

### Class 3

<b>Section I</b>
<b>Pedagogical processes suggested by NCERT</b>
<b>The learner may be provided opportunities in pairs /groups / individually and encouraged to —</b>
Count large number of objects from their surroundings by making groups of 100,10 and ones
Write a number (up to 999) and the other group reads it.
Apply place values for writing greatest / smallest numbers with three digits. (digits may or may not repeat.)
Arrange concrete objects and draw different multiplication facts / combinations of a given number, for example 6 mangoes can be arranged as $2 \times 3$ $3 \times 2$  $1 \times 6$  $6 \times 1$
Develop multiplication facts of 2, 3, 4, 5 and 10 using different ways e.g., Start 0 1 2 3 4 5 6 7 8 9  And by using repeated addition
Experience equal sharing and grouping and connecting them mathematically in their own context. For example, sharing of equal number of sweets among children
Observe various 3D shapes available in the surroundings and discussions may be held for identification of similarities and differences with respect to their corresponding 2D. Shapes like triangle, square, circle cut outs of cardboard
Make 2D shapes through paper folding / paper cutting activities
Describe the properties of 2D shapes in their own words /languages like number of corners, edges on a shape, etc.
Discuss their observation regarding various shapes they observe in their surroundings— on the floor, on the footpath, etc., to draw conclusion that all shapes do not tile
Conduct role play of seller and buyer in selling /buying situation where lots of addition and subtraction of amounts using play money may be done
Measure the length of objects in their surroundings by using scale / tape. Students may be encouraged to estimate the length first and then verify it by actual measurement
Use simple balance to compare and find weight of common objects in terms of non- standard units likes small stones, packets of objects, etc.
Measure capacities of different containers and describe their experiences of doing so, e.g., finding how many jugs can fill a bucket or how many glasses can be filled from one jug full of water
Use of vocabulary about time and calendar through discussions / story telling
Attempt to read a clock and calendar

Observe patterns both geometrical and numerical and discuss them. (presentation by the group may be done in front of the whole class)

Collect and record data in their own way and use pictograph to represent it. For example, flower of different colours in the school garden or the number of boys and girls present a class

To interpret pictographs from magazines and newspaper which can be displayed in the classroom.

## Section II

Learning Outcomes of NCERT	Measuring the LOs
<p>works with three-digit numbers</p> <ol style="list-style-type: none"> <li>reads and writes numbers up to 999 using place value</li> <li>compares numbers up to 999 for their value based on their place value</li> <li>solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999</li> <li>constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 and 10 in daily life situation</li> <li>analyses and applies an appropriate number operation in the situation / context</li> <li>explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction. For example, <math>12 \div 3</math> can be explained as number of groups of 3 to make 12 and finds it as 4 by repeatedly subtracting 3 from 12</li> </ol>	<p><b>Works with three-digit numbers</b></p> <ul style="list-style-type: none"> <li>reads and writes numbers up to 999 using place value</li> <li>compares numbers up to 999 for their value based on their place value</li> <li>solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999</li> <li>constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 and 10 in daily life situations</li> <li>analyses and applies an appropriate number operation in the situation /context</li> <li>explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction.</li> </ul>
<p>adds and subtracts small amounts of money with or without regrouping</p>	<p>Adds and subtracts small amounts of money with or without regrouping</p>
<p>makes rate charts and simple bills</p>	<p>Makes rate charts and simple bills</p>
<p>acquires understanding about 2D shapes</p> <ol style="list-style-type: none"> <li>identifies and makes 2D-shapes by paper folding , paper cutting on the dot grid, using straight lines etc.</li> </ol>	<p><b>Acquires understanding about 2D shapes:</b></p> <ul style="list-style-type: none"> <li>identifies and makes 2D-shapes by paper folding, paper cutting on the dot grid, using straight lines etc.</li> </ul>

<p>b) describes 2D shapes by the number of sides, corners and diagonals. For example, the shape of the book cover has 4 sides, 4 corners and two diagonals</p> <p>fills a given region leaving no gaps using a tile of a given shape</p>	<ul style="list-style-type: none"> <li>• describes 2D shapes by the number of sides, corners and diagonals.</li> <li>• fills a given region leaving no gaps using a tile of a given shape</li> </ul>
<p>estimates and measures length and distance using standard units like centimeters or meters and identifies relationships</p>	<p>Estimates and measures length and distance using standard units like centimeters or meters and identifies relationships</p>
<p>weighs objects using standard units– grams and kilograms using simple balance</p>	<p>Weighs objects using standard units–grams and kilograms using simple balance</p>
<p>compares the capacity of different containers in terms of nonstandard units</p>	<p>Compares the capacity of different containers in terms of non-standard units</p>
<p>adds and subtracts measures involving grams &amp; kilograms in life situations</p>	<p>Solves problems by adding and subtracting measures involving grams &amp; kilograms in real life situations</p>
<p>identifies a particular day and date on a calendar</p>	<p>Identifies a particular day and date on a calendar</p>
<p>reads the time correctly to the hour using a clock /watch</p>	<p>Reads the time correctly to the hour using a clock /watch</p>
<p>extends patterns in simple shapes</p>	<p>Extends patterns in simple shapes and numbers</p>
<p>records data using tally marks, represents pictorially and draws conclusions.</p>	<p>Records data using tally marks and represents pictorially in order to draw conclusions</p>

