

INFANT JESUS CONVENT SCHOOL
ANNUAL PLAN
MATHEMATICS
CLASS: VIII

MONTH/ NO OF DAYS	TOPIC: SUB TOPIC	OBJECTIVES	AIDS/ACTIVITIES	MULTIPLE INTELLIGENCE SKILLS	LEARNING OUTCOME
<p style="text-align: center;">APRIL No of Days: 17</p>	<p>RATIONAL NUMBERS:</p> <ul style="list-style-type: none"> • Rational Numbers • Properties Of Rational Numbers • Representation of Rational Numbers on the number line • Insert Rational Numbers between any two rational numbers 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Differentiate rational and fractional numbers. • Represent rational numbers on the number line • Generalise the properties of rational numbers 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • Apply basic operation on fraction • Sketch the number line and mark different numbers. <p>SKILLS:</p> <ul style="list-style-type: none"> • Critical thinking • Problem solving • Construction <p>APPLICATION:</p> <ul style="list-style-type: none"> • Discussing the number system along with relevant examples • Solving the problems using various concepts <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • Distinguish between all properties of rational numbers • Insert rational numbers between two rational numbers 	<ul style="list-style-type: none"> • Logical-mathematical • Intrapersonal • Spatial 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Make use of rational numbers in real life situations. • Use properties of rational numbers for solving problems based on rational numbers. • Identify and visualize rational numbers on the number

					line
MAY No of Days: 12	<p>DATA HANDLING</p> <ul style="list-style-type: none"> Plotting of Histogram Draw and depict information from a Pie chart Probability 	<p>Students will be able to:</p> <ul style="list-style-type: none"> Interpret data and graphically represent it through pictograph, bar graph, double bar graph and histogram. Understand how to compile data and to write in frequency distribution table. Comprehend how to draw a pie chart. Apply the probability in real life. 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> Graphically represent data using different graphs Understand probability and its related term <p>SKILLS:</p> <ul style="list-style-type: none"> Critical thinking Problem solving Mathematical aptitude <p>APPLICATION:</p> <ul style="list-style-type: none"> Demonstrating the construction work Apply probability in real life. <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> Classify and Interpret different graphs Chances and probability related to real life. 	<ul style="list-style-type: none"> Logical-mathematical Intrapersonal Spatial 	<p>Students will be able to:</p> <ul style="list-style-type: none"> Draw the graphs Make use of probability in real life situations.
CONDUCTION OF PT-1 ASSESSMENT					

<p>JULY No of Days: 23</p>	<p>Linear equations in one variable:</p> <ul style="list-style-type: none"> • Define, frame and solve the equation. • Cross multiplication. • Rules of solving Transposition. • Application. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Define a linear equation. • Frame linear equation for the statement. • Learn and understand the process of cross multiplication. • Learn the rules and solve the equations by transposition method. 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • To solve linear equations through grid and square paper. • Frame a real- life situation which can be expressed as a linear equation and whose solution is 10[value of the variable] <p>SKILLS:</p> <ul style="list-style-type: none"> • Imaginative thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • Solve day to day life problems based on algebraic equations such as – speed & time, age related problems, area & perimeter. <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • Learn the method in solving real life situation problems. <p>Solve equation when variable lies on one side and both sides.</p>	<ul style="list-style-type: none"> • Logical-mathematical • Intrapersonal • Spatial 	<p>The student s will be able to</p> <ul style="list-style-type: none"> • Explain and frame linear equations. • Simplify linear equations using different methods. • Interpret the given word problems, analyze, frame the equation and solve it.
	<p>UNDERSTANDING QUADRILATERALS :</p> <ul style="list-style-type: none"> • Polygons • Angle Sum Property 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Find missing angle of quadrilateral • Find sum of interior angle and diagonals of 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • Understand polygons • Sides and angles of different polygons <p>SKILLS:</p> <ul style="list-style-type: none"> • Critical thinking 	<ul style="list-style-type: none"> • Computation • Kinesthetic • Intrapersonal • Spatial 	<p>The student s will be able to</p> <ul style="list-style-type: none"> • Explain

