Month	SYLLABUS	Lesson	Concept/Key areas	Suggested Activities	Expected Learning Outcomes	TLM/Resources	Values/Skills	Period/hr
April	• GEOMETRY Shapes and Spatial Understanding NUMBERS Numbers And Operations	• Building with bricks	**Geometry** • Uses Tangram to create shapes. • Makes 4 faced, 5 faced, 6faced from given nets especially designed for the same. • Reads and draws 3D objects. • Explores intuitively reflections through inkblots ,paper cutting, paper folding(symmetry) **Number and Operations**-Up to One Lakh (Place value chart) .	•Identify the number of faces in different 3D, 2D shapes. •Identify the faces of a brick and recognizes the shapes. •Collect cuboidal objects from surroundings. •Identify and observe different features like wall, floors, Jharokas, Jaalies etc. •Visit to a bricks kiln etc. •Observe and make arrangement of brick patterns on floor and walls. •Find the length, breadth and height of a brick •Observe arches at	• Knows the difference between 2D and 3D shapes like Square, rectangle, cube, cuboids. • Makes different wall and floor patterns, Jaalies and Jharokas • Draws line of symmetry in different patterns • Solves simple problems mentally • Understands Indian and International place value chart • Writes Number names and numerals.	• Objects from classroom situations, • flash cards of numbers. Abacus • .coins, ganit- mala sticks Net resources for picture of Historical monuments with arches ,jellies.	• Drawing information, gathering Drawing ability in geometry Creative thinking and estimation. • Develops reasoning and imagination.	15

				different places. •Sequential arrangement of jumbled pictures of making of a brick. •Number system through number cards – One lakh. •Difference between cube and cuboid. •Make models of a cube and cuboid. •Integrated with EVS (arches of foot)				

Month	SYLLABUS	Lesson	Concept/Key areas	Suggested Activities	Expected Learning Outcomes	TLM/Resources	Values/Skills	Period/hr
Apr/May	• **NUMBERS** : Number and operations • **MEASUREMENT**	Long & Short	• Understands and writes multiplication facts. • Writes tables 10x10 • Applies the four operations to life situations. Appreciates role of place value in plus (+), Minus(-), multiplication(x) and percentage (%). • Understands and relates meters with centimeters Convert meters into cms and vice versa. • Solves problems involving length and distances. • Estimates length of an object and distance between two given locations.	• Estimate the length of various figures and making them larger or shorter than the given figure. • Find the length of boundary of Math's text book, desk, teacher's table etc. • Calculate the distance between school and home, market, school ground, park etc. • Find the tallest/shortest member of their class, family. • Guess the approx height of prominent landmarks - like Qutub Minar, TV tower, school building etc . • Convert from lower to higher and vice versa (races). • Solve word problems related to length.	•Understands the relation between - cm - metre- Km • Knows the various units of length •Understands the various units of measurement. .Converts higher units to lower units and vice versa •Estimates and learns to compares height with the height of others. •Organized games	• Objects from class room situations like ribbons,pencil etc • Measuring tape ,wooden scale • Appropriate visuals to explain the concept.	• Develops practical skills & drawing skills. • Ability of estimation thinking and reasoning. • Develops mathematic attitude.	20

					like 50M/100 M race, Long Jump, High jump.and knows conversion of units through it. •Estimates the length and makes them larger or shorter. •Knows to calculate the distance between their school & home. •.			
-do-		Long & Short Contd	• Knows the relation between metre and kilometres • Various units of length. • Estimating and measurement of places like fields, park.	• Measuring of different objects like pencil. ribbon, etc. and making them short or long.				

