DELHI PUBLIC SCHOOL, PALI
ANNUAL CURRICULUM PLAN SESSION 2019-20

CLASS: VII
SUBJECT: MATHS

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	**Behavioral (Application based)**			
June 14 days	**Integers**	Students will able to/ recall/ learn/apply/ find • Concept and examples of Integers. (K) • Representation of integers on number line. • Reading of integers on number line. • To find additive inverse of an integer. • Learn to solve magic squares involving integers. • DMAS rule for integers(U) • Addition, subtraction as well as properties of integers (AP) • Multiplication, Division and properties of integers (AP) • Application of integers in daily life situations.	Students will develop understanding about use of integers such as in banks (credit and debit),Measuring temperatures, marking scheme (when there is minus marking) etc.	1. Create patterns of integers. 2. Framing Real life situations of Integers.	Students would be able to • Understand concepts and examples of Integers. • Representation of integers on number line. • Reading of integers on number line. • To find additive inverse of an integer. • Learn to solve magic squares involving integers. • DMAS rule for integers • Addition, subtraction as well as properties of integers • Multiplication, Division and properties of integers • Application of integers in daily life situations. • To develop Application skill, Higher order thinking and Numeracy skill, Ability of reasoning and team spirit • They would be able to relate the content with practical life like every number has its negative number e.g. every coin has two faces • +ve and –ve integers are used in measuring temperature.	**Assessment will be done on the basis of decided Rubrics.**

					• Realization of –ve marking in competitive exams. • Altitude that below sea level is represented with negative integers Banks and credit unions represent debit and credit through integers	
June 3 days July 15 days	**Fractions and Decimals**	The students will be able to: • Define fraction as a part of whole (U) • Understand the concept of different types of fraction and decimals. (K) • Learn how to convert any one type of fraction or decimal to other (A) • Recognize the difference between different types of fractions and decimals. (Ay) • Compute addition, subtraction, multiplication and division of fraction and decimals. (A) • Solve word problem involving fractions and decimals. (A) • Applications on fractions and decimals.(A)	Following behavioral objectives will be achieved- • A part of a whole is important to make up the whole, for example, students are a part of their class, but they are important to form the whole class because even if one student is missing, the class wouldn't be complete. • In event managements like parties. • the operations on fractions in dealing with money. • They can check their progress by calculating the fractions of the work they've done and whole work they've to do. • A record can be broken by a difference of a few decimal places. • A life can be saved or lost by a difference of a few decimal places in	1. Making Fraction flower. 2. Framing questions of multiplication and division of decimals.	Students would be able to: • Apply the concept of different types of fraction and decimals. • Recognize the different types of fractions and decimals. • Learn how to convert any one type of fraction or decimals. to other. • Compute addition, subtraction, multiplication and division of fractions and decimals. • Solve word problems involving fractions and decimals • Learn to value the smallest part or unit regardless of how insignificant it might seem. • Learn to manage events like parties. • learn to calculate their progress by using fractions • Manage time and value each and every second. • Learn the use of decimals in various daily life aspects like calculations relating to money. • Applications on fractions and decimals • develop observatory skills.	**Assessment will be done on the basis of decided Rubrics.**

			seconds. • Seemingly insignificant things can make a huge difference, so we must never underestimate small things. • Proper and accurate concentration of chemicals is very important in drugs and medicines. Even a difference by 0.001 or smaller can cause severe health issues.		• Develop analytical skills. • Develop problem solving skills.	
July 11 days	**Rational Numbers**	Students will be able to understand / learn /define /apply/ find • Concept and examples of Rational numbers. (K) • Positive and negative Rational numbers. (K) • Equivalent Rational numbers. (U) • Representation of rational numbers in standard form. (U) • Additive inverse and multiplicative inverse of a rational number. (K) • Representation of Rational numbers on the number line. (U) • Comparison of Rational numbers. (AY) • Rational numbers between two rational numbers. (U) • Addition, Subtraction, Multiplication	**S**tudents will be able to • Develop comparative skills by arranging rational number in ascending or descending order. • Develop problem solving ability in real life situations.	**1.**Arranging rational numbers written on coloured strips in ascending or descending order. 2.Representation of rational number on the number line.	Students would be able to learn /define /apply/ find • Concept and examples of Rational numbers. • Positive and negative Rational numbers. • Equivalent Rational numbers. • Representation of rational numbers in standard form. • Additive inverse and multiplicative inverse of a rational number. • Representation of Rational numbers on the number line. • Comparison of Rational numbers.	**Assessment will be done on the basis of decided Rubrics.**