**Section III****MAPPING OF GRADE 3 MATHEMATICS TOPICS WITH LEARNING OUTCOMES ADAPTED BY CBSE**

**Important Note:** It must be ensured by the teachers that learners are able to use mathematical learning in day to day life and unfamiliar contexts/ situations about which they are not exposed earlier. Learning Objectives should also focus on enhancing the ability of the learner to convert a real life problem into a mathematical problem and the ability to interpret and evaluate mathematical results in the real life contexts.

Chapter	Learning Objectives	Learning Outcomes
<b>Chapter 1: Where to Look From</b>	Builds on a symmetrical geometric pattern using a dot grid	Acquires understanding about 2D shapes a) identifies and makes 2D-shapes by paper folding , paper cutting on the dot grid, using straight lines etc. b) describes 2D shapes by the number of sides, corners and diagonals.
<b>Chapter 2: Fun with Numbers</b>	<b>Numerals 100 -500:</b> Counts (concretely, pictorially and symbolically) and recites number names	Works with three-digit numbers a) reads and writes numbers up to 999 using place value b) compares numbers up to 999 for their value based on their place value
	<b>Numerals 100-500:</b> Identifies and write numerals/ number names	c) solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999
	<b>Numerals 501 -999:</b> Counts (pictorially and symbolically) and recites number names	d) constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 and 10 in daily life situation e) analyses and applies an appropriate number operation in the situation / context
	<b>Numerals 501 -999:</b> Identifies and write numerals/ number names	f) explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction.
	<b>Numbers 100-500:</b> Completes number sequences by counting forward and backwards without skips	

	<p><b>Numbers 501-999:</b> Complete number sequences by counting forward and backwards without skips</p>	
	<p><b>Numbers 100-500:</b> Complete number sequences with skip counts forward and backward in 2s, 4s, 5s, 10s and 50s</p>	
	<p><b>Numbers 501-999:</b> Complete number sequences with skip counts forward and backward in 2s, 4s, 5s, 10s and 50s</p>	
	<p>Composes and decomposes numbers into hundreds, tens and ones (concrete, pictorial, numerical)</p>	<p>Works with three-digit numbers</p> <p>a) reads and writes numbers up to 999 using place value</p> <p>b) compares numbers up to 999 for their value based on their place value</p> <p>c) solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999</p> <p>d) constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 and 10 in daily life situation</p> <p>e) analyses and applies an appropriate number operation in the situation / context</p> <p>f) explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction.</p>
	<p><b>Numerals (100-999):</b> Compares groups and numbers using &lt; and &gt; symbols</p>	
	<p><b>Numerals (100-999):</b> Sequences numbers in increasing or decreasing order</p>	
<p><b>Chapter 3: Give and Take (sum up to 999)</b></p>	<p>Adds 3-digit numbers in vertical algorithm with regrouping (sum not exceeding 999) (pictorially and numerically)</p>	<p>Works with three-digit numbers</p> <p>a) reads and writes numbers up to 999 using place value</p> <p>b) compares numbers up to 999 for their value based on their place value</p> <p>c) solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999</p> <p>d) constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 and 10 in daily life situation</p>
	<p>Solves one step real life problems involving addition of 3-digit numbers with and without regrouping (sum not exceeding 999)</p>	

	Adds 3-digit numbers in vertical algorithm with regrouping (sum not exceeding 999) (numerically)	e) analyses and applies an appropriate number operation in the situation / context f) explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction.
<b>Chapter 4: Long and Short</b>	With the understanding of standard measure of 'centimeter', uses a ruler to measure length of familiar objects in cm	Estimates and measures length and distance using standard units like centimeters or meters and identifies relationships
	With the understanding of the standard measure of 'meter' , uses a measuring tape to measure length of familiar objects in meters	
	Estimates, and compares lengths of objects in cms and meters (Concrete and pictorial)	
	Chooses and uses appropriate standard unit (between centimeter and meter) to measure different lengths/heights	
	Estimates and compares linear and non-linear paths in standard units and understands the concept of shortest distance between two points	
Appreciates that the length of objects remains the same when moved (Length Conservation) using standard units.		
<b>Chapter 5: Shapes and Designs</b>	Identifies repeated units in a geometric pattern and explain features of the unit (i.e. curved, straight line etc.)	Acquires understanding about 2D shapes a) identifies and makes 2D-shapes by paper folding , paper cutting on the dot grid, using straight lines etc.

