GOOD WORD PUBLIC SCHOOL

ANNUAL CURRICULUM PLAN SESSION 2020-21

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 24 days	**Integers**	Students will able to/ recall/ learn/apply/ find • Concept and examples ofIntegers. • Representation of integers onnumber line. • Reading of integers on numberline. • To find additive inverse of aninteger. • Learn to solve magicsquares involvingintegers.	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 onnumber line. • Reading of integers on numberline. • To find additive inverse of aninteger. • Learn to solve magic squaresinvolving integers. • DMAS rule forintegers • Addition, subtraction as well asproperties ofintegers • Multiplication, Division and propertiesof integers • Application of integers in daily life situations.	**Worksheet**

| July 24 days | Fractions and Decimals | The students will be able to:

• Define fraction as a part of whole
• Understand the concept of different types of fraction and decimals.
• Learn how to convert any one type of fraction or decimal to other
• Recognize the difference between different types of fractions and decimals.
• Compute addition, subtraction, multiplication and division of fraction and decimals.
• Solve word problem involving fractions and decimals.
• Applications on fractions and decimals. | 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. | worksheets |

			seconds. • Seeminglyinsignificant things can make a huge difference, so we must never underestimate smallthings. • Proper and accurate concentration of chemicals is very important in drugs and medicines. Even a difference by 0.001 or smaller can cause severe healthissues.		• Develop analyticalskills. • Develop problem solvingskills.	
August 23 days	**Data Handling**	The students will be able to understand: • organization of data • preparation of frequencydistribution table • Measures of centraltendencies: Mean, Mode, Median and Range • Construction and interpretation of different types of bar graphs Chance and Probability.	Following behavioral objectives will be achieved- It's important to keep things andinformation organized towork 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 agroup. • Learning can be fun if you take it in a positive way. • While comparing any two things or situations, or people, the parameters and	1. Collection of situations where mean, mode and median can be used. 2. ToPrepare double bar graphs.	Students would be able to • Organize data • prepare frequency distributiontable • Measure of central tendencies:Mean, Mode, Median and Range	**Worksheet.**

	Perimeter and Area	Students will be able to • Understand formula for area of Parallelogram, Triangle,Rhombus andCircle. Generate formula for perimeter of Parallelogram, Triangle, Rhombusas well as circumference of circle • Apply the formulae to solvethe problems. • Recall conversion ofunits. Learn concept of**π.**	scales must besame • Students will also be able to develop observation and calculationskill. Following behavioural objectives will be achieved: • Students will apply concept ofperimeter while preparing track to conduct sports; in drawing border 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 isneeded	1. To find Perimeter and Area of the things from surrounding	Students would be able to: • Generate formula for area of Parallelogram, Triangle, Rhombusand Circle. Find formula for perimeter of Parallelogram, Triangle, Rhombus as well as circumference of circle • Apply the formulae to solve theproblems. • Recall conversion ofunit. • 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 coveredby an athlete, while fencing their park to keep cattleaway. • 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, andEstimation	**Worksheet**

						WORKSHEET
September (24 days)	**Simple Equation**	The students will be able to: • Understand about Linear Equations. (U) • Frame Linear Equation(K) • Solve an Equation withdifferent 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 unsolvedmystery. • We need to keep trying tosucceed. • Errors and mistakes make us learn moreand teach us new ways to look at the problem.	1. To frame algebraic expressions by using variable and constant. 2. To frame linearequation.	Students would be able to: • Frame LinearEquations. • Apply transposition method tosolve equations. • Solve word problems based on applications of simpleequation • Solve situation-based questions. • Understand that knowing everyargument correctly matters to reach aconclusion. • Realize that we need to keep tryingto succeed. • Learn that errors and mistakes makeus learn more and teach us new ways to look at theproblem.	
October (21 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 anglesand supplementary angles.(U) • Understand when a transversal intersects a pair of parallellines(U) The alternate angles areequal.	Students will be able to: • Recognize paralleland intersecting lines from theirsurroundings. • Develop drawing skills by using isometric dotted paper for representing various 3 D shapes.	1. Drawing pairs of angles and checking whether given pair of angles are supplementary or complementary. 2. Verification of co interior angles are supplementary by cutting and pastingmethod.	Students would be able to: • Understand linear pair, complementary angles and supplementary angles.(U) • Define Parallel lines, intersectinglines, Interior angles, Exterior angles, and Transversal, Corresponding angles, Alternate angles and Linear pair.(K) • Understand Vertically opposite angles(K) • Understand when a transversalintersects a pair of parallellines(U) • The alternate angles areequal. • The corresponding angles areequal. • Co-interior angles aresupplementary.	**Lines and Angles**

