometry. Facilitator also introduce the great French Mathematician Rene Descartes who initially developed Cartesian system. The facilitator explains that the most important point to remember is to have two independent information The facilitator will ask the learners to make the plan accordingly. The facilitator takes a round and keeps on giving ideas to the learners for improvement.
---	---

a) Proposed Questions (must include the questions asked in the classroom <u>and</u> the ones given as class-work in the notebook) How will you describe the position of a table lamp on your study table to another person? ●	
b) Evaluation/Assessment: Peer discussion will be done. Teacher will assess the children randomly and also through student teacher interaction.	
Learners on the way What is the name of horizontal and vertical lines drawn to determine the position of any point in the Cartesian plane?	Advanced Learners If there are 10 rows and 10 columns in the cinema hall, then explain the position of your seat in the hall if your ticket number is F8 (using diagram)
Materials needed/Resources: Chalk, blackboard, duster. A chart showing Cartesian plane	
Common Misconceptions: The learners think that a 'dot' cannot have two dimensions.	Addressing the Misconceptions: This will be explained on the black board by drawing a diagram

HOME ASSIGNMENTS: Complete

(Street Plan) : A city has two main roads which cross each other at the centre of the city. These two roads are along the North-South direction and East-West direction.

LESSON PLAN CLASS 9



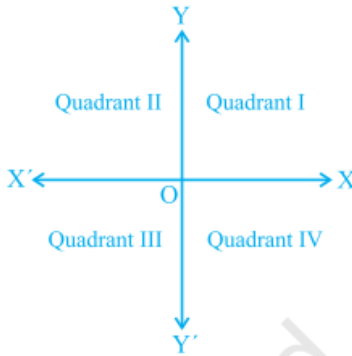
DLF Public School

THE LEARNING ACADEMY

Managed By Darbari Lal Foundation

Class	Subject	Time Slot	Lesson	Topic P2
IX	MATHS	35 Mins 1 Pd	Coordinate Geometry	Cartesian System
Expected Learning Outcome :The learners will be able to : 1. Co relate the Cartesian plane with number line. 2. Locate the point on Cartesian plane. 3. Identify the quadrants in the Cartesian plane. 4. Identify the coordinates of a point.				
Expected skill development: • Communicating using mathematical terminology while doing abscissa and ordinates etc. • Representation skills while plotting coordinates on the graph paper. • Thinking skills while locating the position of a point in a plane.				

FLOW OF LESSON WITH RESPECT TO TIME (Introduction/warm-up, Content, Think Line, Closure)

Pedagogy	Content
(5 Warm up) Demonstration by Facilitator on Black Board	The facilitator explains: We have read about the number line. On a number line the distances from a fixed point are marked in equal units positively in one direction and negatively in the other direction. Descartes invented the idea of placing two such lines perpendicular to each other on a plane, and locating points on the plane by referring them to these lines and we name it as Cartesian plane. 

(20 mins) Demonstration by Facilitator on Board Interactive Method The facilitator asks the learner to make the two axis on board	In the Cartesian plane, the horizontal line is called the x – axis and vertical line is called the y – axis • The coordinate axes divide the plane into four parts, each part is called quadrant. • The point of intersection of the axes is called the origin. • Abscissa or the x- coordinate of a point is its distance from the y – axis and the ordinate or the y – coordinate is its distance from the x – axis . • (x , y) are called the coordinates of the point whose abscissa is x and ordinate is y.
(10 mins) in class exercise: Closure The facilitator will ask the students to plot the following points on the Cartesian plane in their graph notebook (-4, -5) ; (-3 , 2) ; (0 , 5) ; (3 , 0)	

Proposed Questions (must include the questions asked in the classroom and the ones given as class-work in the notebook)

Q1 Write whether the following statements are True or False? Justify your answer.

- i) Point (0 , -2) lies on y – axis
- ii) The perpendicular distance of the point (4,3) from the x – axis is 4

Q2 The points(other than origin) for which abscissa is equal to the ordinate will lie in

- (a) I quadrant (b) I and II quadrants (c) I and III quadrants (d) II and IV quadrants

c) Evaluation/Assessment: Learners will do the calculation and write their observations in their note books. Teacher will take rounds and assess the children randomly.

