ARMY PUBLIC SCHOOL, BANGALORE
SPLIT UP SYLLABUS 2024-25

CLASS - VIII **SUBJECT- Mathematics**

SL. NO.	MONTH & WORKING DAYS	CONTENT	No. of Periods	LEARNING OUTCOMES	ACTIVITIES	STATUS OF COMPLETION	REMARKS
1.	APRIL, 13 DAYS	**1. Rational numbers**	6	➢ Define rational number, additive and multiplicative identity of rational numbers ➢ Apply the properties of natural numbers, whole numbers and integers with respect to all the arithmetic operations and extend them for rational numbers. ➢ Apply Distributive property of multiplication over addition for rational numbers and simplify a given expression. ➢ Extend the concepts of number line and represent rational number on the number line. ➢ Calculate and find rational numbers between any two rational numbers and prove that there are infinite rational numbers between any two given rational numbers.	Pick and locate rational numbers in the number line.		
		2. Linear equations in one variable	9	➢ Identify the variable(s) and the highest power of the variable in a given algebraic equation and distinguish whether it is a linear equation in one variable or not. ➢ Substitute the given values of variable and verify whether it is the solution of the equation or not.	To solve some linear equations in one variable using paper cut outs.		

				➢ Write simple contextual problems as linear equations in one variable and find its solution ➢ Transpose terms to the other side in order to solve linear equations in one variable which have variable on both sides. ➢ Simplify the given linear equation in one variable and solve them. ➢ Use cross multiplication and reduce certain equations into their linear form.			
2.	JUNE, 16 DAYS	**3.Understanding quadrilaterals**	18	➢ List the properties of a polygon in order to classify the given figures as a polygon and the properties of different types of polygons and classify them as regular or irregular, concave or convex. ➢ Recall the angle sum property of triangle in order to extend it for quadrilaterals. ➢ Relate the angle sum property of triangle and quadrilateral in order to extend it for an n-sided polygon. ➢ Apply angle sum property of a quadrilateral in order to find the measure of the unknown angle in a given quadrilateral ➢ Apply exterior angle property of a polygon in order to find the measure of the unknown angle in a given figure ➢ List the properties of quadrilaterals in order to classify them as trapezium, kite and parallelogram ➢ Discuss the properties of a parallelogram,rhombus, rectangle, square	To design a floor tile pattern using different types of quadrilaterals (ART)-TESSELLATION		

3.	JULY, 25DAYS	**4. Data handling**	8	➢ Recall the different types of graphical representation (namely pictograph, bar graph and double bar graph) of data in order to represent the given data in the most suitable representation and interpret them ➢ List and execute steps of construction in order to construct a circle graph and read a given circle graph in order to infer a variety of information from it ➢ ➢ List all the possible outcomes of an experiment in order to define the equally likely outcomes ➢ List all the possible outcomes of an event in order to calculate the probability of a given event	Make a survey in your locality to find the following: **1.** How many old age people are there. **2.** Number of children below 5 years. **3.** Number of women and men. **4.** Number of CANDIDATES ELIGIBLE FOR VOTING Draw a Bar Graph for the above data. Represent these data in as a Pie Chart.		
		5. Squares and square roots	10	➢ Define perfect squares in order to classify the given numbers as perfect squares or non-perfect squares ➢ Observe the number in order to find the unit place of its square, different number patterns in order to deduce squarenumbers ➢ Use the rule that there are exactly 2n non-perfect square numbers between the squares of the number n and (n+1) in order to find how many numbers, lie between the squares of the given two consecutive numbers ➢ Use the rule that a perfect square number (n^2) can be written as the sum of first n	Calculating square of a given number using pattern and verifying it numerically.		

			(PT 1)	odd natural numbers in order to distinguish between square and non-square numbers ➢ Use Pythagoras theorem in order to find the Pythagorean triplet ➢ Apply inverse operations on a given perfect square in order to deduce square root of this number			
4.	AUG, 23 DAYS	**5. Squares and Square Roots**	5	➢ Use method of repeated subtraction, prime factorization method and long division method in order to find the square root of the given square number. ➢ Use prime factorization method and long division method in order to find the smallest number to be operated (all the four arithmetic operations) on given number to get a perfect square and then find the square root of the new number ➢ Use long division method in order to find the square root of the given decimal number.			