	<ul style="list-style-type: none"> • Kinds of Quadrilaterals • Elements of parallelogram 	<p>polygon</p> <ul style="list-style-type: none"> • Define different quadrilaterals 	<ul style="list-style-type: none"> • Problem solving • Mathematical aptitude <p>APPLICATION:</p> <ul style="list-style-type: none"> • Design quadrilateral robot • Finding different properties of quadrilateral . <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • Chances and probability related to real life. 		<p>different types of quadrilaterals.</p> <ul style="list-style-type: none"> • Able to apply angle sum property of quadrilaterals.
<p>AUGUST</p> <p>No of Days: 23</p>	<p>SQUARES AND SQUARE ROOTS</p> <ul style="list-style-type: none"> • Square numbers • Properties of square numbers • Square root • Square of decimals • Estimating square root. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Define perfect square. • identify various patterns and properties related to square numbers. • Know about Pythagorean triplets. • define square root • Explain relation between square and square root. • Know methods of finding square root. 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • Activity on square root clock • Squares of number 1-20 <p>SKILLS:</p> <ul style="list-style-type: none"> • Critical thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • Solving the problems using various concepts • Demonstrating the square root on word problems by different methods <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • Analyze and apply the properties of square numbers. • perfect square and 	<ul style="list-style-type: none"> • Computation • Kinesthetic • Intrapersonal • Logical mathematical intelligency 	<p>The students would be able to:</p> <ul style="list-style-type: none"> • Identify squares and square number • Find the unknown value in Pythagorean triplets. • Calculate square root of a number by repeated subtraction

	<p><u>Cubes and cube roots.</u></p> <ul style="list-style-type: none"> • Cubes • Properties • cube root • Estimation. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Define cube and cube root of a number. • discuss the properties of cubes and their application. • Explain the difference between cube and cube root. • find cube root of a number by prime factorization. • explain about estimation method. • Apply concepts of cube and cube root in real life situations. 	<p>square root.</p> <p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • Cubical blocks • grid <p>SKILLS:</p> <ul style="list-style-type: none"> • Critical thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • Solving the problems using various concepts • Demonstrating the cube root on word problems by different methods <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • Analyze and apply the properties of cubes • Differentiate between cube root and square root. 	<ul style="list-style-type: none"> • Kinesthetic intelligence • Logical-mathematical intelligence • Intrapersonal intelligence 	<p>n, prime factorization, long division and estimation methods.</p> <p>The students will be able to</p> <ul style="list-style-type: none"> • Relate that cube and cube root are inverse of each other. • Develops the application skills in usage of cubes and cube roots. • discuss how to estimate cube root for perfect cube numbers <p>The students</p>
	<p>Introduction to Graphs.</p> <ul style="list-style-type: none"> • A line graph. 	<p>Students will be able to:</p>	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • Plot various 	<ul style="list-style-type: none"> • Computation • Kinesthetic 	

