

LESSON PLAN 10

TEACHER'S NAME :

SUBJECT: MATHEMATICS

CLASS: 6

UNIT : MENSURATION

No.of Periods: 9+11=20

PERIOD ALLOTMENT

NAME OF THE UNIT	SUB-TOPICS	NO OF PERIODS REQUIRED			Time line for teaching	
		Teaching	Practice	TOTAL	From	To
MENSURATION	10.1 PRE-REQUISITES & INTRODUCTION	1	1	2		
	10.2 PERIMETER	4	5	9		
	10.2.1 PERIMETER OF A RECTANGLE					
	10.2.2 PERIMETER OF REGULAR SHAPES					
	10.3 AREA	4	5	9		
	10.3.1 AREA OF A RECTANGLE					
10.3.2 AREA OF A SQUARE						
TOTAL	9	11	20			

PRE-REQUISITES OF THE LESSON

LEARNING OUTCOMES

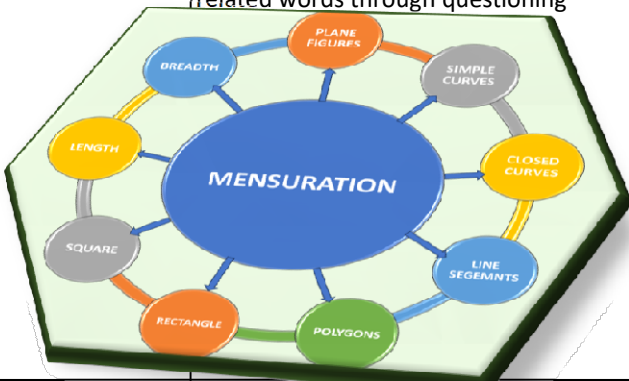
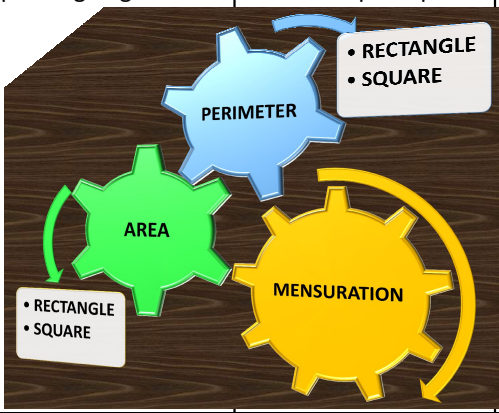
Every Pupil is expected to have basic knowledge in

- # different plane figures like simple curve, complex curve, open curve & Closed curve
- # identifying polygons as simple closed figures formed by line segments
- # discriminating polygons by their number of sides triangle, quadrilateral, etc.,
- # finding the variations in quadrilaterals like rectangle and square
- # visualizing rectangle and square in real life exemplary objects.
- # four basic operations +, -, ×, ÷

After Completion of this lesson every student will be able to

- # apprehend and discriminate between the basic terms Perimeter & Area
- # calculate the perimeter of any rectangular & square shaped figure using given measures and other non polygons using thread method
- # calculate the area of Rectangle and Square shaped figures using given measures
- # Utilize the concept of graph paper to measure the areas of other polygons and non polygons to a level of maximum accuracy.
- # appreciate the utility of "Mensuration" in real life sums

TEACHING PERIOD : 1 (PRE - REQUISITES & INTRODUCTION)


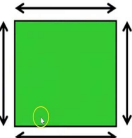
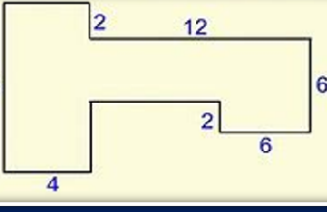



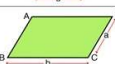
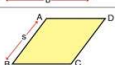
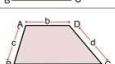






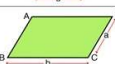
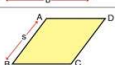
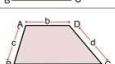






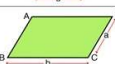
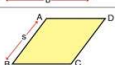
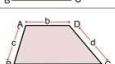



CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
PRE REQUISITES	Brain storming session involving children with pre-requisites vocabulary and concepts related to previous knowledge. Introduction of new vocabulary and key words associated with the concept through questioning # Mensuration # Simple curve # closed curve # Line segments # Polygons # Rectangle # Square # Length # Breadth	* Students read the pre-requisites and answer the questions to the teacher (whole class activity)	Every Pupil will read and write the key words in their note books
MIND MAPPING	Teacher writes the key word " MENSURATION " on the black board and will elicit its other related words through questioning 	Heterogeneous groups are created. One group will read the words and other will explain the meaning	Pupils individually read the keywords associated with the lesson
RELEVANCE OF THE LESSON	Teacher conducts a discussion on the importance of the lesson through questioning 1. Give some examples of simple curves? 2. What type of curves are polygons? 3. A polygon of 4 sides is named as ___? 4. If a quadrilateral has all angles as right angles then what type of quadrilateral is that?	Students participate in the discussion and ask questions	Pupils individually write their responses to the questions asked
CONCEPT MAP	Teacher displays the concept map depicting various concepts that pupil are going to learn in this lesson 	Whole class read the concept map	
ASSESSMENT	Teacher asks children to guess what has to be found in some real life situations where it is needed to fence a field or paint a black board or wall.	every group will do the task by discussion among each other	every individual solves the task on their own

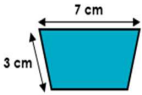

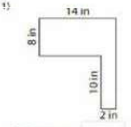
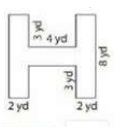
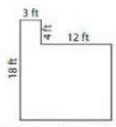
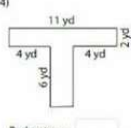
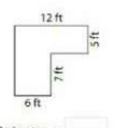
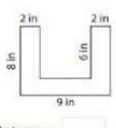
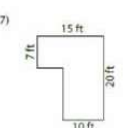
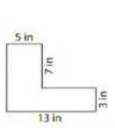
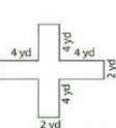
PRACTICE PERIOD: 1

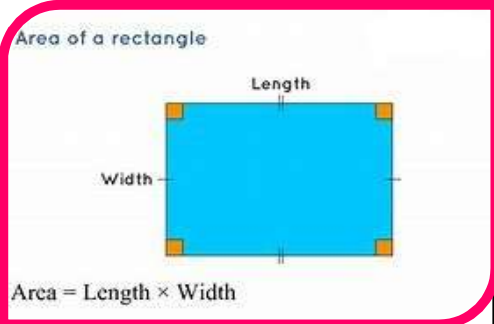
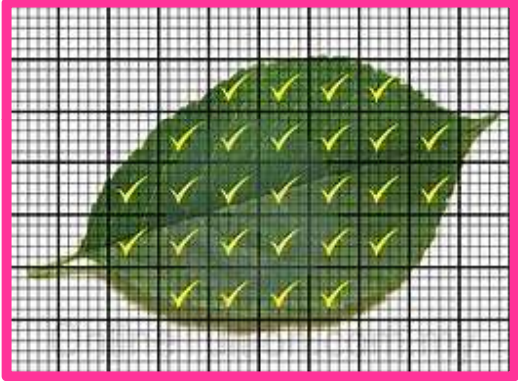
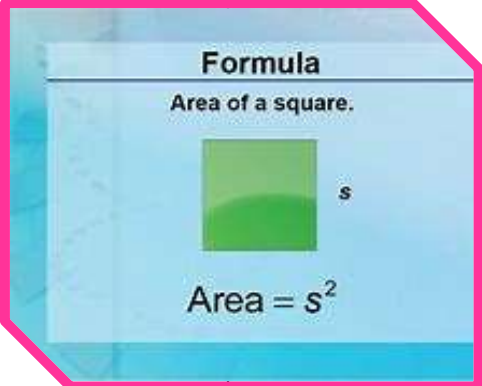
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books # Mensuration # Simple curve # closed curve # Line segments # Polygons # Rectangle # Square # Length # Breadth	Students read these key words in groups and will try to give examples to each key word	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	Teacher quotes some real life examples where it is needed to find perimeter and area of some rectangular and square shaped objects of real life and asks children to quote some more by watching similar lines.	Each group will observe the similar lines and will frame some more by discussion	Every Individual will frame some more using similar lines

1. *To fence a field we need to find the perimeter of the field.*
2. *To stick a glitter tape border to a drawing board we need to find the perimeter of the board.*
3. *To colour a wall of my room I need to find its area.*

