

CLASS – VIII
LESSON PLAN
CHAPTER-15 : INTRODUCTION TO GRAPHS

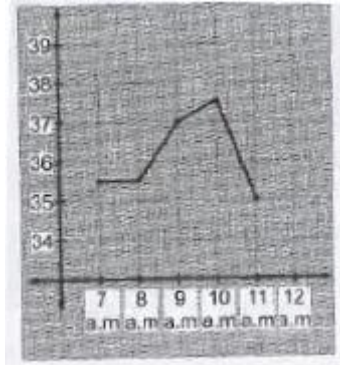
Unit	Introduction to graphs (Chapter 9: Introduction to graphs)
Class Transaction	Total: 4 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of axis of graph. 2. Knowledge of positive and negative integers.
Assessment of qualifying knowledge	1. Written test 2. HW notebook
Objective	Students would be able to Read and analyze a linear graph, locate a point in the coordinate system, find coordinates of a given point, plot graphs for the given data, 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 linear graphs. 2. The coordinates of a linear graph. SKILLS and COMPETENCIES- <i>Students would be able to</i> 1. Develop the ability to analyze the linear graphs. 2. Perform skills like calculating coordinates and plot a linear graph and 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- Muddiest point discussion, think pair share. Dimensions Of Learning- D1, D3 Transaction would proceed in the following manner- <i>Brain Storming</i>-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 Case Studies Lab Activities

	Any Other						
Resources	Text Book: NCERT text book for Mathematics Reference Book 1. CBSE Exemplar 1.						
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks H.W. 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.....3 marks 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 <table> <tr> <td>4 UNIT TESTS</td> <td>20 Marks each</td> </tr> <tr> <td>HALF YEARLY EXAMINATION</td> <td>80 Marks</td> </tr> <tr> <td>ANNUAL BOARD EXAMINATION</td> <td>80 Marks</td> </tr> </table> 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, Character Building	4 UNIT TESTS	20 Marks each	HALF YEARLY EXAMINATION	80 Marks	ANNUAL BOARD EXAMINATION	80 Marks
4 UNIT TESTS	20 Marks each						
HALF YEARLY EXAMINATION	80 Marks						
ANNUAL BOARD EXAMINATION	80 Marks						
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> - HOTs questions to be done - Encouragement for referring other resources <i>For weak students:</i> - 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.						

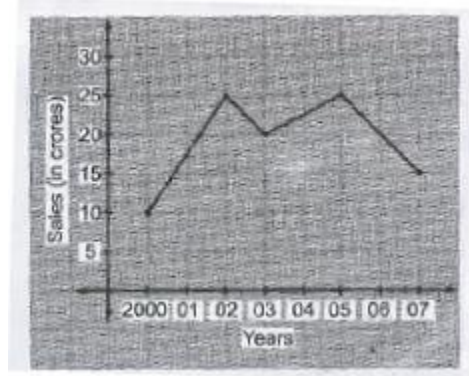
Marks	The weightage would be given by CBSE.

ASSESSMENT QUESTIONS

1. The graph shows the temperature of a patient recorded before noon. Read it and answer the following questions.



- What was patient's temperature at 9 a.m.?
 - What the highest temperature of the patient?
 - When was the patient's temperature lowest?
 - During which period, the patient's temperature remained constant?
2. The graph shows the yearly sales figure of a shoe manufacturing company.



- What were the sales in 2000?
 - In which year the sales were maximum?
 - What is the difference between the sales in the year 2003 and 2005?
3. Draw a linear graph for the following data:
- | Month | May | June | July | August |
|-------------------|-----|------|------|--------|
| Rainfall. (in cm) | 5 | 7 | 4 | 6 |
4. Plot the points on a graph: A(4, 9); B(6, 0); C(7, 7); D(2, 4)
5. Plot the points A(4, 3). B(4, 0), (4, 2), (4, 6) and join them. Do they lie on the same line?

DAY	ONE
Objective	Understand What are axis, coordinate points of a graphs
Assessment of qualifying knowledge	Quiz and knowledge testing on types of polynomials and identifying coefficients.
Learning Outcomes	<u>KNOWLEDGE</u> - <i>Students will know what are axis of a graph.</i> <u>SKILLS and COMPETENCIES</u> <i>Students would be able to Reason effectively and critically compare the two graphs.</i>
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Think pair share. Dimensions Of Learning- D1,D3 Anticipatory Set: 10 min Facilitator will ask few questions to introduce the topic • What is an axis? • What is a graph? • What is comparison? Discussion of topic through Collaborative Learning: 15 min <u>Inquiry based learning</u> (Critical Thinking and Problem Solving) Explanation of choice of axis and scale, reading and comparison of graphs to be done through real life examples. Discussion of questions of Ex 15.1. Guided practice: 10 min The students will solve the questions from NCERT book, solved examples before Ex 15.1 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 and solve Ex 15.1 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 2. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks
Assessments	Oral Test (5 minutes)

DAY	TWO
Objective	Students will be able to calculate coordinates from the given information and plot the linear graph in collaborative manner .
Assessment of qualifying knowledge	Written questions on representing given information on graph.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and Demonstrate the ability to use coordinate system. <u>SKILLS and COMPETENCIES</u>- Students will be able to differentiate and classify various types of graphs, in collaboration with each other.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Muddiest point discussion Dimensions Of Learning- D1, D3 Transaction would proceed in the following manner- Recapitulation: 5 min Brainstorming on the previously taught concept would be done. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration) Introduction to the coordinate system using squared sheet. The meaning of x and y coordinates to be explained through examples. Plotting of points in (x, y) plane. Guided practice: 15 min The students, with the help of the facilitator, will solve the questions from NCERT book of Exercise – 15.3 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. Independent Practice: Students will complete the remaining HW parts of Exercise 15.3 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 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	Students will be able to calculate coordinates from the given information and plot the linear graph in collaborative manner .

Assessment of qualifying knowledge	Written questions on representing given information on graph.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and</i> Demonstrate the ability to use coordinate system. <u>SKILLS and COMPETENCIES</u>- <i>Students will be able to</i> differentiate and classify various types of graphs, in collaboration with each other.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Muddiest point discussion, think pair share. Dimensions Of Learning- D1, D3 Transaction would proceed in the following manner- Recapitulation: 5 min Brainstorming on the previously taught concept would be done. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration) Introduction to the coordinate system using squared sheet. The meaning of x and y coordinates to be explained through examples. Plotting of points in (x, y) plane. Guided practice: 15 min The students, with the help of the facilitator, will solve the questions from NCERT book of Exercise – 15.3 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. Independent Practice: Students will complete the remaining HW parts of Exercise 15.3 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 CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks
Assessments	MCQ (5 minutes)
DAY	FOUR
Objective	Solving various levels of questions
Assessment of qualifying	Oral test on various concepts being used in chapter.

knowledge	
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. Various concepts being applied on algebraic expressions. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 1. Recall the concepts and terms being used in chapter to solve the questions. 2. Critically Apply and solve the questions
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Think pair share. Dimensions Of Learning- D1,D3 Transaction would proceed in the following manner- Recapitulation: <u>5 min</u> Oral Test would be taken up. Discussion of topic through Collaborative Learning: <u>10 min</u> (Critical) Extra questions and examples would be taken up. Guided Practice: <u>20 min</u> The teacher would explain the questions. Independent Practice: Students would try questions given by teacher Closure: <u>5 min</u> Summarization, preferably by a student, would be taken to check proper assimilation of the topic discussed. .
Resources	Text Book: NCERT text book for Mathematics Reference Book CBSE Exemplar
Self-Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks
Assessments	Oral test (5 minutes)