

CBSE Class 6 Math's syllabus

Number System (60 hrs.)

(i) Knowing our Numbers:

Consolidating the sense of numberness up to 5 digits, Size, identifying smaller, larger, etc.

Place value (recapitulation and extension), connectives: use of symbols =, <, >, word problems on number operations involving large numbers up to a maximum of 5 digits in the answer after all operations.

This would include conversions of units of length & mass (from the larger to the smaller units). Introduction to a sense of the largeness of, and initial familiarity with, large numbers up to 8 digits and approximation of large numbers)

(ii) Playing with Numbers:

Simplification of brackets, Multiples and factors, divisibility rule of 2, 3, 4, 5, 6, 8, 9, 10, 11. (All these through observing patterns.

Children would be helped in deducing some and then asked to derive some that are a combination of the basic patterns of divisibility.)

Even/odd and prime/composite numbers, Co-prime numbers, prime factorization, every number can be written as products of prime factors.

HCF and LCM, prime factorization and division method for HCF and LCM, the property $LCM \times HCF = \text{product of two numbers}$.

All this is to be embedded in contexts that bring out the significance and provide motivation to the child for learning these ideas.

(iii) Whole numbers

Natural numbers, whole numbers, number line.

(iv) Integers

How negative numbers arise, models of negative numbers, connection to daily life, ordering of negative numbers, representation of negative numbers on number line.

Children to see patterns, identify and formulate rules.

What are integers, identification of integers on the number line, operation of addition and subtraction of integers, showing the operations on the number line (addition of negative integer reduces the value of the number) comparison of integers, ordering of integers.

(v) Fractions and Decimals

Revision of what a fraction is, Fraction as a part of whole, Representation of fractions (pictorially and on number line), fraction as a division, proper, improper & mixed fractions, equivalent fractions, comparison of fractions, addition and subtraction of fractions (Avoid large and complicated unnecessary tasks). (Moving towards abstraction in fractions)

Review of the idea of a decimal fraction, place value in the context of decimal fraction, inter conversion of fractions and decimal fractions (avoid recurring decimals at this stage), word problems involving addition and subtraction of decimals (two operations together on money, mass, length and temperature)

Algebra (15 hrs.)

INTRODUCTION TO ALGEBRA

- Introduction to variable through patterns and through appropriate word problems and generalizations (example $5 \times 1 = 5$ etc.)
- Generate such patterns with more examples.
- Introduction to unknowns through examples with simple contexts (single operations)

Ratio and Proportion (15 hrs.)

- Concept of Ratio
- Proportion as equality of two ratios
- Unitary method (with only direct variation implied)
- Word problems

Geometry (65 hrs.)

(i) Basic geometrical ideas (2 -D):

Introduction to geometry. Its linkage with and reflection in everyday experience.

- Line, line segment, ray.
- Open and closed figures.
- Interior and exterior of closed figures.
- Curvilinear and linear boundaries
- Angle — Vertex, arm, interior and exterior,

(ii) Understanding Elementary Shapes (2-D and 3-D):

- Measure of Line segment
- Measure of angles
- Pair of lines
 - Intersecting and perpendicular lines
 - Parallel lines
- Types of angles- acute, obtuse, right, straight, reflex, complete and zero angle
- Classification of triangles (on the basis of sides, and of angles)
- Types of quadrilaterals – Trapezium, parallelogram, rectangle, square, rhombus.
- Simple polygons (introduction) (Up to octagons regulars as well as non regular).

Mensuration (15 hrs.)

CONCEPT OF PERIMETER AND INTRODUCTION TO AREA

Introduction and general understanding of perimeter using many shapes. Shapes of different kinds with the same perimeter. Concept of area, Area of a rectangle and a square Counter examples to different misconcepts related to perimeter and area. Perimeter of a rectangle – and its special case – a square. Deducing the formula of the perimeter for a rectangle and then a square through pattern and generalization.

Data handling (10 hrs.)

- (i) What is data - choosing data to examine a hypothesis?
- (ii) Collection and organization of data - examples of organizing it in tally bars and a table.