			The corresponding angles are equal. Co-interior angles are supplementary. • Check whether lines are parallel or not.			• Develop Imaginationskill • Visualize things with geometrical approach. Strengthen theirdesigning skills	
	Rational Numbers	Students will be able to understand / learn /define /apply/ find • Concept and examples ofRational numbers.(K) • Positive and negativeRational numbers. (K) • Equivalent Rationalnumbers. (U) • Representation of rationalnumbers in standard form. (U) • Additive inverse andmultiplicative inverse of a rational number.(K) • Representation of Rationalnumbers on the number line. (U) • Comparison of Rationalnumbers. (AY) • Rational numbers between two rational numbers.(U) • Addition, Subtraction,Multiplication	Students will be able to • Developcomparative skills by arranging rational number in ascending or descending order. • Develop problem solving ability in real lifesituations.	**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 ofRational numbers. • Positive and negative Rationalnumbers. • Equivalent Rationalnumbers. • Representation of rational numbers in standard form. • Additive inverse andmultiplicative inverse of a rationalnumber. • Representation of Rational numbers on the number line. • Comparison of Rationalnumbers.	**Worksheet**

November (23 days)	**The Triangle and its Properties**	The students will be able to: ● Understand Medians andAltitudes of a Triangle.(U) ● Understand Angle Sum Property ofa triangle.(U) ● Understand Exterior angle ofa triangle and its properties(U) ● Understand Pythagoras Property of Right-angled Triangle.(U) ● Solve application-basedquestion. ● Inequality properties oftriangle. ● Specific Properties of types of triangle	Following behavioural objectives can be achieved- ●All shapes are beautiful in their ownway. ●Learning can be fun if you take it in a positiveway. ●Some common characteristic is required to be a part of a group (properties of triangles).	1. Verification of Exterior angleproperty. 2. Verification of Pythagoras Property.	Student would be able to: ● Understand Medians and Altitudes ofa triangle. ● Understand Angle Sum Property ofa triangle. ● Understand Exterior angle of atriangle and its properties ● Understand Pythagoras Property of Right-angled Triangle. ● Solve application-based question. ● Inequality properties oftriangle. ● Specific Properties of types oftriangle. ● All shapes are beautiful in their ownway. ● Learning can be fun if you take it in a positive way. ● Some common characteristic isrequired tobe a part of a group (properties of triangles).	**Worksheet.**
December 24 days	**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) If the hypotenuse and a side of a right- angled triangle are given(RHS)(U)	Following behavioral 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) If the hypotenuse and a side of aright-angled triangle are given(RHS)(U)	**Worksheet.**

