

ARMY PUBLIC SCHOOL GOPALPUR

SPLIT-UP SYLLABUS

SESSION 2020-21

NCERT TEXT BOOK: Text Book for Class:VIII SUB: MATHEMATICS

S.NO.	Name of the Examination	CHAPTER	TENTATIVE NO.OF PERIODS REQUIRED	MONTH	Tentative No of working days available
1.	PART – I PMTT	Rational numbers	08	April	
2.		Linear Equations in one Variable	10		
3.		Understanding Quadrilaterals	9	May-June	
		Understanding Quadrilaterals Continues	4	July	
4.		Practical Geometry	08		
5.		Data Handling	11		

6.	PART – II Half Yearly Examination (Cumulative)	Squares and square roots	12	August	
7.		Cubes and Cube roots	06		
8.		Comparing	16	September	

		quantities			
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9.	PART – III PMTT Test 2	Algebraic Expressions and Identities	8	October	
		Algebraic Expressions and Identities continue	4	November	
10.		Visualizing Solid shapes	07		
11		Mensuration	11		
		Mensuration Continues	4	December	
12		Exponents and Powers	06		
13		Direct and Inverse Proportions	08		

14.	PART – IV Session Ending Examination (Cumulative)	Factorisation	12	January	
15.		Introduction to graphs	4		
		Introduction to graphs continue	8	February	
16.		Playing with numbers	10		
		<i>Session Ending Examination-2018-19</i>		March	

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH : APRIL

NO. OF PERIODS: 08

NO.OF DAYS -08

TOPIC - LN-1 RATIONAL NUMBERS

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AI DS	INTERFACE	LEARNING OUTCOME
• Meaning of rational numbers. • Properties of rational numbers. • Addition and subtraction of rational numbers. • Multiplications and divisions of rational numbers. • Representation of rational number on the number line.	• Inductive methods. • Problem solving methods.	• Make one pie-chart using different types rational number.	• Parents will help the child to solve addition and subtraction s of rational numbers.	• Able to identify positive rational numbers and negative rational numbers. • Able to do addition and subtraction of rational numbers. • Able to do multiplications and divisions of rational numbers. • Able to represent rational numbers on number lines. • Able to use distributive property on rational numbers.

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CLASS: VIIISUBJECT: MATHEMATICS

MONTH : JUNE

NO. OF DAYS:10

NO. OF PERIODS:10

TOPIC :Ln-02 :LINEAR EQUATIONS IN ONE VARIABLE

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AI DS	INTERFACE	LEARNING OUTCOME
• Meaning of linear equation in one variable. • Solving different types of equations. • Solving different types of word problems.	• Inductive method. • Problem solving method.	• Different real life example related to linear equations.	• Parents will help the children to convert word problems into equations.	• Able to differentiate the linear equation, quadratic equation, and cubic equations . • Able to solve the equation related to linear equation on one variable. • Able to solve various types of word problems.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH : JULY

NO. OF DAYS:09

NO. OF PERIODS:09

TOPIC :Ln-03 :UNDERSTANDING QUADRILATERALS

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AIDS	INTERFACE	LEARNING OUTCOME
• Polygons and classification of polygons. • Convex and concave polygon. • Angle sum property of a quadrilateral. • Properties of rhombus, rectangle , square and kite.	• Inductive method. • Problem solving method.	• Different types of shapes (paper cutting) .	• Parents will help the children to make different types figures with the help of papers.	• Able to know the meaning of polygons and different types of polygon. • Able to differentiate concave and convex polygons. • Know the properties of various types of polygon. • Able to compute the angle sum property. • Properties of the regular and irregular polygon.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH : AUGUST

NO. OF DAYS:08

NO. OF PERIODS:08

TOPIC :Ln-04-PRACTICAL GEOMETRY

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/ AIDS	INTERFACE	LEARNING OUTCOME
- Extending the concept of construction from line to quadrilateral. - To construct a unique quadrilateral we need to know 5 measurements.	- Inductive method - Problem solving method	Geometry box.	Parents will help the children to construct different types of quadrilateral according to given measurement.	- Extends construction from basics to the quadrilateral. - Able to construct a unique quadrilateral we need to know 5 measurements. - Able to construct a unique quadrilateral when two diagonals and three sides are given. - Able to construct a unique quadrilateral when three sides and two included angles given.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH : AUGUST