	Identifies the base tile making patterns and completes the pattern leaving no gaps	b) describes 2D shapes by the number of sides, corners and diagonals.
<b>Chapter 6: Fun with Give and Take</b>	Completes number sequences with skip counts forward and backward in 2s, 4s, 5s, 10s and 50s (3 digit numbers)	Extends patterns in simple shapes
	Subtracts 3-digit numbers in vertical algorithm with regrouping (pictorially and numerically)	Works with three-digit numbers a) reads and writes numbers up to 999 using place value b) compares numbers up to 999 for their value based on their place value
	Solves the problems in the real life context involving subtraction of 3-digit numbers with and without regrouping (where difference is unknown)	c) solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999 d) constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 and 10 in daily life situation
	Recognizes and use the inverse relationship between addition and subtraction to check calculations and solve missing number problems.	e) analyses and applies an appropriate number operation in the situation / context f) explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction.
<b>Chapter 7: Time Goes On...</b>	Answers questions and infers information from a calendar on months, their duration, days of the week	Identifies a particular day and date on a calendar
	Read the time on a clock to the hour and half-hour through understanding the role of the hour hand and minute hand.	Reads the time correctly to the hour using a clock /watch

	Draw minute and hour hand in a clock to represent a given time (in hours and half-hour units only)	
<b>Chapter 8: Who is Heavier?</b>	With the understanding of standard measure of 'kilogram', uses a weighing scale to measure weight of familiar objects to nearest kilogram	Weighs objects using standard units– grams and kilograms using simple balance
	Estimates and verifies weights of everyday objects (less than, equal to, or greater than 1kg)	
	Compares weights of different objects in standard units (nearest kilogram)	
	Solves simple addition and subtraction problems on weight involving standard units (kilograms and grams)	Adds and subtracts measures involving grams & kilograms in life situations
<b>Chapter 9: How Many Times? (with 1- and 2-digit numbers)</b>	Demonstrate multiplication as repeated addition	Works with three-digit numbers a) reads and writes numbers up to 999 using place value b) compares numbers up to 999 for their value based on their place value c) solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999 d) constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 and 10 in daily life situation e) analyses and applies an appropriate number operation in the situation / context f) explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction.
	Represents multiplication in number statement	
	Applies multiplication of one digit number in day to day life.	
	Constructs tables of 5 and 10	
	Constructs tables of 2 and 3	
	Constructs tables of 4 and 7	
	Constructs tables of 9	
Recalls and uses multiplication tables to solve simple problems		



	<p>Completes a sequence by application of multiplication tables</p> <p>Determines multiplication number families (up to 4 instances)</p> <p>Multiply 2-digit numbers with 1 digit numbers</p> <p>Multiply 2-digit numbers with 2 digit numbers</p>	
<b>Chapter 10: Play with Patterns</b>	<p>Identifies the rule in a growing number sequence and extends them</p> <p>Identifies repeating unit in a geometric patterns and complete the same</p> <p>Identifies rules in growing patterns and complete the same</p> <p>Decodes verbal messages involving patterns of alphabets and numerals</p>	Extends patterns in simple shapes
<b>Chapter 11: Jugs and Mugs</b>	<p>With the understanding of the standard measure of 'liter' , and uses a 1-litre unit to measure the capacity of familiar objects to nearest liters</p> <p>Estimates, verifies and compares capacities of everyday objects by using 1 liter as standard (concrete)</p>	<p>Works with three-digit numbers</p> <p>a) reads and writes numbers up to 999 using place value</p> <p>b) compares numbers up to 999 for their value based on their place value</p> <p>c) <b>solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999</b></p> <p>d) constructs and uses the multiplication facts (tables) of 2, 3, 4,</p>

	Appreciates the principle of volume conservation (liquids)	5 and 10 in daily life situation e) analyses and applies an appropriate number operation in the situation / context f) explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction.
	Solves simple addition and subtraction based real life problems on capacity involving standard units (liter)	
<b>Chapter 12: Can We Share? (with 1- and 2-digit numbers)</b>	Explains division as "sharing equally"	Works with three-digit numbers a) reads and writes numbers up to 999 using place value b) compares numbers up to 999 for their value based on their place value c) solves simple daily life problems using addition and subtraction of three-digit numbers with and without regrouping, sums not exceeding 999 d) constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 and 10 in daily life situation e) analyses and applies an appropriate number operation in the situation / context f) explains the meaning of division facts by equal grouping /sharing and finds it by repeated subtraction.
	Expresses division as a statement.	
	Solves simple real life problems involving division (without remainder) (2 digit number)	
	Recognizes and uses the relationship between multiplication and division to check calculations	
	Identify missing number in a division statement	
<b>Chapter 13: Smart Charts</b>	Records data using tally charts and numerals in tables and answers simple questions based on the information	Records data using tally marks, represents pictorially and draws conclusions.
	Recognize patterns in recorded data, draws inferences and classifies data based on their frequency	
	Represents data visually (pictographs and bar charts) and draws inferences	
<b>Chapter 14: Rupees and Paisa</b>	Solves simple 2 digit addition and subtraction real life problems involving money	Makes rate charts and simple bills

	Solves 2-step addition and subtraction problems involving money in a practical context, including giving change	Adds and subtracts measures involving grams & kilograms in life situations
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