MAPPING OF GRADE 4 MATHEMATICS TOPICS WITH LEARNING OUTCOMES ADAPTED BY CBSE

Chapter name	Sub topics	Learning Objective	Methodology	NCERT LO
Chapter 1: Building with bricks	Introduction to shapes and sizes Comparison of shapes and sizes Solid shapes Identifying and making patterns with shapes Identifying and making 2D and 3D shapes using blocks Symmetry Perimeter and area	Observes and identifies various brick patterns in walls, floors and name them	Introducing the concept of shapes and sizes Using various materials such as blocks, rulers, and paper for students to explore and experiment Conducting group activities to encourage students to work collaboratively and develop social skills like work together to create a pattern or shape using Blocks Art integrated activity/Lab activity- Create a "Math and Art	Observes, identifies and extends geometrical patterns based on symmetry
		Examines properties of a brick for a cuboid (edges, faces etc.).		Acquires understanding about shapes around her /him • Identifies the center, radius and diameter of the circle • Finds out shapes that can be used for Tiling • Makes cube / cuboids using the given nets • Shows through paper folding / paper cutting, ink blots, etc. The concept of symmetry by reflection Draws top view, front view and side view of simple objects

		Observes specific types of brick patterns in the surroundings and names them.	Sculpture." Students design and build a sculpture using different types of building materials(straws, popsicle sticks, clay, etc.)and challenge them to construct stable structures.	Observes, identifies and extends geometrical patterns based on symmetry

		Solves problems based on daily life instances.		Applies operations of numbers in daily life a) Multiplies 2- and 3-digit numbers b) Divides a number by another number using different methods like – pictorially (by drawing dots), equal grouping or repeated subtraction and by using inter relationship between division and multiplication Creates and solves simple real-life situations / problems including money, length, mass and capacity by using the four operations

Chapter 2: Long and Short	Length and measurement Measuring length using non standard units	Estimates and measures the distance (in cm) between the given objects	Introducing the concept of length, measurement and time	estimates the length of an object /distance between two locations, weight of various objects, volume of liquid, etc., and verifies them by actual measurement
	Measuring length using standard units Estimating and measuring length using	Measures the heights of different objects using a scale	Using visual aids such as pictures, diagrams, and videos to help students to visualize the concepts Conducting group activities	estimates the length of an object /distance between two locations, weight of various objects, volume of liquid, etc., and verifies them by actual measurement
	ruler Comparing lengths	Measures distance between objects (in meters and kilometers)	to encourage students to work collaboratively and develop social skills like work together to measure the length of different objects in	estimates the length of an object /distance between two locations, weight of various objects, volume of liquid, etc., and verifies
	Addition and subtraction of length Perimeter		classroom or estimate time taken for different activities Art integrated activity/Lab	them by actual measurement

	Distance and time	Converts units of length (cm, m, km)	activity- Measure different objects in the classroom using various units such as centimeters, meters, and inches. Have students compare and order the lengths of the objects.	Converts meter into centimeter and vice versa
		Measures the distance and determines the nearest and farthest points		estimates the length of an object /distance between two locations, weight of various objects, volume of liquid, etc., and verifies them by actual measurement
		Solves simple real life problems related to length and height of objects (including conversion)		Solves problem involving daily life situations related to length, distance, weight, volume and time involving four basic arithmetic operations

		Solvessimple real life problems relatedto distance between objects/places (including conversion)		Solvesproblem involving daily life situationsrelated to length, distance, weight, volume andtime involvingfour basicarithmetic operations

Chapter3: A Trip to Bhopal	Introduction to distance and time Measuring distance Estimating and measuring time Concept ofspeed and distance Concept of money and expences	Solvessmall number mathematical problems by estimation and verification	Introducingthe conceptof distance, time, and money Showing maps, timetables, and calculators for students to explore Conducting groupactivities to encourage studentstowork collaboratively anddevelop social skills like worktogetherto planatrip, calculate expensesand estimatethetime forvarious activities	Applies operationsof numbers indaily life a) Multiplies 2- and 3-digit numbers b) Divides a number by another number using different methods like – pictorially (by drawing dots), equal grouping or repeated subtractionandby using inter relationship betweendivision and multiplication Createsand solvessimple real-life situations/ problems includingmoney, length, mass and capacity by using the four operations
		Solvesreal life problems basedon timeand distance.	Art integrated activity/Labactivity- Designa"Travel Brochure." Students planatriptoBhopal, creating a brochure that includes maps with measured	Solvesproblem involving daily life situationsrelated to length, distance, weight, volume andtime involvingfour basicarithmetic operations

			distances, illustrations of landmarks, and estimated travel times.	

