



## SPLIT UP OF SYLLABUS (2017-18)

**GRADE: 6**

Subject: MATHEMATICS

Teacher Name: SMITHA MURALI

M	Unit/Chapter	Concepts/Sub topic	Learning Outcomes/ Skills acquired	Essential Questions
APRIL	1. KNOWING OUR NUMBERS (15)	<ul style="list-style-type: none"> <li>* Indian System of Numeration</li> <li>* International System of Numeration</li> <li>* Problem Solving on Number Operations</li> <li>* Conversion of Units</li> <li>* Estimation of Numbers</li> <li>* BDMAS</li> <li>* Roman Numerals</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Numeracy</b> <ul style="list-style-type: none"> <li>• REPRESENT numerals up to 9 digits both in Indian and International system.</li> <li>• INDICATE the place, place value and period of a digit in a numeral</li> <li>• COMPARE AND CONTRAST both systems.</li> <li>• ESTIMATE numbers to the nearest 10/100/1000.</li> <li>• REPRESENT numerals up to 3999 in Roman Numeral System.</li> </ul> </li> <li>➤ <b>Computation</b> <ul style="list-style-type: none"> <li>• PUT INTO PRACTICE the rules of BDMAS.</li> <li>• CONVERT different units of metric measures.</li> </ul> </li> <li>➤ <b>Problem Solving</b> <ul style="list-style-type: none"> <li>• SOLVE problems on number operations.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Why do digits in a number have different values?</li> <li>• How can we use place value to round numbers?</li> <li>• How accurate does the solution need to be?</li> </ul>
MAY	2. WHOLE NUMBERS (10)	<ul style="list-style-type: none"> <li>* Natural Numbers.</li> <li>* Whole Numbers.</li> <li>* Properties of Whole Numbers.</li> <li>* Patterns in Whole Numbers</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Numeracy/ Reasoning skill</b> <ul style="list-style-type: none"> <li>• ILLUSTRATE properties of whole numbers.</li> <li>• COMPARE AND CONTRAST the properties that exist and do not exist over <math>+/-/x/\div</math>.</li> <li>• Reason out the existence of properties of whole numbers over <math>+/-/x/\div</math>.</li> </ul> </li> <li>➤ <b>Computation</b> <ul style="list-style-type: none"> <li>• Simplify using distributive property.</li> </ul> </li> <li>➤ <b>Problem Solving</b> <ul style="list-style-type: none"> <li>• SOLVE problems using the properties.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Can there be any natural number that does not have a predecessor? Justify</li> <li>• How accurate does the solution need to be?</li> </ul>



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<b>JUNE</b>	3. PLAYING WITH NUMBERS (14)	<ul style="list-style-type: none"> <li>* Factors and Multiples.</li> <li>* Perfect Numbers</li> <li>* Prime and Composite Numbers</li> <li>* Divisibility Rules.</li> <li>* Common Factors and Common Multiples</li> <li>* Prime Factorization</li> <li>* Highest Common Factor</li> <li>* Least Common Multiple</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Computation</b></li> <li>• BREAK DOWN the numeral into its prime factors.</li> <li>• APPLY the understanding of factors to list prime &amp; composite numbers / find H.C.F.</li> <li>• APPLY the understanding of multiples in finding L.C.M.</li> <li>➤ <b>Numeracy/ Reasoning skill</b></li> <li>• PUT INTO PRACTICE the rules of divisibility</li> <li>➤ <b>Problem Solving</b></li> <li>• SOLVE problems on L.C.M &amp; H.C.F</li> </ul>	<ul style="list-style-type: none"> <li>• Identify composite numbers and prime numbers, and explain the relationship between them.</li> <li>• Can the method of prime factorization help to determine LCM and HCF?</li> </ul>
	4. BASIC GEOMETRICAL IDEAS (6)	<ul style="list-style-type: none"> <li>* Basic Elements of Geometry.</li> <li>* Pairs of Lines.</li> <li>* Polygon</li> <li>* Circles</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Logical Analysis</b></li> <li>• INTERPRET the basic elements of Geometry.</li> <li>• STATE the difference between a polygon and curve.</li> <li>• CLASSIFY polygons based on sides.</li> <li>➤ <b>Drawing Skill</b></li> <li>• Draw lines/ circles.</li> </ul>	<ul style="list-style-type: none"> <li>• What are the similarities between a polygon and a curve?</li> </ul>
	5. UNDERSTANDING ELEMENTARY SHAPES (10)	<ul style="list-style-type: none"> <li>* Drawing and Measuring Angles</li> <li>* Classification of Triangles</li> <li>* Quadrilaterals</li> <li>* Polygons</li> <li>* 3-D Shapes</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Drawing skill</b></li> <li>• MEASURE / CONSTRUCT the angles using protractor.</li> <li>➤ <b>Logical Analysis</b></li> <li>• IDENTIFY the elements of an angle.</li> <li>• ANALYSE the different types of angles.</li> <li>• CLASSIFICATION OF TRIANGLES/ QUADRILATERALS.</li> <li>• DISTINGUISH between 2D and 3D shapes</li> </ul>	<ul style="list-style-type: none"> <li>• Distinguish between 2D and 3D shapes.</li> <li>• Classify triangles</li> </ul>



