SYLLABUS

THEME 1 : NUMBER SYSTEM

LEARNING OUTCOMES

Children will be able to:

- describe place and face values of a digit in a large number;
- create situations around them in which they find negative numbers;

  through situations like money transactions, measuring of height budget etc. child uses larger numbers and thus appreciates their use;

  reduces fractions involving larger numbers to simplest (lowest) forms;
- identify a situation for a given fraction (like proper, improper, equivalent, etc.);
- construct examples through which they demonstrate the addition and subtraction of integers;
- create daily life situations where opposites are involved and represent such quantities by positive and negative numbers;
- make their own strategies of ordering, adding and subtracting integers;
- use divisibility rules to find factors of a number;
- demonstrate ways of finding HCF and LCM of two numbers;
- devise strategies to identify appropriate situations to use the concepts of HCF and LCM.

KEY CONCEPTS

NUMBERS

- Consolidating the sense of numberness up to 5 digits, size, estimation of numbers, identifying smaller, larger, etc.
- Place value (recapitulation and extension).
- Operations on large numbers.
- Word problems on number operations involving large numbers. This would include conversions of units of length & mass (from the larger to the smaller units).
- Estimation of outcome of number operations.
- Introduction to a sense of the largeness of, and initial familiarity with, large numbers up to 8 digits and approximation of large numbers.
- Numbers in Indian and International Systems and their comparison.

NATURAL NUMBERS AND WHOLE NUMBERS

- Natural numbers.
- Whole numbers.
- Properties of numbers (commutative, associative, distributive, additive identity, multiplicative identity).
- Seeing patterns, identifying and formulating rules for operations on numbers.

NEGATIVE NUMBERS AND INTEGERS

- Need for negative numbers.
- Connection of negative numbers in daily life.
- Representation of negative numbers on number line.
- Ordering of negative numbers, Integers.
- Identification of integers on the number line,
- Operation of addition and subtraction of integers.
- Addition and subtraction of integers on the number line.
- Comparison of integers.
- Ordering of integers.

SETS

- Idea of sets.
- Representation of sets.
- Types of sets: Finite/infinite and empty.
- Cardinality of a set.

FRACTIONS

- 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.
- Operations on 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).

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 factorisation, every number can be written as products of prime factors.

CONTENTS

THEME 1 : NUMBER SYSTEM

THEME 2 : RATIO AND PROPORTION

THEME 3 : ALGEBRA

THEME 4 : GEOMETRY

THEME 5 : MENSURATION

THEME 6 : DATA HANDLING