		Solves time and measurement related real life problems (including conversion)		Solves problem involving daily life situations related to length, distance, weight, volume and time involving four basic arithmetic operations

		Solvescontextual problems involving money		Applies operationsof numbers in daily life a)Multiplies 2-and 3-digit numbers b)Dividesa numberby another numberusing different methods like – pictorially(by drawing dots), equal grouping or repeated subtraction and by using inter-relationship between division and multiplication Creates and solves simple real-life situations / problems including money, length, mass and capacity by using the four operations

		Performsdivisionby equal distribution methodand alternativemethods.		Applies operationsof numbers in daily life a)Multiplies 2-and 3-digit numbers b)Dividesa numberby another numberusing different methods like – pictorially(by drawing dots), equal grouping or repeated subtraction and by using inter relationship between division and multiplication Creates and solves simple real-life situations / problems including money, length, mass and capacity by using the four operations

Chapter4: Tick Tick Tick	Introduction to time and clocks Reading and showing time Measuring time Concept	Readstimefroma 12hourclock.	Introducingthe conceptoftime and It's relevance in ourdaily life Showing different materialssuch asanalogand digital clocks, timers, calendars etc for students to explore and	Readsclock time inhour and minutesand expressesthe time ina.m. And p.m.
	of AM and PM	Tells the duration (in minutes/hours/second s) between the given time stamps and vice versa	Experiment Art integrated activity/Lab activity- Craft a "Time Collage." Students create a collage representing different activities at specific times of the day. They can use magazine cutouts, drawings, and labels to indicate the times. Create a set of cards with digital times and another set with analog clock faces. Students match the digital time to the	Calculates time intervals / duration of familiar daily life events by using forward or backward counting / addition and subtraction

			corresponding analog clock face.	

Duration of time

Calendar and dates

Writes time in 12 hour format and 24 hour format

Writes time in am-pm format and relate it with daily life activities

Conducting group activities to encourage students to work collaboratively and develop social skills like work together to solve problems related to time and duration, or to identify days and dates on a calender

Reads clock time in hour and minutes and expresses the time in a.m. And p.m.

Relates to 24 hr. clock with respect to 12 hr. clock

Chapter 5: The waythe world looks	Circles 3Dshapes Symmetry Netsof3D shapes	Observesand drawsobjects fromdifferent heights. Observesand drawsobjects fromdifferent sides. Drawsobjects fromdifferent angles	Introducing circlesand relatedterms Introducing 3D shapes and their nets Differentiate between types of solid shapes Paper cutting activity for drawing nets Art integrated activity/Lab activity- Explore "Symmetry in Nature." Students collect leaves, flowers, or other natural items and create symmetrical art by folding and arranging them.	Acquires understanding aboutshapes aroundher/him • Identifiesthe center, radiusand diameterofthe circle •Findsout shapesthatcan beusedforTiling •Makescube/ cuboidsusingthe givennets •Showsthrough paperfolding/ papercutting, ink blots, etc. The conceptof symmetryby reflectionDrawsto p view, frontviewand sideviewofsimple objects
Chapter 6: The Junk Seller	Unitary method BODMAS application	Comparesthe costand calculatesthe total amountpaid in real life situations	Introduction to BODMAS andunitary method	Appliesoperations ofnumbers indaily life a) Multiplies 2- and 3- digit numbers b) Divides a

		Solves arithmetic sumsmentally	Application ofthe concept in	number by another number using different methods like –

	Word problems	Devises alternative methodstodo multiplication	real life situation Discussing the hierarchy Of operations in BODMAS Art	pictorially(by drawingdots), equal groupingor repeated subtractionandb y using inter relationship betweendivisionan d multiplication Createsand solvessimple real-life situations/
		Estimatesand verifiesthe answerfor varioussums involving arithmetic operations.		