SUMMARY/ SYNOPSIS	Teacher writes synopsis on the board and asks children to read,write and practice	pupils will note down and read the summary in groups	every individual spells and reads the summary and notes it down
WRITING/ EDITING	Teacher conducts a dictation on key words ,pre-requisites and similar lines and asks children to exchange books for editing after writing is finished.	One group will check the writings of the other and vice versa	Slow learners are focused and teacher will ascertain that every individual learns the

TEACHING PERIODS : 2 to 5	PERIMETER PERIMETER OF A RECTANGLE PERIMETER OF REGULAR SHAPES																																
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)																														
KEY WORDS	Brain storming session involving children with key words # Perimeter # Regular shapes # Rectangle # Square # Uneven shapes # boundary # closed figure # length # breadth	* Students read the keywords answer the questions to the teacher (whole class activity)	Every Pupil will read and write the key words in their note books																														
CONCEPTUAL UNDERSTANDING <div data-bbox="175 751 431 1003" style="border: 2px solid red; padding: 5px;"> <p>Formula</p> <p>Perimeter of a Rectangle.</p>  <p>Perimeter = $2(l + w)$</p> </div> LEARNING ACTIVITY <div data-bbox="175 1201 521 1482" style="border: 2px solid blue; padding: 5px;"> <p>What is Perimeter?</p> <p>The perimeter is the distance all the way around the outside of a 2D shape, space or area.</p>  </div> <div data-bbox="526 1150 971 1535" style="border: 2px solid pink; padding: 5px;"> <p>Find the perimeter of the following shape</p>  <p>The perimeter is = $10+4+2+12+6+6+2+4$ = 52 units</p> </div> <div data-bbox="976 842 1453 1535" style="border: 2px solid blue; padding: 5px;"> <p>Perimeter of Polygons</p> <table border="1" data-bbox="998 892 1429 1522"> <thead> <tr> <th>Polygons</th> <th>Shapes</th> <th>Formulas</th> </tr> </thead> <tbody> <tr> <td>Triangle</td> <td></td> <td>Perimeter (P) = $a + b + c$ here, a = AB, b = BC c = CA</td> </tr> <tr> <td>Rectangle</td> <td></td> <td>Perimeter (P) = $2(w + l)$ here, w = width, l = length</td> </tr> <tr> <td>Square</td> <td></td> <td>Perimeter (P) = $4a$ here, a = side</td> </tr> <tr> <td>Parallelogram</td> <td></td> <td>Perimeter (P) = $2(a + b)$ here, a = AB = CD b = BC = DA</td> </tr> <tr> <td>Rhombus</td> <td></td> <td>Perimeter (P) = $4s$ here, s = side</td> </tr> <tr> <td>Trapezoid</td> <td></td> <td>Perimeter (P) = $a + b + c + d$ here, a = BC, b = AD c = AB, d = CD</td> </tr> <tr> <td>Kite</td> <td></td> <td>Perimeter (P) = $2(a + b)$ here, a = AB = DA b = BC = CD</td> </tr> <tr> <td>Pentagon</td> <td></td> <td>Perimeter (P) = $5s$ here, s = side</td> </tr> <tr> <td>Hexagon</td> <td></td> <td>Perimeter (P) = $6a$ here, a = side</td> </tr> </tbody> </table> </div>	Polygons	Shapes	Formulas	Triangle		Perimeter (P) = $a + b + c$ here, a = AB, b = BC c = CA	Rectangle		Perimeter (P) = $2(w + l)$ here, w = width, l = length	Square		Perimeter (P) = $4a$ here, a = side	Parallelogram		Perimeter (P) = $2(a + b)$ here, a = AB = CD b = BC = DA	Rhombus		Perimeter (P) = $4s$ here, s = side	Trapezoid		Perimeter (P) = $a + b + c + d$ here, a = BC, b = AD c = AB, d = CD	Kite		Perimeter (P) = $2(a + b)$ here, a = AB = DA b = BC = CD	Pentagon		Perimeter (P) = $5s$ here, s = side	Hexagon		Perimeter (P) = $6a$ here, a = side	Teacher conducts an activity involving heterogeneous groups where each group will be asked to find the length of each edge of their class room and find the total length of the class room. Besides that each group is supplied with a number of regular and polygons and irregular polygons along with some rectangles and squares and are asked to measure the perimeter of those all polygons by finding the sum of the lengths of each side. Here teacher demonstrates the procedure of finding perimeter of different types of polygons.	Each group will understand the concepts by participation in the activity	every child learns the concept through the learning activity and observation of TLM
Polygons	Shapes	Formulas																															
Triangle		Perimeter (P) = $a + b + c$ here, a = AB, b = BC c = CA																															
Rectangle		Perimeter (P) = $2(w + l)$ here, w = width, l = length																															
Square		Perimeter (P) = $4a$ here, a = side																															
Parallelogram		Perimeter (P) = $2(a + b)$ here, a = AB = CD b = BC = DA																															
Rhombus		Perimeter (P) = $4s$ here, s = side																															
Trapezoid		Perimeter (P) = $a + b + c + d$ here, a = BC, b = AD c = AB, d = CD																															
Kite		Perimeter (P) = $2(a + b)$ here, a = AB = DA b = BC = CD																															
Pentagon		Perimeter (P) = $5s$ here, s = side																															
Hexagon		Perimeter (P) = $6a$ here, a = side																															
SUMMARY	Teacher once again writes important key words and procedures and asks children to note down and adopt.	Pupils will note down and read the summary in groups	Every individual reads the summary and notes it down and adopts the procedure																														
ASSESSMENT	Teacher gives some questions from Try These sections as well as some examples and asks children to solve those sums	Every group will do the sums by discussion among each other	Every individual solves the sums on their own																														