			• Comparison of heights					
Jun/July	**NUMBER** Number and Number Operations **MENTAL ARITHEMATIC** Adds and subtracts multiples of 10 and 100, mentally.	A Trip to Bhopal	• Understand and write multiplication facts. • Write tables up to 10x10. • Multiply/Add/Subtract two three digit numbers. • Apply four operations to life situations. • Frames word problems. • Estimates sum differences and products of given numbers. • Mental arithmetic	• Number operations related to problems pertaining to a trip/educational excursion such as-. • No of students, no of seats in a bus, time management. • Understand the distance time taken,, no of buses required and the amount and money spent. • Learns to read the table showing tickets, trip time etc and apply operations. • Activity what happened at what time during trip to Bhopal. • Addition and subtraction multiplication and division of 3 – 4 digits numbers. • To make smallest and greatest number by the given numbers • Frame word problems using four basic operations. • Practice on	• Understands the properties of addition and subtraction. • Solving number puzzles .Makes the greatest and smallest . number from the given numbers • Solves simple problems related to time, money. • Compares the numbers. and • Knows how to find the	• Map of India, locality or district. • Abacus and flash cards of numbers.	• Logical thinking. Ability, to calculate mentally. • Estimation / reasoning.	20

				addition, more or less than, multiplication by 10. .	difference between two digit and three digit numbers.			
Jun/July	• **TIME** 12 hours clock time 24 hours clock time Concept of am/pm Time table Calendar.	Tick Tick Tick	• Computes the no. of weeks in a year. • Correlates the no. of days in a year with the no. of days in each month. • Justifies the reason for the need of a leap year. • Reads the clock time to nearest hour and minutes. • Expresses time using the terms a.m. and p.m. • Estimates duration of familiar events. • Find approx time elapsed by (to the nearest hour) forward counting. • Computes the no. of days between two dates.	• Read a clock and tell the time both in 12 hour and 24 hour time. • Show the time-3 hour's later-5hours earlier etc. similar drill. • Calculate hours /minutes between two given dates. • Convert 12 hour to 24 hour clock time and vice versa. • Read railway/bus/timetable and ticket. • List of activities done in a) 1 Minute (b) Less than 1 hour (c) About an hour • Draw the hands on a clock to	• Understands the divisions on the face of a clock. • Understands the concept of 12 hour and 24 clocks. Converts 12 hour time to 24 hour clock time and vice versa • Understands the conversi	• Clock • Old Calendars • Used wrappers or boxes of food items and medicines • A potted plant • School diary. • Newspaper.	Understanding of clock – functioning. -Punctuality -Time management -Accuracy.	12

				show the given time. • Write various activities done in am/pm • Find life span of different animals.[Integrated with E.V.S.] • Growth of plant/life span.	on from hour-minute-second and vice versa. •Learns to read a clock. •Differentiates between am and pm •Learns to read a calendar •Understands the manufacturing and expiring date on eatables medicines etc • Expresses daily routine on Time Line. •Converts hours into minutes into seconds			

					and vice versa • Solves word problems.			
Aug	Contd.			• Use school diary to mark- a) Daily activities in correct order on time line b) Duration of autumn, summer break/Days/Dates of holidays/festivals. • [Integrated with letter writing in Languages.] • Collect time of sunrise/sunset from newspaper. Calculate day span. • Show daily routine on time line 12 hr				5

				clock/24 hour clock. .				
Aug	**GEOMETRY** : • Shapes and spatial understanding	The way the world looks	• Understanding spatial distribution	• To know and draw top and side view of some items- spoon, car ,railway line etc.	•Look at things from different views and distances , sides' angles.	• Objects from classroom. • Map	-Develops creative thinking, --- Understanding of sides angle, distance in a diagram/figure.	10
		The ways the world looks	• Understanding concepts of different views of objects from your surroundings. • Visualization of objects from different angles. • Directions • Makes the shapes of cubes and cuboids using nets. • Intuitive idea of a map.	• Observe a picture/or route map carefully and mark the directions with reference to ones position (left right). • Draw a map on the floor and ask children to stand on the map and locate different things around them in different directions • Make a cube with numbers on the	•Identifies top side front view of different objects. •Draw top side front view of different objects • Is able tor read a map of school or			

				opposite faces which add up to 7(.Dice) • Draw a picture of, pressure cookers; chair a bowl etc from the side top and front. Students may be asked to draw the pictures of their own choice.	city and write precise directions to reach different places? •Understands the four directions and is able to locate the given area in the map. •Understands the directions related to one's position			

