



## SPLIT UP OF SYLLABUS (2017-18)

GRADE: VIII

Subject: MATHS

Teacher Nam

SREEDEVI NARESH

M	Unit/Chapter	Concepts/Sub topic	Learning Outcomes/ Skills acquired	Essential Questions
APRIL	<b>1.RATIONAL NUMBERS</b>  5 periods	<ul style="list-style-type: none"> <li>REPRESENTATION</li> <li>OPERATIONS</li> <li>INSERTION OF RATIONALS WITHIN A GIVEN RANGE</li> <li>PRIME FACTORIZATION</li> <li>DIVISION METHOD</li> </ul>	<ul style="list-style-type: none"> <li><b>LABEL</b> rational numbers on a number line appropriately.</li> <li><b>LIST</b> various properties involving the 4 major operations.</li> <li><b>COMPARE AND CONTRAST</b> the properties that exist and do not exist over <math>+/-/x/\div</math>.</li> <li><b>DEVISE A PROCEDURE</b> to insert rational numbers within a given range of numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Do numbers exist between 2 given wholes or integers, if so how far on the number lines?</li> <li>Visualise the concept of <b>INFINITY</b>.</li> </ul>
	<b>2.SQUARES AND SQUARE ROOTS</b>  8 periods	<ul style="list-style-type: none"> <li>PRIME FACTORIZATION</li> <li>DIVISION METHOD</li> </ul>	<ul style="list-style-type: none"> <li><b>CALCULATE</b> the square of a number.</li> <li><b>BREAK DOWN</b> the numeral into its prime factors and hence interpret its ROOT.</li> <li><b>PARAPHRASE</b> the procedure to evaluate the square root by long division</li> </ul>	<ul style="list-style-type: none"> <li>Differentiate between the Square root of a perfect square and a non perfect square.</li> </ul>
MAY	<b>3. CUBES AND CUBE ROOTS</b>  6 periods	<ul style="list-style-type: none"> <li>PRIME FACTORIZATION</li> </ul>	<ul style="list-style-type: none"> <li><b>CALCULATE</b> the CUBE of a number.</li> <li><b>BREAK DOWN</b> the numeral into its prime factors and hence interpret its CUBE ROOT.</li> </ul>	<ul style="list-style-type: none"> <li>Can a given number be a perfect cube or not</li> <li>Can the method of prime factorisation help to determine the cube root of a non perfect cube?</li> </ul>
	<b>4.EXPONENTS AND POWERS</b>  4 periods	<ul style="list-style-type: none"> <li>LAWSOF EXPONENTS</li> <li>SIMPLIFICATION</li> <li>EVALUATION</li> </ul>	<ul style="list-style-type: none"> <li><b>ASSESS</b> the possibility of expressing a number in exponential form.</li> <li><b>ANALYSE</b> the LAWS OF EXPONENTS AND simplify exponential forms</li> <li><b>EXPRESS</b> a numeral in scientific notation</li> </ul>	<ul style="list-style-type: none"> <li>How can a number be resolved into a product of its prime factors</li> </ul> <p>Choosing a divisor based on divisibility conditions</p> <ul style="list-style-type: none"> <li>Integrity</li> </ul>



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JUNE	<p><b>5.LINEAR EQUATIONS IN ONE VARIABLE</b></p> <p><b>9 periods</b> (Pre mid term)</p>	<ul style="list-style-type: none"> <li>SOLUTION OF ALGEBRAIC EQUATIONS</li> <li>VERIFICATION</li> </ul>	<ul style="list-style-type: none"> <li><b>OUTLINE</b> the essential difference between an algebraic expression and an equation.</li> <li><b>TRANSLATE</b> the variables and constants into the respective LHS AND RHS</li> <li><b>SOLVE</b> to find the value of the variable</li> </ul>	<ul style="list-style-type: none"> <li>.Construct an equation to a taxi journey real life problem and assess the parameters involved, hence SOLVE</li> </ul>
	<p><b>6. COMPARING QUANTITIES</b></p> <p><b>7 periods</b></p>	<ul style="list-style-type: none"> <li>PERCENTAGE AND ITS APPLICATION</li> <li>PROFIT, LOSS AND DISCOUNT TRANSACTIONS</li> </ul> <p>CALCULATING INTEREST BASED ON SIMPLE AND COMPOUND INTEREST</p>	<ul style="list-style-type: none"> <li><b>COMPARING</b> quantities with percentage</li> <li><b>CALCULATING</b> the profit , loss and discount in a transaction</li> <li><b>COMPUTING</b> the interest by simple and compound interest</li> </ul>	<ul style="list-style-type: none"> <li>Creating a situation to find the interest for a given amount by different methods and analyzing the most beneficial method .</li> </ul>
SEPTEMBER	<p><b>7.ALGEBRAIC EXPRESSIONS AND IDENTITIES. ( MID TERM)</b></p> <p><b>10 periods</b></p>	<ul style="list-style-type: none"> <li>Operations</li> <li>Identities</li> </ul>	<ul style="list-style-type: none"> <li><b>OPERATE</b> like terms over <math>+/-/x/\div</math></li> <li><b>EXTEND</b> the operation to evolve the concept of IDENTITY</li> </ul>	<ul style="list-style-type: none"> <li>Expand a given identity.</li> </ul>