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<b>SEPTEMBER</b>	6. PRACTICAL GEOMETRY (7)	<ul style="list-style-type: none"><li>* Perpendicular Bisector of a Line Segment</li><li>* Angle bisector</li><li>* Angles of Special Measures</li></ul>	<ul style="list-style-type: none"><li>➤ <b>Drawing skill</b></li><li>• CONSTRUCT <math>60^\circ</math>, <math>120^\circ</math> and <math>90^\circ</math> using compass and ruler.</li><li>• CONSTRUCT perpendicular bisector and angle bisector.</li></ul>	<ul style="list-style-type: none"><li>• How to construct angle without using protractor?</li><li>• What do you observe? How can you explain it?</li></ul>
	14. DATA HANDLING (10)	<ul style="list-style-type: none"><li>* Organizing data using tally marks.</li><li>* Reading bar graphs/ Pictographs.</li><li>* Drawing a bar graph.</li></ul>	<ul style="list-style-type: none"><li>➤ <b>Graphing skill/ Data Analysis</b></li><li>• ORGANISE, DISPLAY AND INTERPRET data using Bar graph/ pictograph and tally mark</li></ul>	<ul style="list-style-type: none"><li>• Construct a Specific Graph type for the given data</li></ul>
<b>OCTOBER</b>	8. INTEGERS (10)	<ul style="list-style-type: none"><li>* Integer Number line</li><li>* Ordering Integers</li><li>* Absolute Value</li><li>* Addition of integers</li><li>* Subtraction of integers</li></ul>	<ul style="list-style-type: none"><li>➤ <b>Numeracy</b></li><li>• LABEL integers on a number line appropriately.</li><li>• COMPARE AND ORDER integers.</li><li>➤ <b>Computation</b></li><li>• COMPUTATION of integers.</li></ul>	<ul style="list-style-type: none"><li>• Do numbers exist left of zero, if so how far on the number lines?</li><li>• Visualize the concept of INFINITY.</li></ul>



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NOVEMBER	9.FRACTIONS (14)	<ul style="list-style-type: none"> <li>* Types of fractions – proper, improper, mixed, like &amp; unlike and equivalent fractions.</li> <li>* Converting one type of fractions to another.</li> <li>* Representing fractions on the Number line.</li> <li>* Comparison of fractions.</li> <li>* Reducing fraction to its lowest terms.</li> <li>* Addition and subtraction of fractions.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Numeracy/Drawing skill</b></li> <li>• DISTINGUISH the different types of fractions.</li> <li>• COMPARE AND ORDER like and unlike fractions.</li> <li>➤ <b>Computation</b></li> <li>• OPERATE like/ unlike fractions over +/-</li> <li>➤ <b>Problem Solving</b></li> <li>• SOLVE real life problems involving fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• Different types of fractions – relate examples from day to day life.</li> </ul>
	10.DECIMALS (12)	<ul style="list-style-type: none"> <li>* Decimal Fractions.</li> <li>* Decimal Place value/ decimal expansion</li> <li>* Expanded notation of decimal numbers.</li> <li>* Conversion decimals to fractions and vice versa.</li> <li>* Like and unlike decimals.</li> <li>* Compare and Order decimals.</li> <li>* Operations on Decimals.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Numeracy</b></li> <li>• LABEL decimals on a number line appropriately.</li> <li>• CONVERT decimals to fractions and vice versa.</li> <li>• COMPARE AND ORDER decimals.</li> <li>➤ <b>Computation/ Problem solving</b></li> <li>• EXTEND the operations (+/ -) to decimals and solve real life problems.</li> </ul>	<ul style="list-style-type: none"> <li>• How does place value help us to add and subtract decimals?</li> </ul>
DECEMBER	11. ALGEBRAIC EXPRESSIONS (10)	<ul style="list-style-type: none"> <li>* Generalization of Patterns</li> <li>* Variables, Constants, Co-efficient.</li> <li>* Practical Application of Algebra.</li> <li>* Equation</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Logical Analysis</b></li> <li>• GENERATE a number or shape pattern that follows a given rule.</li> <li>• OUTLINE the essential difference between an algebraic expression and an equation.</li> <li>• TRANSLATE the variables and constants into the respective LHS AND RHS</li> <li>➤ <b>Problem Solving</b></li> <li>• SOLVE to find the value of the variable</li> </ul>	<ul style="list-style-type: none"> <li>• How letters are used as substitutes for numbers?</li> <li>• How do we solve problems with unknown numbers using +/-/x/÷ ?</li> </ul>



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JANUARY	12. RATIO AND PROPORTION (12)	* Ratio * Proportion * Unitary Method	<ul style="list-style-type: none"><li>➤ <b>Logical Analysis</b></li><li>• RELATE ratio and proportion.</li><li>➤ <b>Computation</b></li><li>• REDUCE ratio to simplest form.</li><li>➤ <b>Problem solving</b></li><li>• SOLVE using unitary method</li></ul>	<ul style="list-style-type: none"><li>• Ratio and proportion - How are these alike? How are they differ?</li></ul>
	13. MENSURATION (14)	* Perimeter * Area * Practical Application of Perimeter.	<ul style="list-style-type: none"><li>➤ <b>Measuring skills</b></li><li>• Measure and record.</li><li>➤ <b>Computation/ Problem Solving</b></li><li>• DEDUCE the formulas to find perimeter/ area of square and rectangles</li><li>• EXPLORE perimeter/ area.</li><li>• EVALUATE the perimeter and area of a given geometric shape.</li></ul>	<ul style="list-style-type: none"><li>• When/ where/ how to find the perimeter and area of a figure.</li></ul>
FEBRUARY				
MARCH				