PRACTICE PERIODS : 2 to 6	PERIMETER PERIMETER OF A RECTANGLE PERIMETER OF REGULAR SHAPES		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books # Perimeter # Regular shapes # Rectangle # Square # Uneven shapes # boundary # closed figure # length # breadth	Whole class activity : one child comes to the board and reads the key words loudly and the remaining class follows.	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	Teacher finds out the perimeter of some figures and asks children to solve the sums in the worksheet provided to them by watching similar lines	Each group will read the similar lines and will frame some more by discussion	Every Individual will do a few more by watcing similar lines
<div data-bbox="188 989 841 1398" style="border: 2px solid green; padding: 10px;"> <p style="text-align: center;">Perimeter of Polygons</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>1a. Look at the irregular polygon below. Is Lauren correct? Convince me. <i>Not to scale</i></p>  <p>I know the perimeter is 20 cm.</p> </div> <div style="width: 45%;"> <p>1b. Look at the regular polygon below. Is Liam correct? Convince me. <i>Not to scale</i></p>  <p>I cannot work out the perimeter as I do not know all the measurements.</p> </div> </div> </div>		<div data-bbox="878 915 1406 1486" style="border: 2px solid pink; padding: 10px;"> <p style="text-align: center;">Find the perimeter of each shape.</p> <div style="display: grid; grid-template-columns: repeat(3, 1fr); gap: 10px;"> <!-- Problem 1 --> <div> <p>1) </p> <p>Perimeter = <input type="text"/></p> </div> <!-- Problem 2 --> <div> <p>2) </p> <p>Perimeter = <input type="text"/></p> </div> <!-- Problem 3 --> <div> <p>3) </p> <p>Perimeter = <input type="text"/></p> </div> <!-- Problem 4 --> <div> <p>4) </p> <p>Perimeter = <input type="text"/></p> </div> <!-- Problem 5 --> <div> <p>5) </p> <p>Perimeter = <input type="text"/></p> </div> <!-- Problem 6 --> <div> <p>6) </p> <p>Perimeter = <input type="text"/></p> </div> <!-- Problem 7 --> <div> <p>7) </p> <p>Perimeter = <input type="text"/></p> </div> <!-- Problem 8 --> <div> <p>8) </p> <p>Perimeter = <input type="text"/></p> </div> <!-- Problem 9 --> <div> <p>9) </p> <p>Perimeter = <input type="text"/></p> </div> </div> </div>	
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and definitions and asks children to note down and adopt.	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that every child is able to learn the concept in successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise 10.1 and asks children to solve those sums and teacher checks the writings of children	One group will check the writings of the other and vice versa	

