CBSE Class 7 Syllabus for Maths

2023-24

Number System (50 hrs)

1. Knowing our Numbers: Integers

• Multiplication and division of integers (through patterns). Division by zero is meaningless

• Properties of integers (including identities for addition & multiplication, commutative, associative, distributive) (through patterns). These would include examples from whole numbers as well. Involve expressing commutative and associative properties in a general form. Construction of counter examples, including some by children. Counter examples like subtraction is not commutative.
• Word problems including integers (all operations)

2. Fractions and rational numbers

• Multiplication of fractions

• Fraction as an operator

• Reciprocal of a fraction

• Division of fractions

• Word problems involving mixed fractions

• Introduction to rational numbers (with representation on number line)

• Operations on rational numbers (all operations)

• Representation of rational number as a decimal.

• Word problems on rational numbers (all operations)

• Multiplication and division of decimal fractions

• Conversion of units (length & mass)

• Word problems (including all operations)

3. Powers

• Exponents only natural numbers. • Laws of exponents (through observing patterns to arrive at

Algebra (20 hrs)

1. ALGEBRAIC EXPRESSIONS

• Generate algebraic expressions (simple) involving one or two variables

• Identifying constants, coefficient, powers

• Like and unlike terms, degree of expressions e.g., x y 2 etc. (exponent≤ 3, number of variables)

• Addition, subtraction of algebraic expressions (coefficients should be integers).

• Simple linear equations in one variable (in contextual problems) with two operations (avoid

complicated coefficients)

2. Ratio and Proportion (20 hrs)

• Ratio and proportion (revision)

• Unitary method continued, consolidation, general expression.

• Percentage- an introduction.

• Understanding percentage as a fraction with denominator 100

• Converting fractions and decimals into percentage and vice-versa.

• Application to profit and loss (single transaction only)

• Application to simple interest (time period in complete years).

3. Geometry (60 hrs)

1. Understanding shapes:

•Pairs of angles (linear, supplementary, complementary, adjacent, vertically opposite)

(verification and simple proof of vertically opposite angles)

• Properties of parallel lines with transversal (alternate, corresponding, interior, exterior angles)

2. Properties of triangles:

• Angle sum property (with notions of proof & verification through paper folding, proofs using property of parallel lines, difference between proof and verification.)
• Exterior angle property • Sum of two sides of a it's third side
• Pythagoras Theorem (Verification only)
3. Symmetry
• Recalling reflection symmetry
• Idea of rotational symmetry, observations of rotational symmetry of 2-D objects. (900, 1200,

1800)
• Operation of rotation through 900 and 1800 of simple figures.
• Examples of figures with both rotation and reflection symmetry (both operations)
• Examples of figures that have reflection and rotation symmetry and vice-versa
4. **Representing 3-D in 2-D**
• Drawing 3-D figures in 2-D showing hidden faces.
• Identification and counting of vertices, edges, faces, nets (for cubes cuboids, and cylinders, cones).
• Matching pictures with objects (Identifying names)
• Mapping the space around approximately through visual estimation.
5. **Congruence**
• Congruence through superposition (examples, blades, stamps, etc.)
• Extend congruence to simple geometrical shapes e.g. triangles, circles.
• Criteria of congruence (by verification) SSS, SAS, ASA, RHS
6. **Construction (Using scale, protractor, compass)**
• Construction of a line parallel to a given line from a point outside it (Simple proof as remark with the reasoning of alternate angles)
• Construction of simple triangles. Like given three sides, given a side and two angles on it, given two sides and the angle between them

Mensuration (15 hrs)

• Revision of perimeter, Idea of, Circumference of Circle Area

Concept of measurement using a basic unit area of a square, rectangle, triangle, parallelogram

and circle, area between two rectangles and two concentric circles

Data handling (15 hrs)

i) Collection and organisation of data – choosing the data to collect for a hypothesis testing.

ii) Mean, median and mode of ungrouped data – understanding what they represent.

iii) Constructing bar graphs.

iv) Feel of probability using data through experiments. Notion of chance in events like

Tossing coins, dice etc. Tabulating and counting occurrences of 1 through 6 in a number

Of throws. Comparing the observation with that for a coin. Observing strings of throws,

notion of randomness.