Learners on the way 1. What is the name of each part of the plane formed by these two lines? 2. Write the name of the point where these two lines intersect.	Advanced Learners 1. Plot the point P(-6 , 2) and from it draw PM and PN perpendicular to x and y axis respectively. Write the coordinates of the point M and N.
Materials needed/Resources: Chalk, blackboard, duster	

Common Misconceptions: The distance of the point A(3,5) from y axis is 5hwre as it is 3,	Addressing the Misconceptions: Students will be asked to measure the distance of the point by using on Cartesian plane.
--	---

HOME ASSIGNMENTS: Do example 1 (page 57) of NCERT Text Book Class 9

LESSON PLAN CLASS 9



DLF Public School
THE LEARNING ACADEMY
Managed By Darbari Lal Foundation

Class	Subject	Time Slot	Lesson	Topic
IX	MATHS	35 Mins 1 Pd	Coordinate Geometry	P3 Plotting a point in the plane if its coordinates are given
Expected Learning Outcome :The learners will be able to : - Plot a point in the plane if its coordinates are given. - Write the abscissa and ordinate of a point - Differentiate the position of (x,y) (y,x)				
Expected skill development: - Communicating using mathematical terminology while doing abscissa and ordinates etc. - Representation skills while plotting coordinates on the graph paper. - Thinking skills while locating the position of a point in a plane.				

FLOW OF LESSON WITH RESPECT TO TIME (Introduction/warm-up, Content, Think Line, Closure)

Pedagogy	Content
(5 mins) Warm up Demonstration by facilitator on Black Board (Interactive Method) Facilitator will ask the following ques from the learners What are the coordinates of the point of origin? In which quadrant $(5, 4)$; $(-3, -2)$ and $(0, 2)$ lies?	The facilitator asks Let's plot a point $(4, 5)$ on cartesian plane. - Choose an appropriate scale - Draw the two axes - From the origin move 4 units along x axis which is the x coordinate. From this point move 5 units along y axis which is the y coordinate. The point you have reached is the required point and label it.
(25 min) Demonstration by learners on Board The facilitator asks some learners to come to the board and ask them to plot a given point. The facilitator encourages the learners and also helps them. Facilitator will ask the learners to do the following questions in their note books	Thinkline - The coordinates of a point are of the form $(+,+)$; $(-,+)$; $(-,-)$; $(+,-)$. In which quadrant they lie? - If $x \neq y$, then $(x,y) \neq (y,x)$ and $(x,y) = (y,x)$. if $x = y$. show by taking an example and plotting on cartesian plane.

(5 mins) Inclass Exercise: closure	In which quadrant or on which axis do each of the points $(-2, 4)$, $(3, -1)$, $(-1, 0)$, $(1, 2)$ and $(-3, -5)$ lie? Verify your answer by locating them on the Cartesian plane. Plot the points (x, y) given in the following table on the plane, choosing suitable units of distance on the axes. <table><tr><td>x</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>3</td></tr><tr><td>y</td><td>8</td><td>7</td><td>-1.25</td><td>3</td><td>-1</td></tr></table>	x	-2	-1	0	1	3	y	8	7	-1.25	3	-1
x	-2	-1	0	1	3								
y	8	7	-1.25	3	-1								

Proposed Questions (must include the questions asked in the classroom <u>and</u> the ones given as class-work in the notebook) - Write the coordinates of the vertices of a rectangle whose length and breadth are 5 and 3 units respectively, one vertex at the origin, the longer side lies on the x-axis and one of the vertices lies in the third quadrant. - Plot the points P (1, 0), Q (4, 0) and S (1, 3). Find the coordinates of the point R such that PQRS is a square.	
Evaluation/Assessment: Learners will do the calculation in their notebook. Teacher will take rounds and assess the children randomly.	
Learners on the way In which quadrant or on which axis do each of the following points lie? $(-2, 4)$; $(3, -1)$; $(-1, 0)$; $(1, 2)$ and $(-3, -5)$	Advanced Learners Sample Question 1 : Three vertices of a rectangle are $(3, 2)$, $(-4, 2)$ and $(-4, 5)$. Plot these points and find the coordinates of the fourth vertex.
Materials needed/Resources: Chalk, blackboard, duster, NCERT Text Book	
Common Misconceptions : $(-3, -5)$ and $(-5, -3)$ are the coordinates of the same point.	Addressing the Misconceptions: - The learners will be asked to plot both the points in their notebooks and more such type of questions will be given - Teacher will personally take rounds to cater to the need of students

HOME ASSIGNMENTS: Complete Ex 3.2 and Ex 3.3 as discussed of NCERT Text Book Class 9