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CLASS 4
YEARLY LEARNING OUTCOMES FOR MATHS
YEAR 2021-22

By the end of the year, students should be able to -

Number System:

M1. Generalize place value understanding for multi-digit numbers.

M1.1 Write 5-digit and 6-digit numerals from 10000 to 99999 and 100000 to 999999 and mark the periods for the same

M1.2 Recognize and match 5-digit and 6-digit numerals with number names and vice versa (10000 to 99999 and 100000 to 999999)

M1.3 Read and write the numerals from 10000 to 99999 and 100000 to 999999 in the Indian (Lakhs, Thousands, Ones) and the International (Thousands, Ones) system of numeration

M1.4 Read and expand 5 and 6-digit numerals

M1.5 Distinguish between place value and face value of a digit

M1.6 Write thousands as hundreds, hundreds as tens and tens as ones

M1.7 Compare the numbers from 10000 to 999999 using <, > and =

M1.8 Identify the greatest or smallest from a set of 5 digit or 6 digit numbers

M1.9 Identify the numbers before, after and between for 5-digit to 6-digit numbers (10000 to 999999)

M1.10 Arrange 5 and 6-digit numbers(from 10000- 999999) in ascending and descending order

M1.11 Round off number to nearest 10,100 and 1000

M2. Use place value understanding and properties of operations to perform multi-digit arithmetic.

M2.1 Add/ subtract two or more multi-digit numbers with or without regrouping

M2.2 Understand the properties of addition (order property, grouping property, zero property)

M2.3 Understand the various terms used in multiplication namely multiple, multiplier, multiplicand, product and factor

M2.4 Understand the properties of multiplication (order or commutative, grouping or associative, distributive, property of zero and one)

M2.5 Perform basic mental computations involving multiplication tables till 15

M2.6 Multiply a 2, 3 or a 4 digit number by a 2,3 digit number without or with regrouping

M2.7 Understand and use the meaning of the terms divisor, dividend, quotient and remainder

M2.8 Understand the concept of division and divide whole numbers

M2.9 Understand that multiplication and division are the inverse functions of each other

M2.10 Use four operations with whole numbers to solve problems

M3. Gain familiarity with factors and multiples.

M3.1 Demonstrate the understanding of odd and even numbers, prime numbers, composite numbers

M3.2 Understand and use the terms: odd, even, prime, composite, multiple and factor

M3.3 Understand and use the factor tree to find primes (upto 100) and composites

M3.4 Find H.C.F. and L.C.M. of 2 or 3 digit numbers using the prime factorization method and the factor tree method

Fractions:

M4. Develop understanding of fractions as numbers.

M 4.1 Understand the concept of a unit and its subdivision into equal parts (e.g., one object, such as a candy bar, and its division into equal parts to be shared among four people)

1. Understand the concept of a unit
2. Understand that a unit can be subdivided
3. Understand the concept of equal parts

M5. Extend understanding of fraction equivalence and ordering.

M5.1 Demonstrate understanding of proper fraction as a representation of quantities that denote parts of a whole or a set and compute number statements through illustrations

M5.2 Identify a like fraction, unlike fraction, unit fraction, proper fraction, improper fraction and mixed numbers

M5.3 Demonstrate understanding of equivalent fractions of a given proper fraction

M5.4 Reduce a fraction to its 'lowest terms' or simplest form

M5.5 Compare and order two or more proper fractions with like or unlike denominators and numerators

M6. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers

M6.1 Use strategies to add and subtract two or more fractions and / or mixed numbers with like and unlike denominators.

Algebra:

M7. Generate and analyze patterns.

M7.1 Recognize simple and complex number patterns

M7.2 Create own number patterns using knowledge of skip counting

Geometry:

M8. Understand concepts of angle (Geometric measurement).

M 8.1 Identify the different types of angles and their properties (right, acute, obtuse, straight)

M 8.2 Measure and construct angles using protractor

M9. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

M 9.1 Identify and draw a line, line segment and ray and note their characteristics

M 9.2 Measure and draw line segments of specified lengths

M 9.3 Identify and classify the different kinds of triangles and their properties (scalene, isosceles, equilateral, acute , obtuse, and right triangles)

M 9.4 Identify solids having the shapes of a cuboid, ball, cylinders, cone, pyramid

M 9.5 Revise and consolidate understanding of symmetry and lines of symmetry

M 9.6 Measure the sides of a closed figure such as rectangle, square and triangle in cm and mm and find the perimeter

M 9.7 Find and describe the position of a square on a grid of squares where the rows and columns are labelled

M 9.8 Measure and construct a circle of a given measurement

M 9.9 Calculate the radius given the diameter and vice versa

M 9.10 Measure and construct squares and rectangles using geometric tools

Measurement:

M10. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Money

M10.1 Use decimal form to work with rupees and paise

M10.2 Solve two step problems involving money- using all 4 number operations

Length

M10.3 Understand and use the metric units of km, m, cm and mm

M10.4 Convert from higher units to lower units of length

M10.5 Add and subtract in mixed units with regrouping

Weight (Mass)

M10.6 Have measuring experiences using kg and g

M10.7 Understand and use the metric units kilo, gram, and to solve simple sums related to weight

M10.8 Convert, add and subtract in above units using regrouping where necessary

Capacity

M10.9 Use l and ml in conversion, addition and subtraction in l and ml, and solve daily life problems involving conversion

M10.10 Understand and use the metric units of litre, and millilitre in conversion

Area
M10.11 Use tiling patterns to find area
M10.12 Measure area using squared paper

Time
M10.13 Read the time to the minute and to the second (using the 'minutes' and 'seconds ' hand)
M10.14 Read and convert 12 hour clock time to 24 hour clock time and vice versa
M 10.15 Use am, pm and 12 hour digital clock notation and use what has been learnt in daily life problems
M10.16 Understand the 24 hour clock and read time using the 24 hour clock
M10.17 Convert hours to minutes and minutes to seconds and work with hours, minutes and seconds
M10.18 Measure activities in seconds and minutes
M10.19 Add and subtract using measures of time (hours, minutes, seconds)

Calendar
M10.20 Revise the concept of calendar from previous classes and solve sums/problems related to the same

Data Handling:

M11. Represent and interpret data.
M11.1 Read and interpret information from a pictograph
M11.2 Prepare a pictograph for the given information
M11.3 Compare and contrast using Venn diagram (through practical experiences)
M11.4 Read, create and use tally chart and bar graph
M11.5 Arrange data in columns and rows

Mathematical Reasoning:

M12. Make decisions about how to approach problems
M 12.1 Analyse problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information and observing patterns
M 12.2 Determine when and how to break a problem into simpler parts.

M13. Use strategies, skills and concepts in finding solution
M 13.1 Apply strategies and results from simpler problems to more complex problems.
M 13.2 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables diagrams, and models to explain mathematical reasoning.

M14. Move beyond a particular problem by generalizing to other solutions
M14.1 Develop generalisations of the results obtained and apply them in other circumstances.