		Solves real life problemsrelated tocurrency (coins andnotes)	integrated activity/Lab activity- Develop a "Recycled Sculpture." Students collect and bring in recyclable materials to create a sculpture. Discuss how shapes and structures play a role in creating art from recycled materials. Divide the class into pairs, and one student plays the role of the junk seller while the other is the customer. They engage in transactions, negotiating prices, and calculating change. Rotate roles to ensure	problems includingmoney, length, mass and capacity by using the four operations

			everyone gets a chance to be both the seller and the customer.	
Chapter 7: Jugs and Mugs	Measurement of liquids Estimating volumes using standard units Word	Estimates and measures the volume of liquids in liters and milliliters Estimates, measures and compares volume of different liquids.	Introducing the standard units of measuring liquids Application of the concept in real life	estimates the length of an object /distance between two locations, weight of various objects, volume of liquid, etc., and verifies them by actual measurement

	problems	Solves real life problems based on volume of liquids.	Situation Art integrated activity/Lab activity Decorate "Capacity Containers." Students decorate containers with artistic designs and labels to represent different capacities. Provide students with different-size d containers and ask them to explore and compare capacities. Conduct experiments to pour water from one container to another to understand volume.	solves problem involving daily life situations related to length, distance, weight, volume and time involving four basic arithmetic operations

Chapter 8: Carts and Wheels	Introduction to circles Terms related to	Constructs circles of varied sizes with different radii	Introducing the concept of circles	Acquires understanding about shapes around her /him • Identifies the center, radius and

	circles Relation between radius and diameter	Measures radii of circles with the help of a ruler/measuring tape/thread.	Application of the concept in real life situation	diameter of the circle • Finds out shapes that can be used for Tiling • Makes cube / cuboids using the given nets

		Identifies the center of the circle.	Activity of paper folding to demonstrate the terms related to Circles Art integrated activity/Lab activity Design "Rotational Art." Students create circular artworks using compasses and rulers, exploring rotational symmetry. Challenge students to design and build a small cart with wheels using materials such as cardboard, straws, and bottle caps. Test the carts	• Shows through paper folding / paper cutting, ink blots, etc. The concept of symmetry by reflection Draws top view, front view and side view of simple objects

			to see which one can travel the farthest distance with a single push.	
Chapter 9: Halves and Quarters	Introduction to fractions	Divides objects (or shapes) into two and four equal parts (concretely, pictorially and symbolically)	Introducing the concept of fractions by giving examples from real life	Works with fractions a) Identifies half, one fourth, three-fourths of a whole in a

	Types of fractions Simplifying fractions	Writes 3/4 symbolically and relate its meaning with the part and whole.	Application of the concept in real life situation Discussing the	given picture by paper folding and also in a collection of objects. b) Represents the fractions as

		Finds fractional part of a given natural number.	types of fractions Paper folding activity to understand the mixed fraction and improper fraction Art integrated activity/Lab activity- Craft a "Fraction Collage." Students cut shapes into halves and quarters, creating a collage that visually represents fractions. Make Bingo cards with different	half, one fourth and three fourths by using numbers / numerals Shows the equivalence of a fraction with other fractions
			fractions. Call out fraction values, and students mark the corresponding fraction on their cards. The first one to get a row or column shouts "Bingo!"	
Chapter 10: Play with Patterns	Blocks patterns Geometrical patterns	Identifies and extends the patterns using blocks and geometrical shapes.	Introducing patterns in triangular numbers and square numbers	Observes, identifies and extends geometrical patterns based on symmetry

	Magic squares	Identifies and extends the patterns using numbers and letters.	Discussing the geometrical patterns using	Identifies the pattern in multiplication and

