

CLASS – IX
LESSON PLAN
CHAPTER-3: COORDINATE GEOMETRY

Unit	Chapter 3: Coordinate Geometry
Class Transaction	Total: 5 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of x-axis and y-axis. 2. Knowledge of how to locate a point on the number line.
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. Group Discussion 4. HW notebook
Objective	Students would be able to explore the idea of location of an object with frame of reference, to learn to locate a point in four quadrants with reference to x – axis and y – axis and to draw the graph of a given linear equation, thereby inculcating competencies like collaboration, critical thinking and creativity
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will develop the ability to understand</i> 1. The Cartesian/co-ordinate plane. 2. The co-ordinate axes. 3. The quadrants and the sign of the co-ordinates of a point in different quadrants. 4. The meaning of origin. 5. Plot the points in the Cartesian plane if the co-ordinates are given. <u>SKILLS and COMPETENCIES</u>-<i>Students would be able to</i> 1. Locate and analyze the quadrant in which the given point lies. 2. Write the co-ordinates of the given point. 3. Plot a point if the x-axis and y-axis co-ordinate points are given, develop critical thinking and collaboration in the process.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies Used : Inductive Deductive Reasoning, Graphic Organizers Dimensions of Learning : D1, D2, D3 Transaction would proceed in the following manner- The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. <i>Introduction of the topic-</i> ppt and Digital Content would be shared

	<i>Guided practice followed by Independent Practice-</i> NCERT questions to be discussed in the classroom. Techniques to be used: Quiz Daily Practice Problem MCQ Peer Assessment Lab Activities Any Other
Resources	Text Book: NCERT text book for Mathematics Reference Book 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W notebooks. HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 marks On time submission.....1 mark Presentation/ Neatness.....1 mark Content.....3marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Assessments	Through Pen Paper Test Students will be assessed creatively and critically 4 UNIT TESTS 20 Marks each HALF YEARLY EXAMINATION 80 Marks ANNUAL BOARD EXAMINATION 80 Marks INTERNAL ASSESSMENT 10 Marks - Note Book Submission 05 Marks - Lab Practical (Subject Enrichment) 05 Marks Through lab Practical Students are assessed for Collaboration, Character building
Addressing Classroom Diversity	Due to various social backgrounds and multiple intelligences, the classroom might be a diverse arena. The following techniques can be used for various groups: <i>For gifted students:</i> Spiral Level 3 questions to be done

	• Encouragement for referring other resources <i>For weak students:</i> • Spiral Level 1 to be completed • Buddy help to be provided • Provide grade-up classes <i>For differently abled students:</i> • Ignore spelling mistakes and formulae, if not written. • Call parents at regular intervals. • Provide grade-up classes. • Encourage and motivate them at every level.
Marks	The weightage would be given by CBSE.
Assessment Questions	1. What is the ordinate of all points on x-axis? 2. The perpendicular distances of a point from x and y are 5 and 1 respectively. What are its coordinates? 3. Plot each of the following points by taking a coordinate system on a graph paper A (4, 2), B (3, -1), C (-3, 0), D(-5, -3), E(-3, 1) 4. In which quadrant or on which axis each of the points lie? A(5, - 7), B(4, 0), C(1, -3) 5. Write the coordinates of the following: 4 units right to the origin and 3 units below origin.

DAY	ONE
Objective	Enhance ability to accurately recognize and use appropriate terminology related to coordinate geometry and developing the art of communication and critical thinking.
Assessment of qualifying knowledge	Quiz and knowledge testing on how to find a point and thus describe its position with reference to more than one line.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and identify the points by analyzing two independent information for finding the position of the point. <u>SKILLS and COMPETENCIES</u> Students would be able to Reason effectively and critically describe positions of different points.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Dimensions used : (D1, D2) Strategy used: Muddiest Point Discussion, Think Pair and Share Transaction would proceed in the following manner- Anticipatory Set: 10 min Facilitator will ask few questions to introduce the topic •How to locate a point on a number line? •How to describe the position of a point on the line? •How to locate the position of a random dot on the paper? • What independent information we need for finding the position of the dot? Discussion of topic through Collaborative Learning: 15 min Inquiry based learning (Critical Thinking and Problem Solving) Students would be asked to write different real life situations in which they are supposed to locate and examine the position of the thing. The facilitator would take rounds and ensure that each learner is engaged. Guided practice: 10 min The students will solve the questions from NCERT book, solved examples before Ex 3.1 in their notebook in the class with the help of their facilitator. The facilitator would take rounds and help the students in solving the questions. Independent Practice: Students will go through the solved examples before Ex 3.1 of NCERT text book. Closure: 5 min A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	Text Book: NCERT text book for Mathematics Reference Book 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebook.
Assessments	Oral Test (5 minutes)
DAY	TWO
Objective	Students will be able to identify the two perpendicular lines, coordinates to locate a point in a plane and would also be able to locate positions of different points in collaborative

	manner.
Assessment of qualifying knowledge	Written questions on locating points on the cartesian plane.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and Demonstrate the ability to find positions of different points <u>SKILLS and COMPETENCIES</u>- Students will be able to differentiate and classify the different axes and coordinates, in collaboration with each other.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Dimension Used : (D2, D3) Strategy used : Brain Storming Recapitulation: 5 min Brainstorming on the previously taught concept would be done. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration) An oral quiz will be taken and students will be asked to identify and locate various positions of different points and will be able to realize the fact that the coordinates describe a point in the plane uniquely. Guided practice: 15 min The students, with the help of the facilitator, will solve the questions from NCERT book of Exercise – 3.2 in their notebook in the class with the help of their teacher. The teacher would ensure that each student tries to be independent at the work as well as be under the teacher’s guidance. Independent Practice: Students will complete the remaining HW parts given in the monthly planner of Exercise 3.2 in their Math HW notebook. Students who would difficulty in solving the problem would solve with the help of their buddies. Closure: 5 min A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	Text Book: NCERT text book for Mathematics Reference Book 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks.
Assessments	Oral quiz (5 minutes)
DAY	THREE
Objective	To solve the questions of Ex- 3.3 based on Plotting a Point in the Plane if its Coordinates are Given.
Assessment of qualifying knowledge	Written questions on how to place points in the plane if we know its coordinates, calling this process “plotting the point”.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the Plotting of point in the coordinate plane . <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations and collaboratively realize the fact that the order of x and y is important while plotting the coordinate (x,y) in the co-ordinate plane.

Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Dimension Used : (D2, D3)</u> <u>Strategy used : Brain Storming</u> Brainstorming on the previously taught concept would be done. Transaction would proceed in the following manner- <u>Recapitulation: 5 min</u> Oral test on the previous concept would be taken up. <u>Discussion of topic through Collaborative Learning: 15 min</u> (Critical thinking) Exercise 3.3 would be discussed and students would solve different questions per group and then the questions would be crosschecked. Digital content would be used. The facilitator would take rounds and help students with their doubts. <u>Guided Practice: 15 min</u> The students will solve the questions from NCERT book of Exercise – 3.3 in their notebook in the class with the help of their teacher. The teacher would ensure that each student tries to be independent at the work as well as be under the teacher’s guidance. <u>Independent Practice:</u> Students will complete the remaining HW parts given in the monthly planner of Exercise 3.3 in their Math HW notebook. <u>Closure: 5 min</u> A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	Text Book: NCERT text book for Mathematics Reference Book 1. CBSE Exemplar
Self Study, Home Work, Assignments	<u>Independent Practice:</u> Students would do the given questions in their H.W. notebooks.
Assessments	Written test (5 minutes)