	<ul style="list-style-type: none"> • Linear graph. • Location of a point/coordinate 	<ul style="list-style-type: none"> • Know about line graph. • Draw a line graph for given data and read it. • Know about linear graph. • Explain about cartesian plane and terms related to it. • locate points on the graph and describe about coordinates, • Select appropriate scale to locate points. Read the given linear graph. 	<p>coordinates on a graph sheet and join to make any figure.</p> <ul style="list-style-type: none"> • Plotting of points. <p>SKILLS:</p> <ul style="list-style-type: none"> • Logical thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • cartesian plane and terms related to it. • Construct a line graph And interpret it.. <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • compute linear graph by plotting the coordinates • Depict data in the form of linear graph 	<ul style="list-style-type: none"> • Intrapersonal • Logical mathematical intelligence 	<p>will be able to</p> <ul style="list-style-type: none"> • Define a line graph. • Define a linear graph. differentiate between a line graph and a linear graph.
<p>SEPTEMBER</p> <p>No of Days: 05</p>	REVISION OF TERM -1				
CONDUCTION OF TERM -1 ASSESSMENT (SECOND WEEK OF SEPTEMBER)					
<p>OCTOBER</p> <p>No of Days: 22</p>	<p>Comparing quantities:</p> <ul style="list-style-type: none"> • Ratios and percentages • increase and decrease percent • Discount, tax. • Profit and 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Recall and recollect knowledge related to ratios and percentages. • find increase and decrease percent. • Find discount on a commodity. • familiarize with the 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • list any 5 essential household items needed. Find the cost and the tax imposed on them and prepare a bill. • Make a comic strip on profit and loss or compound interest <p>SKILLS:</p>	<ul style="list-style-type: none"> • Computation • Kinesthetic • Intrapersonal • Spatial 	<p>The students will be able to</p> <ul style="list-style-type: none"> • differentiate between simple interest and compound

	<p>loss.</p> <ul style="list-style-type: none"> • Compound interest • Annually and semi-annually. <p>Exponents and Powers:</p> <ul style="list-style-type: none"> • Powers with negative exponents. • Laws of exponents. • scientific notation 	<p>concept of tax.</p> <ul style="list-style-type: none"> • Find profit and loss. • Know the concept of compound interest. • Use formula of compound interest in solving problems. • Define the terms compounded-annually and semi-annually. • Use of the concepts in real life. <p>Students will be able to:</p> <ul style="list-style-type: none"> • simplify powers with negative exponents. • apply laws of exponents. • express very large and very small numbers in scientific notation or standard form. 	<ul style="list-style-type: none"> • Critical thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • calculate gain or loss with respect to cost price • find tax imposed and the net amount. <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • compute increase and decrease of the value with respect to percentage. • calculate discount with respect to marked price and find selling price. <p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • find the mass of the planets and represent in scientific notation. • Make a chain /hanger displaying Laws of exponents. <p>SKILLS:</p> <ul style="list-style-type: none"> • Critical thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • Simplify exponents with negative powers. • Compute increase and decrease of the value with respect <p>UNDERSTANDING:</p>	<ul style="list-style-type: none"> • Kinesthetic intelligence • Logical-mathematical intelligence • Intrapersonal intelligence 	<p>interest.</p> <ul style="list-style-type: none"> • analyze and apply the formula of compound interest in solving problems related to real life situations <p>Students will be able to:</p> <ul style="list-style-type: none"> • Simplify given expressions by applying laws of exponents. • Convert very small and very large numbers into scientific
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November No of Days: 22	<p>Algebraic expressions and identities:</p> <ul style="list-style-type: none"> • Basic terms related to algebra. • Addition and subtraction of expressions. • Multiplication of algebraic expressions • What is an identity? • Standard identities and application. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • identify the terms related to algebraic expressions. • identify like and unlike terms to add and subtract algebraic expressions. • use distributive property for multiplication of algebraic expressions. • simplify expressions for a given value of the variable. • define and compare equation and identity. • use multiplication of binomials to explore and verify identities. 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • To prove the identity $(a+b)^2 = a^2 + 2ab + b^2$ • To know the standard identities <p>SKILLS:</p> <ul style="list-style-type: none"> • Critical thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • Recognise like and unlike terms and perform addition and subtraction of expressions • calculate value of the variable by simplifying the expressions. <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • Enable students to understand that there can be different approaches to solve problems in life. So stay positive and solve problems confidently. 	<ul style="list-style-type: none"> • Kinesthetic intelligence • Logical-mathematical intelligence • Intrapersonal intelligence 	<p>Students will be able to</p> <ul style="list-style-type: none"> • define terms like monomial, binomial, trinomial, variable. • find add, subtract, product of algebraic expressions • Use various algebraic identities in order to solve problems related to day to day life.
REVISION OF PT -2 CONDUCTION OF PT -2					
December No of Days: 12	<p><u>Mensuration:</u></p> <ul style="list-style-type: none"> • Plane figures • Area of trapezium 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Recall basic formulas 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • Collage/Formula chart on mensuration 	<ul style="list-style-type: none"> • Computation • Kinesthetic • Intrapersonal 	<p>Students will be able to</p>

