Annual Syllabus
Class-VIII (2022-23)
Subject: Mathematics (Level – 2)

Chapter	Content and its mapping with previous classes	Learning Outcomes	Suggested Activities
Chapter 2 **Linear Equation in One Variable**	**Class VI :** Addition & Subtractionof Integers, Addition & Subtraction of Fraction, Addition & Subtraction of Decimal **(Use Worksheet No. 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23)** **ClassVII:** Multiplication & Division of Integers, Multiplication & Division of Fraction, Multiplication & Division of Decimal, Equivalent ratios, percentage **(Use Worksheet No. 1,5,6,7,8,10,11,12,13,31,32,33,34 and 35)** **ClassVIII:** Introduction, Solving equations which have linear expressions on one side and numbers on the other side, Some applications, Solving equations having the variable on both sides, Some more applications, Reducing equations to simpler form, Equations reducible to linear form. **(Use Worksheets No. 5, 6, 7, 8 and 9)**	The learner: • Solve problem based on linear equation in variable. • Solve puzzles and daily life problem using variables.	• Play with numbers game, Picture / card game. • Story: Crocodile Dada. (**Pragati**)
Chapter-3 **Understanding Quadrilaterals**	**ClassVI:** Points, A Line Segment, A Line, Intersecting Lines, Parallel Lines, Ray, Curves, Polygons, Angles, Triangles, Classification of Triangles, Quadrilaterals, Circles. **(Use Worksheet No. 29, 31, 32, 33, 34 and 48)** **ClassVII:** Pair of lines, checking for parallel lines.Medians of a triangle, altitudes of a triangle,Exterior angle of a triangle, two special triangles and their property, angle sum property of a triangle, equilateral and isosceles triangle, sum of the lengths of two sides of a triangle, right angled triangles and Pythagoras property.**(Use Worksheet No.4,14,15, 27, 28, 29 and 30)** **ClassVIII:** Introduction, Polygons: Classification of polygons, Diagonals, Concave and Convex polygons, Regular and	The learner: • Solves problems related to angles of quadrilateral using angle sum property. • Verifies properties of parallelogram and establishes the relationship between them through reasoning. • Generalizes properties of	• Diagonals of a polygon: Making, identification of vertices & counting of Diagonals of a polygon with the help of students. • Making of circle & Quadrilateral with the help of DOTs. • Paper cutting: Making Different type of Quadrilateral. • Game of KITEs: A Role Play/Story in Mathematics.

	irregular polygons, Angle sum property, Sum of the measures of the exterior angles of a polygon, Types of quadrilaterals: Trapezium, Kite, Parallelogram, Elements of parallelogram, Angles of a parallelogram, Diagonals of parallelogram, Some special parallelograms: Rhombus, Rectangle, Square **(Use Worksheets No. 20, 21, 22, 23, 24, 25 and 26)**	different types of quadrilaterals.	
Chapter 6 **Square and square roots**	*** ClassVI:** Multiplication of number by itself. Place & Face value.**(Use Worksheet No.1 and 9)** *** ClassVII:** Exponents, Laws of Exponents **(Use Worksheet No.16,17 and 18)** **ClassVIII:** Introduction, Properties of square numbers, Some more interesting patterns, Finding the square of a number, Pythagorean triplets, Square roots through repeated subtraction, prime factorization and division method, Square roots of decimals, Estimating square roots **(Use Worksheets No. 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19)**	The learner: • Finds square and square roots of numbers using different methods. • Uses square roots in solving problems of daily life.	• To make square using straw and reshape the figure by shifting the straws - play with straws. • Draw the square on a graph paper and count them /Tower Pattern. • Square MAZE

➢ **The above content must be completed for Mid Term Examination by 30ᵗʰ September, 2022.**
➢ **Mental Maths & Maths Lab Activities**
➢ **Revision of syllabus for Mid Term Examination.**

