

CLASS – VII
LESSON PLAN
CHAPTER-1: Perimeter and Area

Unit	Perimeter and area.(Chapter 11: perimeter and area)
Class Transaction	Total: 8 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of perimeter of rectangle 2. Knowledge of perimeter and area of square. 3. Conversion of one shape to another
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. HW notebook
Objective	Students would be able to identify the difference between various types of figure and develop skills of performing calculations to find the area and perimeter of different figures, thereby inculcating competencies like collaboration, critical thinking and creativity
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will develop the ability to understand</i> 1. Perimeter and area of different figures 2. Need to find the area and perimeter in different situations. <u>SKILLS and COMPETENCIES</u>-<i>Students would be able to</i> 1. Develop the ability to analyze and differentiate the different conditions where to find perimeter and where to find area. 2. Perform numerical skills 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.)	Transaction would proceed in the following manner- Strategies used- Brain storming, Muddiest point of discussion, think pair share. Dimensions of learning- D1,D2, D3 <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 CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks from their course books. 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 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, 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> • Encouragement for referring other resources • HOTS (high order thinking skills questions) <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	1.	Two sides of a parallelogram are 20 cm and 25 cm. If the altitude corresponding to side 25 cm is 10 cm, find the altitude corresponding to the other pair of sides.
	2.	A square garden has a side of 22 meters. How many meters of fence are needed to enclose the garden 5 times?
	3.	The length and breadth of a rectangular plot are in the ratio 9: 5. If its perimeter is 280m, find its area.
	4.	A window of length 1.5 m and 0.5 m is on a wall of length 4.5 m and breadth 3.5 m. Find the cost of white washing the wall, if the rate of white washing the wall is Rs. 25 per square metre.
	5.	The radius of a circular pipe is 10 cm. What length of a tape is required to wrap once around the pipe ($\pi = 3.14$)?
	6.	Diameter of a circular garden is 9.8 m. Find its area
	7.	The radii of two circles are 8 cm and 6 cm respectively. Find the radius of the circle having area equal to the sum of the areas of the two circles.

DAY	ONE
Objective	Enhance ability to accurately recognize and use appropriate terminology related to perimeter and area and developing the art of communication and critical thinking.
Assessment of qualifying knowledge	Quiz and knowledge testing on situations to find area or perimeter.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and identify sums and what to find area or perimeter <u>SKILLS and COMPETENCIES</u> Students would be able to Reason effectively and critically why as to find area or perimeter in the given question.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Anticipatory Set: 10 min Facilitator will ask few questions to introduce the topic • What is perimeter? • What is area? • What need to be calculated while finding length of lace required to put around a saree? Discussion of topic through Collaborative Learning: 15 min <u>Inquiry based learning</u> (Critical Thinking and Problem Solving) Students would be asked to write different type of examples from daily life of finding perimeter and area. 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 11.1 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 11.1 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 CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks from their course book.
Assessments	Oral Test (5 minutes)
DAY	TWO

Objective	Students will be able to identify the difference between perimeter and area and would also be able to find them in different questions. in collaborative manner .
Assessment of qualifying knowledge	Written questions on finding perimeter and area.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and Demonstrate the ability to find perimeter and area of rectangle or square <u>SKILLS and COMPETENCIES</u>- Students will be able to differentiate and classify they need to find perimeter or area, in collaboration with each other.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	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) An oral quiz will be taken and students will be asked to identify the situations where students are supposed to find area or perimeter and solve the questions. Guided practice: 15 min The students, with the help of the facilitator, will solve the questions from NCERT book of Exercise – 11.1 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 11.1 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 from their course book.
Assessments	Oral quiz (5 minutes)
DAY	THREE
Objective	To solve the questions of Ex- 11.1 based on area and perimeter of rectangle and square
Assessment of qualifying knowledge	Written questions on finding perimeter and area of square.
Learning Outcomes	<u>KNOWLEDGE</u> - Students will develop the ability to understand the