		and Division of Rational numbers.(U)				
Aug 7 days	**Symmetry**	Student will be able to: • Recall line symmetry and reflection symmetry(U) • Identify the axis of symmetry. (K) Lines of symmetry for regular polygons • Identify and apply the concept of rotational symmetry of 2 -D figures. U) • Find the centre, order and angle of rotation for a simple figure. (AN) • Identify the figures having both reflection and rotational symmetry.	• Students would learn to visualize the things • Students would learn to find symmetrical figure.	**1.** To identify symmetrical designs from the surroundings. 2.To find axis of symmetry and order of rotational symmetry**.**	Students would be able to: • Identify the axis of symmetry. • Draw Lines of symmetry for regular polygons • Identify and apply the concept of rotational symmetry of 2 -D figures. • Find the centre, order and angle of rotation for a simple figure. • Identify the figures having both reflection and rotational symmetry	**Assessment will be done on the basis of decided Rubrics.**
Aug 13 days	**Data Handling**	The students will be able to understand: • organization of data (U) • preparation of frequency distribution table (Ap) • Measures of central tendencies: Mean, Mode, Median and Range	Following behavioral objectives will be achieved- • It's important to keep things and information organized to work	1. Collection of situations where mean, mode and median can be used. 2. To Prepare	Students would be able to • Organize data • prepare frequency distribution table • Measure of central tendencies: Mean, Mode, Median and Range	**Assessment will be done on the basis of decided Rubrics.**

		(Ev) ● Construction and interpretation of different types of bar graphs (Sy) ● Chance and Probability. (AN)	properly. ● In our life, there will be both, ups and downs, we should be always grateful while the ups and should have enough courage to make it through the downs. ● Every unit is important in a group. ● Learning can be fun if you take it in a positive way. ● While comparing any two things or situations, or people, the parameters and scales must be same ● Students will also be able to develop observation and calculation skill.	double bar graphs.	• Construct and interpret different types of bar graphs • Construction and interpretation of different types of bar graphs • Learn Chance and Probability • Solve problems and situation-based questions. • Learn that studying can be enjoyable. • Realize importance of keeping things and information organized to work properly. • develop observation and calculation skill.	
Sep14 days	**Algebraic Expressions**	The students will be able to understand: ● About like terms and unlike terms. (U, AN) ● About, terms factors and coefficient. (U) ● About Monomial, Binomial, Trinomial and Polynomial. (U) ● Addition and subtraction of Algebraic Expression (A) ● Applications of Algebraic Expressions. (A)	Following behavioural objectives will be achieved ● Not all people are alike; however, each and every one of us is a human and holds his own importance. ● Every unit is important in a group. ● Learning can be fun if you take it in a positive	**1.** Addition and Subtraction of algebraic expression. **2.** To frame algebraic expressions	The students would be able to understand: ● About like terms and unlike terms. ● About Terms Factors and coefficient. ● About Monomial, Binomial, Trinomial and Polynomial. ● Addition and subtraction of Algebraic Expression ● Applications of Algebraic Expressions. ● Not all people are alike; however each and every one of us is a human and holds his own importance.	**Assessment will be done on the basis of decided Rubrics.**

			way. ● While comparing any two things or situations, or people, the parameters and scales must be same. ● A single wrong step can deviate us from the path. ● There is more than just one way to solve any problem. ● The smallest seeming mistake can completely change the situation and we won't get outcomes as we wanted. ● Situations can be handled in many ways		● Every unit is important in a group. ● Learning can be fun if you take it in a positive way. ● While comparing any two things or situations, or people, the parameters and scales must be same. ● A single wrong step can deviate you from the path. ● There is more than just one way to solve any problem. ● The smallest seeming mistake can completely change the situation and we won't get outcomes as we wanted.	
SA II						
Oct10 days	**Simple Equations**	The students will be able to: ● Understand about Linear Equations. (U) ● Frame Linear Equation (K) ● Solve an Equation with different methods. (K) ● Solve story sum based on applications of simple equation. (A)	Following behavioural objectives will be achieved-. ● It's necessary to know all variables to solve an unsolved mystery. ● We need to keep trying to succeed. ● Errors and mistakes make us learn more and	1. To frame algebraic expressions by using variable and constant. 2. To frame linear equation.	Students would be able to: ● Frame Linear Equations. ● Apply transposition method to solve equations. ● Solve word problems based on applications of simple equation ● Solve situation-based questions. ● Understand that knowing every argument correctly matters to reach a conclusion.	**Assessment will be done on the basis of decided Rubrics.**