Month	SYLLABUS	Lesson	Concept/key areas	Suggested Activities	• Expected Learning Outcomes	TLM/Resources	Value/Skills	Period/hr
Aug	Numbers-Number and Operations • Money • Total costs.	The Junk seller	Writes multiplication facts. • Writes tables up to 10x10. • Multiplies two and three digit number using lattice algorithm and standard (column)algorithm • - Converts rupees to paisa and vice versa. • Adds and subtracts amounts using +and - with regrouping. • Uses operations to find totals, change, multiple costs and unit cost. • Estimates roughly the totals • Basic operation of numbers • Money	• To convert rupees into paisa. • Mock junk shop showing buying and selling. Of Junk Items. Make list of things sold in the junk market. • Mock bank showing lending and borrowing /buying and selling. • Collect notes of different denominations and make different combinations for a given amount. • Making a bill. • Word problems	• Can purchase things from the market and compare their price • Awareness about loan through discussion. • Understands the multiplication strategies by 10, 100, 1000. • Understands lattice multiplication using expanded notation. • Makes a bill • Understands the concept of loan, profit and loss. • Frames word problems. • Adds and subtracts /Multiplies and divides. • Solves problems related to money transactions	• Object from the class room. • Fake rupees and coins	-Value of money. -Solving problems of day to day. -Logical thinking	11

			transaction	• First guess the answer and then calculate. • Mental arithmetic. And Worksheets on addition subtraction and multiplication of2digit by3 digit numbers and bills				

Month	SYLLABUS	Lesson	Concept/ Key areas	Suggested Activities	Expected Learning Outcomes	TLM/Resources	Values/Skills	Period/hr
Sep	**MEASUREMENT** Volume	Jugs and Mugs	• Understand and measures volume of a given liquid using containers marked with standard units. • Determines sums and differences of volumes. • Estimates	• Compare the volume of different things by putting them into jar filled with water. • Observe the different capacities in ml and liters • Guess how much water can jugs, mugs	• Understands which unit of volume to be used for smaller quantities and bigger quantities. • Makes litres in different ways.(Different combinations) • Solves	• Different types of containers from • classroom, ,math ,lab, or chemistry lab of different capacities • Different type of containers available in the market for oil, milk,	• Estimation and testing practical skills • Recall and recollect.	12+8

			the volume of a liquid contained in a vessel and verifies by measuring • Understanding the units of volume • Measuring can bottle.	bottles and glasses of different measures hold. List 3 – 5 items which are measured in liters, ml. • Capacity of wrappers/labels like plastic bottle of water, cooking oil, tetra pack of milk etc. • Make measuring bottle using a bottle of known capacity. Practice, solve small problems related to capacity mentally Puzzles.	word problems related to volume • Knows which items are measured in liters and milliliters • Knows how to converts the smaller units into larger units and vice versa. • Makes own measuring bottle. • Adds and subtracts the given quantities of the liquid. • Solves problems Solves puzzles	soft drinks etc.		

Month	SYLLABUS	Lesson	Concept	Suggested Activities	Expected Learning Outcomes	Resources	Values/Skills	Period/hr
Oct	**GEOMETRY** Shape and spatial understanding •	Carts and Wheels	• Draw a circle free hand, with different objects in the class; with compass. Identifies centre ,radius and diameter • Knowledge about round objects. • Understanding the concept of drawing circles. • Concludes the relationship between the length of the string and the size of the circle formed	• Games with circles. (equal distribution) • Observe and identify round and circular objects from the surroundings. Collect objects which are circular like bottle cap bangles, rings etc top of a class, 25 p coin. • • Make circles using coins , bangles etc different sizes using free hand • Find radius of different	• Learns to draw circles of different sizes with the help of a string/rope and nail • Finds centre of a circles • Solves simple problems related to circle, radius and centre.	• Net resources • Round objects in the classroom • Geometry box	• Identification of various geometrical objects • Drawing Skills Construction and comparison	16

				types of wheels.. • Name and identify geometrical instruments • Find the centre by paper folding • Find centre of a circle that cannot be cut or folded • Make your spin top • Using compass make designs • Drill and practice exercises to find radius, diameter and drawing circles of known radius. • Integrated with drawing and games. •				