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January (19 days)	**Congruence of Triangles**	Students will be able to learn: • The meaning of congruence, congruent figures and CPCT. • Necessary conditions of twofigures for being congruent forexample • 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 • Understand the concept of the congruence conditions oftriangles which are SSS, ASA (AAS), SAS andRHS • Symbol of congruence andrelated terms as well as applications on congruence…. • Solve the problems based on congruencecondition…	Students will be able to know importance of congruency in day to day life like • In field ofarchitecture • In factories for the production of parts like tires ofvehicles. • Pages of samebook. • Shapes of Holders of bulbs • Shapes of Pinholders • Coins or currency of notes of any particular denomination • Intailoring.	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 andCPCT. • Necessary conditions of two figuresfor being congruent forexample • Two line segments are congruent if they have samelength • Two angles are congruent if they have same measure • Two circles are congruent if they havesame radius • Two same sided regular polygons are congruent if they have equal length ofside • Two rectangles are congruent if they have same length andbreadth • Concept of the congruence conditions of triangles which are SSS, ASA (AAS),SAS andRHS • Symbol of congruence and related termsas well as applications oncongruence. • Solve the problems based oncongruence 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.	**Worksheet.**

	Comparing Quantities	The students will be able to • Recall the concept of ratio as an extensionoffraction. • Find the equivalent ratios as an extension of equivalent fraction. • Recall the concept of proportionas an equality oftworatios. • To recall unitary method and applyit inword problems. • Understand the term percentage as a fraction with denominator100.	The students will be able to • Developcomparative skills by finding percentage. • Developunderstanding related to profit and loss while dealing with prices of different commodities. • Develop Problem solving skillsby	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 offraction. • Find the equivalent ratios as anextension of equivalentfraction. • Recall the concept of proportion asan equality of tworatios. • To recall unitary method and apply it in wordproblems. • Understand the term percentage as a fraction with denominator100.	**Worksheet**
		• Convert fractions and decimalsinto percentageandvice-versa. • Find the increase and decrease of a quantity in terms of percentage. • Apply percentage in problems involving profit andloss. • Find simple interest andamount. • To find rate, principal and time using formula. • To find CP, SP, Profit% and Loss%	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 ofa quantity in terms ofpercentage. • Apply percentage in problems involving profit and loss andinterest • Find simple interest andamount. • To find rate, principal and time using formula • To find CP, SP, Profit% andLoss% • Develop calculative skills byusing unitarymethod. • Develop comparative skills byfinding percentage. • Develop understanding related to profit and loss while dealing with prices of differentcommodities. • Problem solving skills will bedeveloped by applying variousformulae. • Develop ability of reasoning byfinding rate of interest on different schemes available.	

| February (24 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 worksheet. |
| | **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 worksheet.** |

	prime factorization intheir powers. K • Define exponents for natural numbers.A • Know various laws ofexponents. A • Apply the laws of exponents to solve the problems withdifferent 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 calculationseasier). • 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 ofexponents. • Apply the laws of exponents tosolve the problems with different operations. • Know standard form / scientific notation fornumbers. • Follow the principles/ethics tomake their lives easier (as they study the different laws of exponents to make the calculationseasier). • Elaborate / brief their views asper requirement. • Connect exponents in real life situations as we use units like square feet, square meters, cubic meters,etc.	

March (24 days)	Symmetry	Student will be able to: • Recall line symmetry and reflection symmetry • Identify the axis of symmetry. 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.	• Students would learn to visualize thethings • 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 ofsymmetry. • Draw Lines of symmetry forregular polygons • Identify and apply the concept of rotational symmetry of 2 -Dfigures. • Find the centre, order and angleof rotation for a simple figure. • Identify the figures having both reflection and rotationalsymmetry	Assessment will be done on the basis of worksheet.

| | 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 ofDice. | Students would be able to:
• Identify and count vertices, edges andfaces of 3Dfigures.
• Recognize 2D and 3D figures fromthe surroundings
• Understand the nets for various solidshapes
• Identify the solid obtained by a givennet.
• Verify Euler'sformula.
• Draw solids on a flat surface.
• Draw differentviews.
• Visualize cross sections (horizontaland vertical) of solidobjects.
• Get knowledge and will develop observation skill by identifying number of faces, edges and vertices of thesolid.
• Learn application part by usingEuler's formula for verificationand | Assessment will be done on the basis of worksheet. |