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Chapter-4 **Practical Geometry**	**ClassVI:** Construct a Line Segment, Perpendiculars, Angles **(Use Worksheet No. 24, 25, 26, 27 and 28)** **ClassVII:** Construction of a line parallel to a given line through a point not on the line.Construction of triangles **(Use Worksheet No. 36, 37, 38, 39, 40 and 41)** **ClassVIII:** Introduction, Construction of quadrilaterals (i) When four sides and one diagonal given. (ii) When two diagonals and three sides are given. (iii) When two adjacent sides and three angles are given. (iv) When three sides and two included angles are given. (v) When other special properties are known.	The learner: • Construct different quadrilaterals using compasses and straight edge.	• Mr. Robot (fill the colours in robot made up of different shapes). • Head craft (Cutting and colouring different geometrical shapes and paste like head craft).

Chapter 7 Cube and cube roots	* ClassVI: same as Chapter 6 * ClassVII: same as Chapter 6 ClassVIII: Introduction, Cubes and Cube roots (Use Worksheets No. 29, 30, 31, 32, 33 and 34)	The learner: • Finds cube and cube roots of a number.	• Finding Volume of different size RUBRIC CUBE. • Cube root MAZE
Chapter 9 Algebraic Expressions and Identities	ClassVIII:- What are expressions?, Terms, Factors, Coefficients, Monomials, Binomials and Polynomials, Like and Unlike terms, Addition and subtraction of algebraic expressions, Multiplication of algebraic expression: Introduction, Multiplying a monomial by a monomial, Multiplying a monomial by a polynomial, Multiplying a polynomial by a polynomial, What is an identity?, Standard identities, Applying identities (Use Worksheets No. 35, 36, 37, 38, 39, 40 and 41)	The learner: • Addition, subtraction and multiplication of algebraic expression. • Uses various algebraic identities in solving problem of daily life.	• Sorting and writing surrounding patterns. • Checking $(a + b)^2 = a^2 + 2ab + b^2$ through paper cutting. • Checking $(a-b)^2 = a^2 - 2ab + b^2$ through paper cutting. • Checking $(a+b)(a-b) = a^2 - b^2$ through paper cutting.
Chapter 11 Mensuration	ClassVII:- Visualizing plane figures (Use Worksheet No.19) ClassVIII:- Introduction, Let us recall, Area of trapezium, Area of a general quadrilateral, Area of a polygon. Surface Area & Volume of Cube, Cuboid and Cylinder (Use Worksheets No. 27 and 28)	The learner: • Estimates the area of shapes like trapezium and other polygon by using square grid/ graph sheet and verifies using formulas. • Finds the area and perimeter of polygon. • Uses surface area and volume in solving problems of daily life.	• An activity for establishing a relationship between circumference and diameter, representing their ratio as π. • Dividing a circular region into small sectors and arranging them in the form of rectangle and finding the area of circle. • Measure length, width and height of your classroom and find (a) the lateral surface area of this room. (b) the total surface area of the room,ignoring the area of windows and doors. (c) the total area of the room which is to be white washed.
Chapter-14 Factorization	ClassVIII:- Introduction, What is factorization?, Method of common factors, Factorisation by regrouping terms, Factorisation using identities, Factors of the form $(x + a)(x + b)$, Division of algebraic expression, Division of a monomial by another monomial,Division of a polynomial by a monomial, Division of a	The learner: • Finds factors of algebraic expression. • Division of algebraic	

polynomial by a polynomial, Can you find the errors?	expression. • Find the errors in mathematical statement and correct it.	

➢ **The whole syllabus must be completed for Annual Examination by 31st January, 2023.**
➢ **Mental Maths & Maths Lab Activities**
➢ **Revision of syllabus for Annual Examination**
➢ **Annual Examination will be based on complete syllabus**

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Note: The above said syllabus is for assessment purpose only and remaining topics/chapters may be taught as Subject Learning Enrichment.