	<ul style="list-style-type: none"> • Area of polygons • Surface area of cube, cuboid and cylinder. • Volume of cube, cuboid and cylinder. 	<p>for areas and perimeter of plane figures.</p> <ul style="list-style-type: none"> • Breakdown a given trapezium into known plane figures. • express areas of polygons by dividing it into triangles and rectangles. • illustrate 2D representation of a cube, cuboid and cylinder. • find surface area of cube, cuboid and cylinder. • find volume of a given cube, cuboid and cylinder. • calculate volume of given solid in order to find time taken at given rate 	<ul style="list-style-type: none"> • illustrate 2D and 3 D representation of various figures <p>SKILLS:</p> <ul style="list-style-type: none"> • Logical thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • Discuss about the area and perimeter of the ground required for different sports. • Estimate the capacity of the water tanks. <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • differentiate between volume and capacity. • convert the units into required form. 	<ul style="list-style-type: none"> • Logical methemathical intelligency 	<ul style="list-style-type: none"> • Use appropriate methods to calculate area of a given polygon. • Analyse 3D figures and selects appropriate formula and compute surface area and volume of given cuboidal and cylindrical objects.
<p>JANUARY No of Days: 18</p>	<p><u>Direct & inverse Proportions</u></p> <ul style="list-style-type: none"> • Direct proportion. • Inverse proportion. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • observe relationship between two quantities. • Examine situations and decide whether the two quantities are proportional to each other. • convert the given statement between 	<p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • Give examples of real life situations that involve variations. • Represent proportion on a chart creatively. <p>SKILLS:</p> <ul style="list-style-type: none"> • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • factorizing is a useful 	<ul style="list-style-type: none"> • Computation • Kinesthetic • Intrapersonal • Logical methemathical intelligency 	<p>The students will be able to</p> <ul style="list-style-type: none"> • analyse and find the type of variation between given two quantities.

	<p><u>Factorization</u></p> <ul style="list-style-type: none"> • Factors • common factor method. • Regrouping method. • factorization using identities • Division of algebraic expressions. • Finding errors. 	<p>two quantities into a table and identify the missing quantity.</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> • express each term into irreducible factors. • find common factors for the given terms. • explain about factorization by common factors method 	<p>skill in real life.</p> <ul style="list-style-type: none"> • understanding time and making calculations during travel. <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • Recognise and analyse the value in given situation • calculate value of the variable by simplifying the proportion <p>KNOWLEDGE:</p> <ul style="list-style-type: none"> • finding factors of the given expressions using cards. • finding area of a plot when dimensions are given in factors form. <p>SKILLS:</p> <ul style="list-style-type: none"> • Critical thinking • Problem solving • Analytical thinking <p>APPLICATION:</p> <ul style="list-style-type: none"> • Represent the terms as product of their factors. • Apply the Identities <p>UNDERSTANDING:</p> <ul style="list-style-type: none"> • factorise the given expression by common factors methods. <p>factorise by regrouping the terms express the algebraic</p>	<ul style="list-style-type: none"> • calculate the missing value in the given situation. • solve real life problems related to variations. <p>The student s will be able to</p> <ul style="list-style-type: none"> • Use common factors method and divide the polynomial s. • check the mathematical statements in order to find the errors and rectify.
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			expressions by applying identities.		
FEBRUARY No of Days: 23	REVISION OF TERM -2				
MARCH	CONDUCTION OF TERM -2 ASSESSMENT				