			teach us new ways to look at the problem.		• Realize that we need to keep trying to succeed. • Learn that errors and mistakes make us learn more and teach us new ways to look at the problem.	
NOV 8 days	**Visualizing SolidShapes**	Student will be able to: • Identify and draw 2- dimensional and 3 dimensional figures.(U) • State the number of vertices, edges and faces of 3 dimensional figures. .(K) • Draw nets for cubes, cuboids, cylinders, pyramid, prism and cones.(AP) • Identify the solid formed by a given net. (U) • Draw oblique and isometric sketches. (K) • Verify Euler's formula. (A) • Draw different views. (U) • Visualize different cross sections (horizontal and vertical) of solid objects. .(AP)	Following behavioral objectives will be achieved1; • Students will be able to visualize all the faces of the images of 3D shapes. • Students will be able to develop drawing skills by using isometric dotted paper for representing various 3 D shapes. • Team spirit will be developed while working in group to prepare nets of 3D shapes.	1. To draw front, side and top view of Rubik's cubes. 2.To solve questions based on Net of Dice.	Students would be able to: • Identify and count vertices, edges and faces of 3D figures. • Recognize 2D and 3D figures from the surroundings • Understand the nets for various solid shapes • Identify the solid obtained by a given net. • Verify Euler's formula. • Draw solids on a flat surface. • Draw different views. • Visualize cross sections (horizontal and vertical) of solid objects. • Get knowledge and will develop observation skill by identifying number of faces, edges and vertices of the solid. • Learn application part by using Euler's formula for verification and	**Assessment will be done on the basis of decided Rubrics.**
NOV 12days	**Exponents and Powers**	The students will be able to : • Write number in its expanded form and will be able to compare any two numbers. U • Express a given number in its	Following behavior objectives will be achieved: • The students will be able to understand that	1. To prove laws of exponent by paper folding and pasting. Ex 3^n and 2^n	The students would be able to: • Write number in its expanded form and will be able to compare any two numbers. • Express a given number in its prime	**Assessment will be done on the basis of decided Rubrics.**

		prime factorization in their powers. K • Define exponents for natural numbers. A • Know various laws of exponents. A • Apply the laws of exponents to solve the problems with different operations. A • Know standard form / scientific notation for numbers. K	some common characteristics/qualities are required to be a part of a group. • The students will be to follow the principles/ethics to make their lives easier (as they study the different laws of exponents to make the calculations easier). • The students will be able to elaborate / brief their views as per requirement. • The students will be able to connect exponents in real life situations as we use units like square feet, square meters, cubic meters, etc.		factorization in their powers. • Define exponents for natural numbers. • Know various laws of exponents. • Apply the laws of exponents to solve the problems with different operations. • Know standard form / scientific notation for numbers. • Follow the principles/ethics to make their lives easier (as they study the different laws of exponents to make the calculations easier). • Elaborate / brief their views as per requirement. • Connect exponents in real life situations as we use units like square feet, square meters, cubic meters, etc.	
DEC 14days	**Comparing Quantities**	The students will be able to • Recall the concept of ratio as an extension of fraction. (K) • Find the equivalent ratios as an extension of equivalent fraction. (U) • Recall the concept of proportion as an equality of two ratios. (K) • To recall unitary method and apply it in word problems. (A) • Understand the term percentage as a fraction with denominator 100.(K)	The students will be able to • Develop comparative skills by finding percentage. • Develop understanding related to profit and loss while dealing with prices of different commodities. • Develop Problem solving skills by	1.Find Increase or decrease % 2.Calculate the Interest as well as Amount (of SBI) for given Principal	The students would be able to: • Recall the concept of ratio as an extension of fraction. • Find the equivalent ratios as an extension of equivalent fraction. • Recall the concept of proportion as an equality of two ratios. • To recall unitary method and apply it in word problems. • Understand the term percentage as a fraction with denominator 100.	**Assessment will be done on the basis of decided Rubrics.**

