ARMY PUBLIC SCHOOL, BANGALORE
SPLIT UP SYLLABUS 2024-25

CLASS - VII
SUBJECT- MATHEMATICS

SL. NO.	MONTH & WORKING DAYS	CONTENT	No. of Periods	LEARNING OUTCOMES	ACTIVITIES	STATUS OF COMPLETION	REMARKS
1.	APRIL, 13 DAYS	INTEGERS	11	➢ Recall integers in order to differentiate between whole numbers and integers ➢ Represent integers on a number line and perform operations and verify properties of integers. ➢ Apply properties of addition, subtraction and multiplication of integers and devise methods for easier calculation and solve problems based on real life related to integers. ➢ Apply properties of division of integers and simplify arithmetic expressions.	To demonstrate multiplication of integers using number line.		

| 2. | JUNE, 16 DAYS | FRACTIONS AND DECIMALS | | 18 | ➢Define proper, improper and mixed fractions in order to distinguish between them. Convert unlike fractions into like fractions in order to compare them.
➢Multiply fractions in order to compare the value of the product with the original fractions.
➢Divide two fractions in order to find the smaller parts of the fraction.
➢Recall and apply concept of decimal representation and expansion in order to perform mathematical operations on decimal. | To derive the rule of finding product of two fractions using paper folding method. | | |

				➢ Convert decimals into fractions in order to divide decimal number by another decimal number		
3.	JULY, 25 DAYS	DATA HANDLING	8	➢ Collect, record and present data in order to organize experiences and draw inferences from them. Organize raw data into tabular form in order to make data easier to interpret. ➢ Calculate arithmetic mean in order to find its position in the data. Calculate mode of the data in order to find the observation that occurs most often in the data set. ➢ Calculate median of the data in order to find the observation that lies in the middle of the data set. ➢ Represent data in a bar graph using appropriate scale in order to represent given information in form of a bar graph. ➢ Represent data using double bar graph in order to compare and discuss two collections of data at a glance.	To collect two sets of data, represent this through a double bar graph and interpret it.	

		SIMPLE EQUATIONS (PT1)	20	➢ Use number and variable with different operations in order to express a real life situation in the form of a simple linear equation. ➢ Use trial and error method in order to determine the solution of a simple equation. ➢ Explain the first step to be taken in order to separate the variable while solving the given equation. Use the given solution in order to construct equations from it. ➢ Construct simple equations in order to solve them for the given contextual problems/puzzle	Construction of equations for problems related to real life situations.		
4.	AUG, 23 DAYS	LINES AND ANGLES	15	➢ Recall the concept of line, line segment and angles in order to identify them in the given figure(s). ➢ Examine different angles in order to identify complementary angles. Examine different angles in order to identify supplementary angles. ➢ Examine different angles in order to determine the measure of their complement and	To verify that when two lines intersect, vertically opposite angles are equal.		

			supplement.	
			➢ Describe adjacent angles in order to identify a pair of adjacent angles in the given angles.	
			➢ Examine different angles in order to identify linear pair.	
			➢ Describe vertically opposite angles and their property in order to identify them in the given figure.	
			➢ Identify different types of angles in order to determine the measure of unknown angles in the given figure.	
			➢ Discuss the different angles made by a transversal and intersecting lines in order to identify them in the given figure. Use the properties of angles made by a transversal of parallel lines in order to determine the measure of unknown angles.	
THE TRIANGLE AND ITS PROPERTIES	11		➢ Compare different triangles in order to classify them on the basis of their sides and angles.	
			➢ Recall the parts of a triangle in order to describe it for the given triangle. Describe median and	

				altitude of a triangle in order to identify it for the given triangle.			
				➢ Apply the exterior angle property of a triangle in order to find the measure of the unknown angle in the given triangle.			
				➢ Apply the angle sum property of a triangle in order to find the measure of unknown angle.			
5.	SEPT, 21 DAYS	THE TRIANGLE AND ITS PROPERTIES (HY)	5	➢ Apply the property of lengths of sides of a triangle in order to determine whether a triangle is possible for the given side lengths or not. ➢ Apply the Pythagoras property in order to verify whether the triangle for the given side lengths will be right angled triangle or not. ➢ Apply the Pythagoras property in order to fine the length of the unknown side in a right-angled triangle	To verify the angle sum property of a triangle.		
6.	OCT, 15 DAYS	COMPARING QUANTITIES		➢ Convert ratios into like fractions and compare them in order to identify equivalent ratios. ➢ Represent equal ratios in	Collection of 5 different bills and finding the following		

