MATHS SYLLABUS

Class – 8

8th Class Maths Syllabus – An Overview

CBSE syllabus for Class 8 Maths helps students to start studying from the NCERT textbooks. So, to help students in their studies, we have here provided the CBSE syllabus for Class 8 Maths for the academic year 2023-2024. The CBSE Syllabus will help students in planning their studies in advance. So, in case they have any doubts while studying, they can ask their teacher the next day. Also, to help students, we have provided the NCERT solutions for Class 8 Maths. This will help them in scoring marks in the exam.

Chapter – 1 (Rational Numbers)

Properties of rational numbers. (including identities)

- Using general form of expression to describe properties
- Consolidation of operations on rational numbers.
- Representation of rational numbers on the number line
- Between any two rational numbers there lies another rational number (Making children see that if we take two rational numbers then unlike for whole numbers, in this case you can keep finding more and more numbers that lie between them.)
- Word problem (higher logic, two operations, including ideas like area)

Topics :-

- Properties of Rational Numbers
- Commutativity
- Associativity
- Negative of a number
- Reciprocal
- Distributivity of multiplication over addition for rational numbers
- Representation of Rational Numbers on the Number Line
- Rational Numbers between Two Rational Numbers

Chapter – 2 (Linear Equations in One Variable)

(i) Introduction

(ii) Solving Equations which have Linear Expressions on one Side and Numbers on the other Side

(iii) Some Applications

Solving Equations having the Variable on both sides

(iv) Some More Applications

(v) Reducing Equations to Simpler Form

(vi) Equations Reducible to the Linear Form

Chapter – 3 (Understanding Of Quadrilaterals)

- Polygons
- Sum of the Measures of the Exterior Angles of a Polygon
- Kinds of Quadrilaterals
- Parallelogram
- A rectangle
- A square

Chapter – 4 (Factorisation)

(i) Common Errors.

(ii) Division of Algebraic Expressions.

(iii) Factorisation using Algebraic Identities.

(iv) Methods of Factorisation.

Chapter – 5 (Algebraic Expressions and Identities)

- Multiplication and division of algebraic exp.(Coefficient should be integers)

• Some common errors (e.g. 2 + x ≠ 2x, 7x + y ≠ 7xy)

• Identities (a ± b) 2 = a 2 ± 2ab + b2 , a2 – b2 = (a – b) (a + b) Factorisation (simple cases only) as examples the following types a(x + y), (x ± y)2 , a2 – b2 , (x + a).(x + b) Solving linear equations in one variable in contextual problems involving multiplication and division (word problems) (avoid complex coefficient in the equations).

Topics :-

- Terms
- Factors and Coefficients
- Monomials
- Binomials and Polynomials
- Like and Unlike Terms
- Addition and Subtraction of Algebraic Expressions
- Multiplication of Algebraic Expressions:
- What is an Identity
- Standard Identities
- Applying Identities

Chapter – 6 (Cubes and Cube roots)

• Cubes and cubes roots (only factor method for numbers containing at most 3 digits)

• Estimating square roots and cube roots. Learning the process of moving nearer to the required number.

Topics :-

(i) Cubes

(ii) Cubes Roots

Chapter – 7 (Exponents and Power)

- Powers with Negative Exponents
- Laws of Exponents
- Use of Exponents to Express Small Numbers in Standard Form.

Chapter – 8 (Squares and Square Roots)

- Squares and square roots
- Square roots using the factor method and division method for numbers containing

  (a) no more than total of 4 digits and

  (b) no more than 2 decimal places

- Square Root by Division Method.
- Square Root by Prime Factorisation.
- Patterns of Square .
- Squares

Chapter – 9 (Mensuration)

(i) Area of a trapezium and a polygon.

(ii) Concept of volume, measurement of volume using a basic unit, volume of a cube, cuboid and cylinder.

(iii) Volume and capacity (measurement of capacity)

(iv) Surface area of a cube, cuboid, cylinder.

Chapter – 10 (Geometry)

Understanding shapes:

- properties of quadrilaterals – The sum of angles of a quadrilateral is equal to 360° (By verification)

- Properties of a parallelogram (By verification)
  (i) Opposite sides of a parallelogram are equal

(ii) Opposite angles of a parallelogram are equal.

(iii) Diagonals of a parallelogram bisect each other at right angles.

(iv) Adjacent angles of a parallelogram add up to 180 degrees.

- Properties of other quadrilaterals include:

  (i) Diagonals of a rectangle are equal and bisect each other.

  (ii) Diagonals of a rhombus bisect each other at right angles.

  (iii) Diagonals of a square are equal and bisect each other at right angles.

Representing 3-D in 2-D

- Identify and match pictures with objects (more complicated Ex: nested, joint 2-D shapes and 3-D shapes).

- 2-D representation of 3-D objects.

- Counting vertices, edges and faces and verifying them Euler's relation for 3-D figures with flat faces (cubes, cuboids, tetrahedrons, prisms, and pyramids).

Chapter – 11 (Data Handling)

(i) Chance and Probability.

(ii) Histograms.

(iii) Introduction of Statistics.

(iv) Pie Chart or Circle Graph.