		• Convert fractions and decimals into percentage and vice-versa. (U) • Find the increase and decrease of a quantity in terms of percentage. (A) • Apply percentage in problems involving profit and loss. (A) • Find simple interest and amount. (U) • To find rate, principal and time using formula. (U) • To find CP, SP, Profit% and Loss% (A)	applying various formulae. • Develop ability of reasoning by finding rate of interest on different schemes available.		• Convert fractions and decimals into percentage and vice-versa. Compare quantities • Find the increase and decrease of a quantity in terms of percentage. • Apply percentage in problems involving profit and loss and interest • Find simple interest and amount. • To find rate, principal and time using formula • To find CP, SP, Profit% and Loss% • Develop calculative skills by using unitary method. • Develop comparative skills by finding percentage. • Develop understanding related to profit and loss while dealing with prices of different commodities. • Problem solving skills will be developed by applying various formulae. • Develop ability of reasoning by finding rate of interest on different schemes available.	

DEC 6 days Jan 8 days	**Lines and Angles**	Students will be able to: • Define Parallel lines, intersecting lines, Interior angles, Exterior angles, Transversal lines, Corresponding angles, Alternate angles, adjacent angles, vertically opposite angles and linear pair. (K) • Understand linear pair, complementary angles and supplementary angles. (U) • Understand when a transversal intersects a pair of parallel lines(U) The alternate angles are equal. The corresponding angles are equal. Co-interior angles are supplementary. • Check whether lines are parallel or not.	Students will be able to: • Recognize parallel and intersecting lines from their surroundings. • Develop drawing skills by using isometric dotted paper for representing various 3 D shapes.	1. Drawing pairs of angles and checkingwhether given pair of angles are supplementary or complementary. 2. Verification of co interior angles are supplementary by cutting and pasting method.	Students would be able to: • Understand linear pair, complementary angles and supplementary angles. (U) • Define Parallel lines, intersecting lines, Interior angles, Exterior angles, and Transversal, Corresponding angles, Alternate angles and Linear pair. (K) • Understand Vertically opposite angles (K) • Understand when a transversal intersects a pair of parallel lines(U) • The alternate angles are equal. • The corresponding angles are equal. • Co-interior angles are supplementary. • Develop Imagination skill • Visualize things with geometrical approach. Strengthen their designing skills	**Assessment will be done on the basis of decided Rubrics.**

Jan 12days	**The Triangle and its Properties**	The students will be able to: ● Understand Medians and Altitudes of a Triangle. (U) ● Understand Angle Sum Property of a triangle. (U) ● Understand Exterior angle of a triangle and its properties (U) ● Understand Pythagoras Property of Right-angled Triangle. (U) ● Solve application-based question. (A) ● Inequality properties of triangle. ● Specific Properties of types of triangle	Following behavioural objectives can be achieved- ●All shapes are beautiful in their own way. ●Learning can be fun if you take it in a positive way. ●Some common characteristic is required to be a part of a group (properties of triangles).	1. Verification of Exterior angle property. 2. Verification of Pythagoras Property.	Student would be able to: ● Understand Medians and Altitudes of a riangle. (U) ● Understand Angle Sum Property of a iangle. (U) ● Understand Exterior angle of a triangle nd its properties (U) ● Understand Pythagoras Property of Right-ngled Triangle. (U) ● Solve application-based question. (A) ● Inequality properties of triangle. ● Specific Properties of types of triangle. ● All shapes are beautiful in their own way. ● Learning can be fun if you take it in a ositive way. ● Some common characteristic is required o be a part of a group (properties of triangles).	**Assessment will be done on the basis of decided Rubrics.**
Jan 3 days Feb 8days	**Practical Geometry**	The students will be able to: • Construct parallel and perpendicular lines(U) • Recall of the properties of parallel lines(K) • Understand that in the following cases, triangle can be constructed: **1**.If 3 sides of the triangles are given where sum of every two sides must be greater than third side (SSS) **2**.If 2 sides and the angle contained between them are given (SAS)(U) **3**.If 2 angles and the side contained between them are given (ASA)(U) **4**.If the hypotenuse and a side of a right-angled triangle are given (RHS)(U)	Following behavioural objectives can be achieved: - • Creativity will be increased • Imagination power will be increased • Students will learn to do work with accuracy • Students will learn to do step by step work to achieve decided goal. • To do presentable work	Construction of triangles as per conditions. (i.e. SSS, SAS, ASA or AAS, RHS)	The students would be able to: • Construct parallel and perpendicular lines(U) • Recall of the properties of parallel lines(K) • Understand that in the following cases, triangle can be constructed: **1**.If 3 sides of the triangles are given where sum of every two sides must be greater than third side (SSS) **2**.If 2 sides and the angle contained between them are given (SAS)(U) **3**.If 2 angles and the side contained between them are given (ASA)(U) **4**.If the hypotenuse and a side of a right-angled triangle are given (RHS)(U)	**Assessment will be done on the basis of decided Rubrics.**