	Magic triangles Tiling patterns	Solves magic squares and magic triangles.	geometrical shapes Engaging students in making tiling Patterns Art integrated activity/Lab activity- Provide students with beads of different colors and shapes. They create patterned bracelets, discussing and documenting the patterns they've made. This activity reinforces	division (up to multiple of 9
		Identifies and extends various number patterns		
		Completes the given tiling patterns		observes, identifies and extends geometrical patterns based on symmetry

			the concept of repeating and growing patterns. Provide students with pattern blocks, colored tiles, or geometric shapes. In groups, they experiment with creating different patterns on a large grid. Encourage them to identify and describe the patterns they observe. Discuss the concepts of repeating and growing patterns.	
Chapter 11: Tables and Shares	Introduction to multiplication and division Repeated subtraction method Long division method	Relates the concept of multiplication to the arrangement of things in an array. Solves a variety of daily life problems using multiplication .	Recalling the concept of multiplication and division Application of multiplication and division in real life situations Puzzle solving using multiplication and division	Applies operations of numbers in daily life a) Multiplies 2- and 3-digit numbers b) Divides a number by another number using different methods like – pictorially (by drawing dots), equal grouping or repeated subtraction and by using inter

	Word problems	Solves problems based on division with large numbers using repeated subtraction.	Art integrated activity/Lab activity- Bring in some objects like pebbles, cards, books, pencils, etc. Students practice sharing them equally among themselves based on given scenarios.	relationship between division and multiplication Creates and solves simple real-life situations / problems including money, length, mass and capacity by using the four operations
		Devises alternative method of division apart from standard		
		algorithm		
		Solves daily life problems based on division		
		Multiplies or divides the given numbers.		
		Extends the number pattern for a given		Identifies the pattern in multiplication and
		situation to find the unknown value		division (up to multiple of 9

		Identifies the pattern in multiplication and division (up to multiple of 9)		
Chapter 12: How Heavy? How Light?	Introduction to measurement of weight Estimation of weight measurement	Adds smaller values to get a sum of 1kg Estimates, measures and compares the weight of objects in grams and kilograms. Devises alternative methods to measure heavy objects.	Recalling the concept of measuring weight Application of weight measurement in real life situations Puzzle solving Activity Art integrated activity/Lab activity- Weigh different objects using a simple balance scale. Have students compare the	estimates the length of an object /distance between two locations, weight of various objects, volume of liquid, etc., and verifies them by actual measurement
			weights of various objects and arrange them in order from heaviest to lightest. Make a balance using paper cups, strings and a stick.	

	Comparing weights Word problems related to measurement of weight	Uses a variety of weights to weigh using a weighing balance.		
		Solves real life problems involving weights.		Solves problem involving daily life situations related to length, distance, weight, volume and time involving four basic arithmetic operations
		Draws comparison of different objects basis on their weights		estimates the length of an object /distance between two locations, weight of various objects, volume of liquid, etc., and verifies them by actual measurement

Chapter 13: Fields and Fences	Concept of perimeter Estimate perimeter Word problems of	Recognizes the total length of boundary as the perimeter of a plane figure and calculates perimeter of	Inducing the concept from daily life examples Formulating the concept from	Explores the area and perimeter of simple geometrical shapes (triangle, rectangle, square) in terms of given shape as a unit.
	perimeter	simpleshapes.	concreteto	

	Introduction toarea Word problemsof area	Estimates and compares the perimeter of various figures	abstract Applicationof theconcepts in daily life situations Square grid Activity Art integrated activity/Lab activity- Students design theirdream gardenon graphpaper, considering different shapes andsizesfor flowerbeds. They calculate theperimeterof eachflowerbe d todetermineth e amountof fencingneeded.	
		Solves real life problems involving perimeter of simple shapes.		
		Determines the size of a shape by using a smaller shape as a unit		
		Determines the size (or area) of simple geometrical shapes and irregular figures given on a square grid.		
		Solves real life problems based on the area of plane figures		
Chapter 14: Smart Charts	Tallymarks table Stripchart Readingand drawing pictograph	Collectsand recordsdata in atabularform	Recallingthe conceptof tallymarks, and pictograph Introducing the concept of strip chart	Representsthe collected information in tablesandbar graphsanddraw s inferences from these
		Readsand interprets the datarecorded in a tabular form.		

		Draws a strip chart to represent a given information		

		Reads and interprets a strip chart. Draws a chapati chart to represent the information given in a tabular form	PT marks representation through strip chart activity Art integrated activity/Lab activity- Assign each student a specific topic (favorite color, pet ownership, etc.). Students collect data from their classmates, create smart charts to represent the data, and present their findings to the class.	