			17	proportion in order to find missing term(s). ➤ Convert denominators of fractions into 100 in order to represent them in percentages. ➤ Convert fractional numbers to percentage in order to make comparing of quantities easier. ➤ Convert decimal numbers to percentage in order to make comparing of quantities easier. ➤ Convert percentages to fractions or decimals in order to solve real life problems. ➤ Calculate increase or decrease in quantity as percentage in order to examine change in quantity based on real life problems. ➤ Calculate cost and selling price in order to determine profit/loss percentage. ➤ Understand the concept of simple interest in order to interpret word problems. Make use of percentage in order to calculate simple interest for multiple years.	quantities: SP, Profit or Loss		

| 7. | NOV, 21 DAYS | RATIONAL NUMBERS | | 12 | ➤ Define rational numbers in order to classify a number as a rational number. Represent integers in the form of numerator/denominator where denominator is non-zero in order to define rational numbers. Multiply numerator and denominator by same non-zero integer in order to find equivalent rational numbers.
➤ Define positive and negative rational numbers in order to classify a number as either of them. Construct a number line in order to represent rational numbers on it. Simplify rational number such that there is no common factor between numerator and denominator in order to represent the number in standard form. Determine the distance of a rational number from 0 in order to compare them.
➤ Calculate and find rational numbers between any 2 rational numbers in order to infer that there are infinite | To add/ subtract two rational numbers using Graph sheet. | | |

			rational numbers between any 2 given rational numbers. Apply the rules of rational numbers operations in order to simplify arithmetic operations.		
		PERIMETER AND AREA (PT2)	12	➢ Describe the area and perimeter of plane figures in order to find the same for square and rectangle. ➢ Develop and apply a formula in order to determine the area of triangle as half of the area of a rectangle. ➢ Use unit square grid sheets in order to find the perimeter and estimate the area of parallelogram. ➢ Develop and apply a formula in order to determine the area of a parallelogram. ➢ Compare the area of a triangle and its corresponding parallelogram in order to discuss their relation. ➢ Use direct or indirect measurements in order to	To derive the formula to find area of a circle.	

				describe the relationships among radius, diameter, and circumference of circles. Investigate different circumference of circles and compare them with their respective diameter in order to relate circumference to Pi. ➢ Use direct or indirect methods to find the circumference of circle, semicircle. ➢ Develop and apply the formula in order to find the area of a circle and semicircle. ➢ Examine area and perimeter of different figures in order to find solution for real life problems			
8.	DEC, 17 DAYS	ALGEBRAIC EXPRESSIONS	13	➢ Describe algebraic expressions in order to distinguish them from arithmetic expressions. Combine variables and constants in order to form an algebraic expression for the given statement. ➢ Examine the given algebraic expression in order to determine its terms and their factors. ➢ Examine the given algebraic	To differentiate like and unlike terms using card game.		

			expressions in order to distinguish between the terms which are constants and those which are not.	
			➤ Examine the given algebraic expressions in order to classify them as monomial, binomial, trinomial, polynomial.	
			➤ Combine like terms in order to simplify the given algebraic expression.	
			➤ Add algebraic expressions in order to determine their sum. Subtract the given algebraic expressions in order to determine their difference.	
			➤ Use the given algebraic expression in order to complete the table of number patterns or find its nth term.	
			➤ Examine the pattern in order to verify whether the given algebraic expression satisfies the shown pattern or not.	
	VISUALISING SOLID SHAPES		➤ Examine different solid shapes	

			6	in order to identify and count their number of faces, edges and vertices. ➢ Examine oblique sketches in order to visualize all the faces of a solid shape. ➢ Draw 3D objects in 2D in order to visualize solid objects from different perspectives. ➢ Examine cross sections of different solid shapes in order to interpret and visualize different planes. Examine the different figures formed by changing the angle of shadows formed in order to visualise solid figures.	Making 3 D shapes using nets.		
9.	JAN, 24 DAYS	EXPONENTS AND POWERS	20	➢ Describe exponential form of numbers in order to express numbers in exponential notation. Examine the exponential form of the given number in order to identify its base and exponent. Examine the numbers given in exponential form in order to compare and represent them in			

				an order. Find prime factors of numbers in order to express them as the product of powers of prime factors. ➢ Apply laws of exponents in order to simplify a given expression ➢ Write numbers using powers of 10 in order to express them in standard form. Expand the given number using powers of 10 in order to express it in the exponent form. Represent large numbers in exponential form in order to read, understand and compare them easily	To find the value of a^n (where a and n are natural numbers) using paper folding	
		SYMMETRY	7	➢ Determine lines of symmetry for the given figures in order to classify them on the basis of no. of lines of symmetry. ➢ Examine regular polygons in order to determine their lines of symmetry. ➢ Complete the mirror reflection of the given figures along the mirror line (i.e., the line of	To find the order of rotational symmetry of a given figure.	

				symmetry) in order to identify the figure.			
				➢ Examine the given figure in order to determine its angle of rotation.			
				➢ Examine the given figure in order to determine its order of rotation.			
				➢ Examine the given figures in order to identify figures which have both line symmetry as well as rotational symmetry			
10.	FEB, 22 DAYS	REVISION					
11.	MARCH, 23 DAYS	ANNUAL EXAM					

BOOKS: NCERT MATH TEXTBOOK

PRINCIPAL'S SIGNATURE