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<b>OCTOBER</b>	<b>8.FACTORIZATION OF POLYNOMIALS</b> 7 periods	<ul style="list-style-type: none"><li>• Operations</li><li>• Identities</li><li>• Regrouping</li><li>• Identities</li></ul>	<ul style="list-style-type: none"><li>• <b>OPERATE</b> like terms over <math>+/-/x/\div</math></li><li>• <b>EXTEND</b> the operation to evolve the concept of IDENTITY.</li><li>• <b>RELATE</b> identities and expansions</li><li>• <b>BACKWARD SYNTHESIS</b> from identity expansion to the identity</li></ul>	<ul style="list-style-type: none"><li>• Factorize using the appropriate identity.</li></ul>
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NOVEMBER	<b>9.UNDERSTANDING QUADRILATERALS</b>  5 periods  <b>10 PRACTICAL GEOMETRY</b>  3 periods	<ul style="list-style-type: none"> <li>• PROPERTIES CLASSIFICATION</li> </ul>	<ul style="list-style-type: none"> <li>• <b>STATE</b> the difference between a polygon and curve</li> <li>• <b>CLASSIFY</b> polygons based on sides</li> <li>• <b>DEMONSTRATE</b> ANGLE SUM PROPERTY AND EXTERIOR ANGLE PROPERTY of polygons</li> <li>• <b>ANALYSE</b> the different types of quadrilaterals</li> <li>• <b>CONSTRUCT GEOMETRICALLY</b> various types of quadrilaterals based on given measurements</li> </ul>	<ul style="list-style-type: none"> <li>• What will be the sum of all angles of different types of polygons</li> <li>• Compare and contrast properties of any 2 quadrilaterals based on angles, sides, diagonals etc.</li> </ul> <p>Draw the quadrilateral based on the given</p>
	<b>11.VISUALIZING SOLID SHAPES</b> 2 periods	<ul style="list-style-type: none"> <li>• Eulers formula</li> </ul>	<ul style="list-style-type: none"> <li>• <b>APPLY</b> EULER'S FORMULA TO <b>RELATE</b> BETWEEN FACES EDGES AND VERTICES OF THREE DIMENSIONAL SHAPES</li> </ul>	<ul style="list-style-type: none"> <li>• <b>STATE</b> the number of edges/vertices/faces of a 3 D shape using Euler's formula</li> </ul>
DECEMBER	<b>12.MENSURATION</b>  5 periods	<ul style="list-style-type: none"> <li>• Areas and volumes of Geo shapes</li> </ul>	<ul style="list-style-type: none"> <li>• <b>EVALUATE</b> THE TOTAL/CURVED SURFACE AREA /VOLUME OF A GIVEN GEOMETRIC SHAPE</li> </ul>	<ul style="list-style-type: none"> <li>• <b>CALCULATE</b> THE TSA/CSA/VOLUME of the required shape given basic parametric values.</li> </ul>



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<b>JANUARY</b>	<b>13.DATA HANDLING</b>  5 periods  <b>14.INTRODUCTION TO GRAPHS</b>  2 periods (POST MID TERM)	<ul style="list-style-type: none"><li>• Collection of data</li><li>• Organization of data</li><li>• Plotting and interpretation</li></ul> Locate points in Cartesian plane  Identify axis and plot the graph	<ul style="list-style-type: none"><li>• <b>COLLECT,ORGANISE AND INTERPRET</b> DATA INTO A FREQUENCY TABLE / HISTOGRAM / PIE GRAPH</li></ul>  <ul style="list-style-type: none"><li>• <b>LOCATE AND PLOT</b> points on a Cartesian plane</li></ul>	<ul style="list-style-type: none"><li>• Construct a Specific Graph Type for the given data</li></ul>  <ul style="list-style-type: none"><li>• Use graph effectively to represent real life situations</li></ul>
<b>FEBRUARY</b>				
<b>MARCH</b>				