	Need to find the area or perimeter? <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations and collaboratively realize the fact the difference between perimeter and area.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Recapitulation: 5 min Oral test on the previous concept would be taken up. Discussion of topic through Collaborative Learning: 15 min (Critical thinking) Exercise 11.1 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. Guided Practice: 15 min The students will solve the questions from NCERT book of Exercise – 11.1 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 1.1 in their Math HW notebook. 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 from their course book..
Assessments	MCQ (5 minutes)
DAY	FOUR
Objective	To understand area of triangle and parallelogram.
Assessment of qualifying knowledge	Written test on identifying base and altitude.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the concept of area of triangle and parallelogram. <u>SKILLS and COMPETENCIES</u> - Students would be able to 1. Critically apply the concepts in given situations and collaboratively realize the fact that area of triangle depends upon its base and altitude. 2. Comprehend that area of triangle is half the area of parallelogram

Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Recapitulation: 5 min Quick revision on the previous concept would be taken up. Discussion of topic through Collaborative Learning: 15 min (Creativity, Collaboration) Area of triangle would be introduced to students. They will know how to find area of triangle and parallelogram This would be discussed in detail with vivid examples. Guided Practice: 15 min The students will solve the questions from NCERT book, solved examples before Ex 11.2 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 find area of triangle and parallelogram. Closure: 5 min Discussion of muddiest point. (the point which had been most difficult to understand by the entire class.) .
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. notebook from their course book.
Assessments	Written test (5 minutes)
DAY	FIVE
Objective	To understand the circumference and area of circle
Assessment of qualifying knowledge	MCQ on area and circumference of circle.
Learning Outcomes	KNOWLEDGE- Finding the area and circumference of a circle. SKILLS and COMPETENCIES - <i>Students would be able to</i> Comprehend the need to find the area and circumference of circle, through collaborative leaning process.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Recapitulation: 5 min Quick revision on the previous concept would be taken up. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration) Finding the area and circumference of circle This would be discussed in detail with vivid examples. Guided Practice: 15 min The students will solve the questions from NCERT book, solved examples before Ex 11.3 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 find various irrational numbers in view of its definition. Closure: 5 min Discussion of muddiest point. .
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 from their course book.
Assessments	MCQ (5 minutes)
DAY	SIX
Objective	To solve questions from Ex 11.3
Assessment of qualifying knowledge	Written test on circumference and area of circle.
Learning Outcomes	<u>KNOWLEDGE-</u> <i>Students will know and understand</i> circumference and area of circle. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 1. Apply the given knowledge with 100 % accuracy 2. Critically find the need to find area and circumference.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Recapitulation: 5 min Oral test would be taken. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking) How to use formulae of area and circumference of a circle would be discussed in detail. Guided Practice: 15 min The students will solve the questions from NCERT book of Exercise – 11.2 in their notebook in the class with the help of their facilitator. Independent Practice: Students will complete the remaining HW parts of Exercise 11.3 in their Math HW notebook. Closure: 5 min 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	Independent Practice: Students would do the given questions in their H.W

Work, Assignments	from their course book.
Assessments	Written test (5 minutes)
DAY	SEVEN
Objective	To solve the questions from NCERT book of Exercise – 11.3
Assessment of qualifying knowledge	Written test on formulae of area and circumference of a circle
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand the area and perimeter of circle.</i> <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to find area and circumference of circle.</i>
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Recapitulation: 5 min Warming session would be taken. Discussion of topic through Collaborative Learning: 15 min (Critical thinking, communication) Solved examples from the book would be taken up. Brainstorming on circumference and area of circle. Guided Practice: 20 min The students will solve the questions from NCERT book of Exercise – 11.3 in their notebook in the class with the help of their facilitator. The facilitator would explain the questions from Ex1 1.3 with a collaborative approach towards them. Independent Practice: Students will complete the remaining HW parts of Exercise 11.3 in their Math HW notebook. Closure: 5 min 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 from their course book.
Assessments	Written test (5 minutes)
DAY	EIGHT
Objective	To use formulae learnt to find area of cross roads.
Assessment of qualifying knowledge	Written test on calculating area of cross roads
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. The various kinds of complicated figures (cross roads) <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 1. Critically visualize the representation of cross roads.

	2. Differentiate between perimeter and area
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Recapitulation: <u>5 min</u> One-minute test would be taken. Discussion of topic through Collaborative Learning: <u>15 min</u> (Creativity) Finding area of cross roads. Mind mapping would be used Guided Practice: <u>15 min</u> The facilitator would explain through different examples. Collaborative approach would be taken up. Independent Practice: Students will go through the solved examples before Ex 11.4 of NCERT text book. 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 from their course book.
Assessments	Written test (5 minutes)