Feb 12days	**Congruence of Triangles**	Students will be able to learn: • The meaning of congruence, congruent figures and CPCT. (K) • Necessary conditions of two figures for being congruent for example • Two line segments are congruent if they have same length (U) • Two angles are congruent if they have same measure (AY) • Two circles are congruent if they have same radius (AY) • Two same sided regular polygons are congruent if they have equal length of side(AY) • Two rectangles are congruent if they have same length and breadth (AY) • Understand the concept of the congruence conditions of triangles which are SSS, ASA (AAS), SAS and RHS(A) • Symbol of congruence and related terms as well as applications on congruence….(A) • Solve the problems based on congruence condition…(A)	Students will be able to know importance of congruency in day to day life like • In field of architecture • In factories for the production of parts like tires of vehicles. • Pages of same book. • Shapes of Holders of bulbs • Shapes of Pin holders • Coins or currency of notes of any particular denomination • In tailoring.	1. Identification of corresponding parts through superimposing of two cutouts of congruent triangles. 2.Examine whether the two triangles are congruent or not.	Students would be able to understand: • The meaning of congruence, congruent figures and CPCT. • Necessary conditions of two figures for being congruent for example • Two line segments are congruent if they have same length • Two angles are congruent if they have same measure • Two circles are congruent if they have same radius • Two same sided regular polygons are congruent if they have equal length of side • Two rectangles are congruent if they have same length and breadth • Concept of the congruence conditions of triangles which are SSS, ASA (AAS), SAS and RHS • Symbol of congruence and related terms as well as applications on congruence. • Solve the problems based on congruence condition • Importance of congruency in day to day life like in field of architecture , factories ,pages of same , book,Coins or currency of notes of any particular denomination, tailoring ,etc.	**Assessment will be done on the basis of decided Rubrics.**
Feb3 days March 10 days	**Perimeter and Area**	Students will be able to • Understand formula for area of Parallelogram, Triangle, Rhombus and Circle. • Generate formula for perimeter of Parallelogram, Triangle, Rhombus as	Following behavioural objectives will be achieved: • Students will apply concept of perimeter while preparing track to conduct sports; in	1. To find Perimeter and Area of the things from surrounding	Students would be able to: • Generate formula for area of Parallelogram, Triangle, Rhombus and Circle. • Find formula for perimeter of Parallelogram, Triangle, Rhombus as	**Assessment will be done on the basis of decided Rubrics.**

		well as circumference of circle ● Apply the formulae to solve the problems. ● Recall conversion of units. ● Learn concept of **π.**	drawing boarder around rectangular soft board; while counting distance covered by an athlete, while fencing their park to keep cattle away ● Students will apply concept of area in deciding how much carpet size is needed for a dining room; in determining how much paint is needed ● Students will be able to develop the skills like Observatory, Analytical, Application, and Estimation		well as circumference of circle ● Apply the formulae to solve the problems. ● Recall conversion of unit. ● Learn concept of **π.** Also, they would be able to ● Apply concept of perimeter while preparing track to conduct sports; in drawing boarder around rectangular soft board; while counting distance covered by an athlete, while fencing their park to keep cattle away. ● Apply concept of area in deciding how much carpet size is needed for a dining room; in determining how much paint is needed ● Develop the skills like Observatory, Analytical, Application, and Estimation	