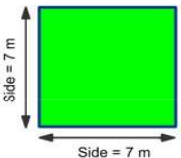
TEACHING PERIODS : 6 to 9	AREA AREA OF A RECTANGLE AREA OF A SQUARE		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS	Brain storming session involving children with key words # Area # Closed figure # Graph sheet # Fully filled squares # Half filled squares # Less than half filled squares # More than half filled squares	* Students read the keywords answer the questions to the teacher (whole class activity)	Every Pupil will read and write the key words in their note books
CONCEPTUAL UNDERSTANDING	Teacher conducts an activity involving heterogeneous groups where each group will be provided a graph paper along with some leaves. Every group is asked to place each leaf on one graph and draw the border of the leaf and count the number of "full squares" enclosed inside the shape, no of "half squares", no of "more than half squares" no of "less than half squares" covered inside the shape. Now teacher will guide children to find the area enclosed by the figure by counting the no.of full squares, every two half squares as one full square, considering more than a half square as a full square and ignoring less than a half square.	Each group will understand the concepts by participation in the activity	every child learns the concept through the learning activity and observation of TLM
LEARNING ACTIVITY	In the same fashion teacher guides children to find out the area of a rectangle and a square and deduct their formulae 		
SUMMARY	Teacher once again writes important key words and procedures and asks children to note down and adopt.	Pupils will note down and read the summary in groups	Every individual reads the summary and notes it down and adopts the
ASSESSMENT	Teacher gives some questions from Try These sections as well as some examples and asks children to solve those sums	Every group will do the sums by discussion among each other	Every individual solves the sums on their own

PRACTICE PERIODS: 7 to 11	AREA AREA OF A RECTANGLE AREA OF A SQUARE		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books # Area # Closed figure # Graph sheet # Fully filled squares # Half filled squares # Less than half filled squares # More than half filled squares	Whole class activity : one child comes to the board and reads the key words loudly and the remaining class follows.	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	Teacher finds out the area of a rectangle and square and asks children to find out some more in the given worksheet by watching similar lines	Each group will read the similar lines and will frame some more by discussion	Every Individual will do a few more by watching similar lines

Area of Square

The area of a Square equals any of its two sides multiplied together.

$A = s \times s$




$A = s \times s$
 $A = 7 \times 7$
 $A = 49 \text{ cm}^2$

Area of Rectangle

The area of a Rectangle equals the base times the height.

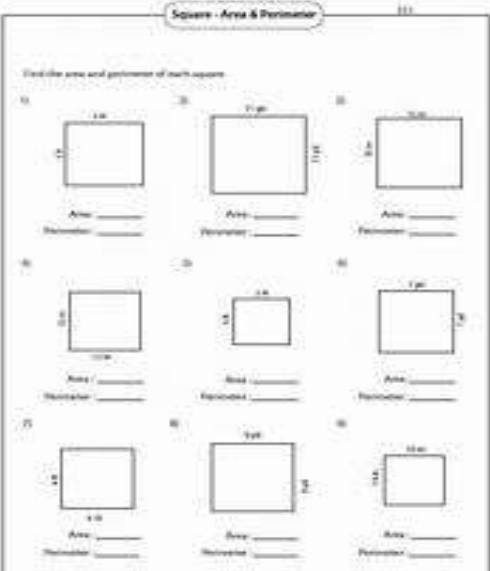
$A = b \times h$



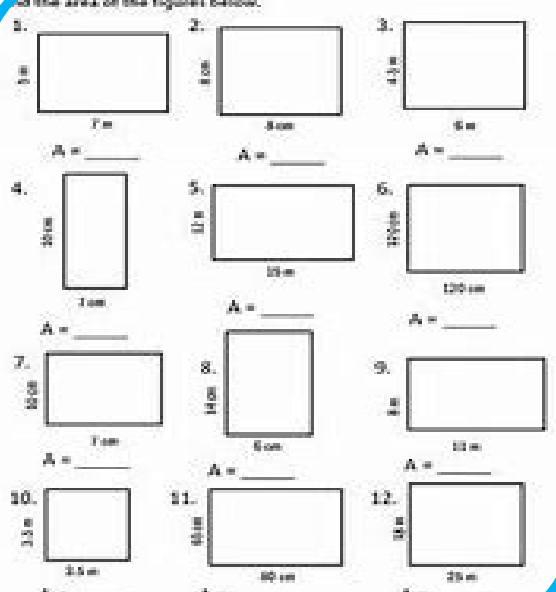
$A = b \times h$
 $A = 12 \times 7$
 $A = 84 \text{ m}^2$

Squares - Area & Perimeter

Use the area and perimeter of each square.



Find the area of the figures below.



SUMMARY/ SYNOPSIS	Teacher once again writes important key words and definitions and asks children to note down and adopt.	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that every child is able to learn the concept in successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise 10.2&3 and asks children to solve those sums and teacher checks the writings of children	One group will check the writings of the other and vice versa	