NO. OF DAYS:11

NO. OF PERIODS -11

TOPIC :LN-05-DATA HANDLING

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AI DS	INTERFAC E	LEARNING OUTCOME
• Meaning of data, raw data ,bar graph ,double bar graph. • Calculate central angle of a component. • Chance and probability.	• Inductive method • Problem solving method	• Dice and cards for probability .	Parents encourage child to collect data from daily life situation and draw bar graph, double bar graph.	• Able to explain the meaning of data ,raw data. • Able to differentiate the bar graph and double bar graphs. • Able to know how to construct a pie-chart. • Able to calculate the central angle of the components. • Able to calculate the chance and probability.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH : AUGUST

NO. OF DAYS-12

NO. OF PERIODS -12

TOPIC :LN-06 :SQUARES AND SQUARE ROOTS

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/A IDS	INTERFACE	LEARNING OUTCOME
• Meaning of square number or perfect squares. • Properties of a square numbers. • Various interesting patterns of square number. • Pythagorean triplets. • Square roots.	• Inductive method • Problem solving method	• Magic square game.	• Parents will help the children to find out the square and square roots of numbers.	• Able to define the perfect squares and not a perfect squares. • Able to understand the various properties of square numbers. • Able to calculate the square of a number. • Able to calculate the Pythagorean triplets. • Find out square root of a number.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH : AUGUST

NO. OF DAYS -06

NO. OF PERIODS-06

TOPIC :LN-07-CUBES AND CUBE ROOTS

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AIDS	INTERFACE	LEARNING OUTCOME
• Meaning of cubes. • Different properties of cube numbers. • Find out the cube roots of different numbers. • Find out cube root through prime factorisation method. • Find out cube roots through estimation methods.	• Inductive method • Problem solving method	• Different number patterns related to cubes and cube roots.	• Parents will help the child to find out cube of numbers and cube roots of number.	• Understand the meaning of a cube number. • Understands methods to find out cube roots. • Able to find out the cube roots of a number through prime factorisation. • Able to find out the cube roots of a number through the steps methods. • Able to find out the ratios and percentages of a number by comparison.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH : SEPTEMBER

NO. OF DAYS -16

NO.OF PERIODS-16

TOPIC :LN-08-COMPARING QUANTITIES

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AIDS	INTERFACE	LEARNING OUTCOME
- Ratio and equivalent ratio. - Percentage :increase or decrease percentage. - Conversion of fraction to percentage and vice –versa. - Finding discounts. - Simple and compound interest.	- Inductive method - Problem solving method	Electric bill ,shopping mall bills and bank transaction slips.	Parents must be involved the child in billing and different types of bank transaction .	- Understanding and use of ratio ,equivalent ratios. - Understands and skill to use ratios and percentages to compare the quantities. - Links with real life influenced fully with money transaction ,comparing ,saving and percentages. - Finds problems and solves for which simple and compound interest.

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SPLIT UP SYLLABUS (2020-21)

CLASS: VIII

SUBJECT: MATHEMATICS

MONTH :NOVEMBER

NO. OF DAYS12

NO.OF PERIODS-12

TOPIC :LN-09-ALGEBRAIC EXPRESSION AND IDENTITIES

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AID S	INTERFACE	LEARNING OUTCOME
• Meaning of expressions. • Terms ,factors and co-efficient. • Monomials ,binomials ,and polynomials . • Like fractions and unlike fractions. • Addition and subtractions of algebraic expressions. • Multiplications of algebraic expressions.	• Inductive method • Problem solving method	• Number games, mental mathematics games.	• Parents will help the child to solve the algebraic expressions.	• Identifies monomials ,binomials and other polynomials. • Finds addition and subtraction of the algebraic expressions. • Understands the process of multiplication of polynomials. • Identifies the identities. • Understand terms ,factors and co-efficient of the polynomials. • Understands the multiplication of the algebraic expressions into a monomials ,binomilas,and polynomials.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH : NOVEMBER

NO. OF DAYS -07

NO.OF PERIODS-07

TOPIC :LN-10-VISUALIZING SOLID SHAPES

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/A IDS	INTERFACE	LEARNING OUTCOME
- Views of 3 –D shapes and 2 –D shapes. - Mapping space around us. - Faces ,edges and vertices. - Counting the faces ,edges and vertices of various kinds of shapes. - Difference between 2 –D shapes 3-D shapes.	- Inductive method - Problem solving method	Different types of figure related to 2-D and 3 –D shapes.	Parents will help the child to construct different types of figures related to 2 –D and 3-D.	- Recognizes 2D and 3D shapes. - Identifies top ,front and side views of solids . - Reads and draws maps. - Understand various types of polyhedron. - Knows Euler’s formula. - Verifies Euler’s formula.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH :NOVEMBER