Month	SYLLABUS	Lesson	Concept/ Key Areas	Suggested Activities	Expected Learning Outcomes	TLM/Resources	Values/Skills	Period/hr
Nov	**NUMBERS** • Fractional numbers • Measurement	Halves and Quarters	• Identifies half one fourths of a whole • Identifies the symbol ½,1/4, ¾. • Explain the meaning of ½,1/4,and 3/4. • Appreciates equivalence of 2/4 and ½ and of 2/2,3/3,4/4. and 1. • full halves and quarters • Relates meters into centimeters. • Weights- relates 1 kg into Gms. • Volume relates 1litre into milliliters. • To show	• Color ½ , ¼, ⅓,⅔. • Divide the given into halves in different ways • Paper folding activity showing halves and quarters and three fourths. • Colour part/fraction of a collection, groups of halves or quarters in a given collection. • Complete the picture by drawing the other half. • Estimate	• Understands Part/fraction of a whole and of a collection. • Understands the concept of halves, quarters (chappati cutting cake, apple role etc. • Familiarises with the vocabulary related to fractions. • Understands fraction as division. • Can write fractions and understands the term equivalent fractions. • Generates fractions	Round objects in class.	Sharing and caring Analyzing and interpreting the fractional number its representation in capacity /weight etc.	20

			equivalence .	and market ½ , ¼, ⅓,⅔. in a string/water bottle. • Solve day to day life problems Using a price list. Note- The teacher can correlate the story- Greedy Kundu with "Muft hi Muft" in Hindi(Class 4)	equivalent to a given fraction. • Understands different type of fractions – Like /unlike fractions ,Unit fractions ,proper improper fractions etc • Finds the cost of given objects (1 kg, ½ kg, ¾ kg) by mock shopping, • Solves different problems related • Solves different problems related to whole half and quarter • Integrated with languages and EV.S..			

Month	SYLLABUS	Lesson	Concept/Key area	Suggested Activities	Expected Learning Outcomes	TLM/Resources	Values/Skill	Period/hr
Nov	**PATTERNS** • Identifies patterns in square numbers and triangular numbers • Identifies geometrical patterns based on symmetry	Play with Patterns	Identifies patterns in surroundings. -Makes patterns and designs from straight lines and other geometrical shapes. -Makes border strip and tiling patterns. -Identifies patterns in multiplication and division, multiples of 9. • Casts out nines from a given number to check if it is a multiple of 9 • Multiplies and divides by 10's and 100's. • Identifies geometrical patterns based on symmetry .	• Observe the pattern around them e.g. grill sari, bed sheet, floor etc. and recognize the basic unit/ rule/sequence. • Make patterns with numbers, alphabets & pictures • Complete magic squares and triangles • Coding and decoding a secret message with a rule. • Observe the tilling pattern in a floor and make floor patterns and wall patterns.	• Observes and understands the patterns. • Realizes the rule of creativity in a pattern. • Learns to identify symmetrical and non-symmetrical shapes, letters alphabets and numbers. • Generates patterns involving number operations. • Computes the given patterns using addition subtraction multiplication division. • Applies rule to Floor patterns ,coded messages ,puzzles and games.	• Flash cards of number, alphabets. • Samples of patterns • Geometrical shapes	Identification of symmetrical and non-symmetrical shapes. • Develops mastery over division and multiplication operations.	7