		6. Cubes and Cube roots	9	➢ Define perfect cube or cube number and classify the given numbers as cube numbers or non-cube numbers. ➢ Observe the properties of cube numbers. ➢ Use prime factorisation to determine whether the given number is a perfect cube or not and to find the smallest number to be operated (Multiplication or division) on a given number to get a perfect cube. ➢ Use prime factorisation to find the cube root of a number.	1.Number Wheel of cubes 2. Cube root clock		
		7. Comparing quantities	13	➢ Convert ratios to percentage in order to solve the given questions ➢ Apply the formula for discount and discount percentage in order to solve the given problem on discount ➢ Calculate the discount in given situations in order to comment whether the seller has made a profit/loss in the given transaction ➢ Define and compare simple interest and compound interest and calculate the simple interest and compound interest in order to find the total amount to be paid by the debtor ➢ Define the terms 'compounded annually', 'compounded half yearly' and 'compounded quarterly' and give examples ➢ in order to differentiate between the three	Prepare and analyse budget of abirthday party including the concepts of interest, discount, tax of different items and overall profit		
5.	SEPT 21 DAYS	**11. Direct and Inverse Proportions**	8	➢ Examine situations in order to decide whether two quantities are proportional to each other or not ➢ Complete a given table showing two proportional quantities in order to answer	Write daily life examples for the following 1. Direct Proportion		

		Half-Yearly Exam		questions based on them ➢ Convert the given statement on relationship (directly or inversely proportional) between two quantities into a table in order to identify the missing quantity and solve for its value	2.Inverse Proportion		
6.	OCT, 15 DAYS	**8. Algebraic expressions and identities**	17	➢ Define algebraic expressions, like and unlike terms. Identify like and unlike terms in algebraic expressions and add or subtract the given algebraic expressions. ➢ Classify algebraic expressions as monomial, binomial, trinomial and polynomial in general. ➢ Use rules of exponents and powers and multiply a monomial by monomial. ➢ Use distributive property of multiplication over addition and subtraction to obtain the product of a monomial and a binomial, a binomial and a binomial and in general a polynomial by a polynomial. ➢ Use multiplication of binomials in order to explore and verify the standard identities for squares of binomials ➢ Use identities in order to simplify the given algebraic expressions ➢ Use identities in order to find the product of the given numbers	Generalisation of identities using colour papers		

7.	NOV, 21 DAYS	**9. Mensuration** **10. Exponents and Powers**	14 10	➢ Calculate area and perimeter of circle, square, rectangle, triangle, trapezium, polygon in order to calculate area and perimeter of adjoint shapes ➢ Calculate the surface area of a cube, cuboid and cylinder to determine the cost of painting/covering their surface ➢ Calculate the volume of a given cuboid, cylinder in order to determine the time taken to fill it with a liquid at a given rate ➢ Simplify powers with negative exponents in order to calculate the multiplicative inverse of a number ➢ Give examples in order to show that is valid for all integer exponents. ➢ Apply the first law of exponents ( ) and principles of negative exponents in order to derive the rest of the laws of exponents ➢ Apply laws of exponents in order to simplify a given expression ➢ Express very large and very small numbers in the standard form in order to compare and estimate quantities	Making net solids and deriving the surface area of those solids 1)Exponents Maze 2)To find the value of a^n(where a and n are natural numbers) using paper folding		
8.	DEC, 17 DAYS	**12. Factorisation** **PT2**	10	➢ Express each term as a product of irreducible factors in order to find the common factors of the given terms ➢ Use the method of common factors in order to factorize the given algebraic expression ➢ Regroup the terms in order to factorize the ➢ given algebraic expressions			

9.	JAN, 24 DAYS	**12. Factorisation (Contd.)** **13. Introduction to graphs**	14 12	➢ Apply the standard algebraic identities in order to factorize the given algebraic expressions ➢ Use the common factor method in order to divide a monomial by a monomial, polynomial by a monomial and polynomial by a polynomial ➢ Check the given mathematical statements in order to find and give reasons for the possible errors in them ➢ Draw a line graph in order to represent the given data that changes continuously over periods of time ➢ Interpret the given line graph in order to answer the given questions ➢ Plot a point on the graph in order to describe its coordinates ➢ Plot the given points on the graph in order to verify if they lie on the same line or not ➢ Construct the line graph in order to discuss the relationship between independent and dependent variable in a given mathematical situation	Factorisation using paper cutting and pasting. By plotting the points given. To identify the figure formed by joining the points in order.		
10.	FEB, 22 DAYS	Revision					
11.	MARCH, 23 DAYS	Annual Exam and Results					

BOOKS: NCERT, ACTIVITY PLUS

PRINCIPAL'S SIGNATURE