NO. OF DAYS-11

TOPIC :LN-11-MENSURATION

NO.OF PERIODS-11

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AIDS	INTERFACE	LEARNING OUTCOME
• Area of trapezium. • Area of the general quadrilateral. • Area of a polygon. • Ideas of the various solid shapes. • Surface area of cube ,cuboid and cylinders. • Volume and capacity of all solid shapes. • Volume of cube ,cuboid and cylinder.	• Inductive method • Problem solving method	• Shape of cube ,cuboid, cylinder.	• Parents will help the child to construct different types of 3 –D shapes.	• Understands the area and perimeter of the rectangle ,triangles ,circle and parallelogram. • Understands different types of measurements. • Finds area of trapezium and polygons. • Formation of formulae to find surface area of cube ,cuboid and cylinder. • Find out the volume of cube ,cuboid and cylinder.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH :DECEMBER

NO. OF DAYS-06

TOPIC :LN-12-EXPONENTS AND POWERS

NO.OF PERIODS-06

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AI DS	INTERFACE	LEARNING OUTCOME
• Base ,exponents and exponential form. • Power with negative exponents. • Laws of exponents. • Use of exponents to express small numbers in the standard form.	• Inductive method • Problem solving method	• Different real life example related to smaller number and greater number.	• Parents will help the child to collect various smaller number and grater number from real life.	• Understands the concept of exponents and powers. • Skills to solve sum related to exponents. • Gets knowledge of the large and small numbers. • Capable of expressing large and small numbers in standard form. • All the laws of exponents.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH :DECEMBER

NO. OF DAYS-08

TOPIC :LN-13-DIRECT AND INVERSE PROPORTIONNO.OF PERIODS-08

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AI DS	INTERFACE	LEARNING OUTCOME
• Relation between two quantities. • Forming and analysing relation from word problems. • Difference between the direct and inverse proportions. • Solving real life problems with direct and inverse proportion concept.	• Inductive method • Problem solving method	• Different real life example.	• Parents will help the child to solve problems related to direct proportion.	• Understands the relation between two quantities. • Identifies and analyses direct and inverse proportion. • Skills to represent word problems in mathematical form. • Correlated the concept to real life and applies to find the solutions of problems. • Understands the concepts of direct and inverse proportions.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH :JANUARY

NO. OF DAYS-12

TOPIC :LN-14-FACTORISATION

NO.OF PERIODS :12

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AI DS	INTERFACE	LEARNING OUTCOME
• Meaning of factorisation. • Method of common factors. • Factorisation by regrouping terms. • Factorisation using identities. • Algebraic identities. • Use of algebraic identities in the factorisation.	• Inductive method • Problem solving method	• Problems related to common factors and multiples.	• Parents will discussed the common factors and multiple concept from class six.	• Differentiates between expression and factorisation. • Understands the factors. • Understanding factorisation by the method of the common factors. • Understanding factorisation by regrouping terms ,using the algebraic identity. • Understands the use of algebraic identities in the factorisation.

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH :JANUARY

NO. OF DAYS-04

TOPIC :LN-15-INTRODUCTION TO GRAPES

NO.OF PERIODS :04

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AIDS	INTERFACE	LEARNING OUTCOME
• Axes (same units),Cartesian plane. • Plotting points for different kind of situations. • Reading off from the graphs 1.reading linear graphs. 2.reading distance vs. time graphs.	• Inductive method • Problem solving method	• Graph paper.	• Parents will help the child to draw different types of graph using graph paper.	• Understand the concepts of axes and Cartesian plane. • Understands plotting points for different kinds of situations. • Able to do reading off from the linear graphs. • Able to do reading off from the graphs (distance vs. time graphs.)

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CLASS: VIII

SUBJECT: MATHEMATICS

MONTH :FEBRUARY

NO. OF DAYS-10

TOPIC :LN-16-PLAYING WITH NUMBERS

NO.OF PERIODS :10

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/AIDS	INTERFACE	LEARNING OUTCOME
- Numbers in the general form. - Letters for the digits. - Tests of divisibility.	- Inductive method - Problem solving method	Different number games.	Parents will help the child to solve problems on divisibility.	- Remembers and learn divisibility rules. - Identifies number as odd ,even, prime and composite . - Applies divisibility rules on numbers. - Represent numbers in interesting ways. - Prepare and solve different number games.