Month	SYLLABUS	Lesson	Concept	Suggested Activities	Expected Learning Outcomes	TLM/Resources	Values/Skills	Period/hr
Dec	**NUMBERS AND OPERATIONS**	Tables and Shares	• Understands and writes multiplication facts. • Writes tables up to 10x10. • Divides a given number by another number in various ways. • By dots • By grouping • By multiplication facts • By repeated subtraction. • Applies four basic operations. • Frames word problems • Different ways of multiplication. • Knowledge of terms used in multiplication and division.	• Arrange things in sequence and develop the multiplication fact e.g. desks in the classroom with different combination • Building of multiplication tables with the help of patterns. • Jumping activity - Children jump equal steps in a number line and count the no of jumps taken. • Skip counting • Using class room situation children make	• Understands the properties of multiplication. • Learns to multiply and solve problems. • Knows the properties of division. • Divides a numeral by one digit numeral. • Solves word problems involving division. • Understands that multiplication is repeated addition and uses the	Flash cards of numbers Multiplication strips. Puzzles related to division and multiplication.	. Learns application of multiplication and division in solving various word problems/problems in a given context.	11

				group of things and arrive at their own strategies of multiplication and/or division. • Framing of questions by looking at pictures • Story problems • Worksheets on all four basic operations	symbol of multiplication. • Understands that division is a process of equal distribution or sharing. • Solves problems involving multiplication of a number (up to 3 digit) with a 2 or 3 digit number. • Divides a number (upto3 digit) with a 2 digit or 1 digit number with or without remainder. • Building multiplication tables with the help of patterns • Learns to check division fact using			

					multiplication facts. • Frames word problems • Solves daily life problems.			

Month	SYLLABUS	Lesson	Concept/ Key Areas	Suggested Activities	Expected Learning Outcomes	Resources	Values/Skills	Period/hr
Jan	**MEASUREMENT** Weights	How Heavy How Light	• Weighs objects using a balance and standard units. • Determines sums and differences of weights. • Estimates the weight of an object and verifies using a balance	• Compare the items which are heavy/heavier/heaviest. • Estimate weights of familiar objects in class. • Differentiate things bought in grams and kilograms. • Compare the weights and height • Understands how to read the postal rate	• Observes and understands the higher and lower units of measurement • Makes balance and finds weight.	Weights Balance Measuring tapes Objects available in the classroom Postal stamps Objects available in the class	Interpretation and estimation of unit. Learns basic operation / computation for weight/distance. Measurement by using scale and other standard units.	17

Jan	**MEASUREMENT** Length	Field and fences	• Understanding of concept of area and perimeter of simple geometrical figures. • Ability to compute area and perimeter of regular and irregular shapes. • Solving problems based on area and perimeter.	• Measures the length and breadth of given figures and things and finds their area and perimeter. • Determines length in cms, metres ,kms of simple figures. • Determines area/perimeter using squares ,thread of simple geometrical ,symmetrical and unsymmetrical shapes • Solves problems based on area and perimeter	• Understands the meaning of Fields (area) and fences.(perimeter) • Understands that the boundary (perimeter) is the sum of the sides of the given figure. • Finds length of the boundary of things in class e.g.. Maths book, table desk using a scale. • Calculates the total length of boundary of regular shapes like rectangle,	Newspaper to collect data Graph Worksheets	Understands the regular and irregular shapes. Symmetrical and unsymmetrical shapes. Able to measure and calculate perimeter using various methiod.	10

					square triangle etc. • Calculates the total length of the boundary of irregular shapes on a squared ruled paper using a thread. • Compares using threads, graph paper ,counting squares. The areas and perimeter.. • Finds the number of squares inside a regular shape using 1cm sq paper. • Solves day to day life problems related to area and			

Feb	**DATA HANDLING**	Smart Charts	• Collection of data and representation through pictographs • Conclusion from data	• Collect data and represent in the form of bar graphs. - Draw inferences by discussing with the teacher • Represent data graphically (bar graph, pie-charts) • Collect/interpret data from newspaper and represent it in tabular form. • Solve word problems	perimeter. • Collects and records Odata. • Represents the data in tabular form or bar graph. • Represents fractions through chapatti chart or pie chart. • Draws conclusion and inferences from the data. • Solves simple problems using charts/data		Recognition Observation Classification Ability to read graphical representation and draw conclusion. Learns pictorial depiction of facts.	12+12

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2. Hands-on

By Arvind Gupta (Vigyan Prasar)

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Books

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