KIDS WORLD SCHOOL, NAGPUR
SESSION – 2026-27
CLASS - VII
SUBJECT – MATHEMATICS

UNIT			Month		Suggested Ice-Breaking Activity	Teaching Pedagogy	Curricular Goals	Competency	Expected Learning Outcome	Assessment
No.	Topic Name	Sub-Topic	Starting	Closing						
Ch.1	**Large Numbers Around Us**	1.1 A Lakh Varieties – exploring large quantities in real life	**July Day 1**	**July**	**LAKH CLAP** . Teacher says a number like:1 lakh,2 lakh,5 lakh . Students show using actions: .1 lakh-1 Clap 2lakh- 2 Claps	Small groups explore real-life large number examples from newspapers and price lists. Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.1: Develops a sense for and an ability to manipulate (e.g., read, write, form, compare, estimate, and apply operations) and name (in words) large whole numbers of up to 20 digits, and expresses them in scientific notation using exponents and powers	• Students identify to compare large numbers up to 8 digits in both Indian and international systems.	
		1.2 Place value system: ones to crores; writing numbers in words	**Day 2**		**HUMAN PLACE VALUE TRAIN** . Students stand in a line like a train . Each becomes: Ones—Tens—Hundreds—Thousands—Lakhs—Crores . Teacher gives digits—Students place themselves correctly . Whole class shouts the number correctly	Use place-value charts with blocks, then pictures, then numerals. Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.1: Develops a sense for and an ability to manipulate (e.g., read, write, form, compare, estimate, and apply operations) and name (in words) large whole numbers of up to 20 digits, and expresses them in scientific notation using exponents and powers	• Students correctly apply the place-value system to identify the value of each digit in a large number.	
		1.3 Comparing and ordering large numbers using >, <, =	**Day 3**		**NUMBER RACE** .Give number cards to 4-5 students .Say “GO” .Students must quickly run and arrange themselves from smallest to largest. Class chants Check! Teacher confirms winning group	Present estimation problems and have students discuss before sharing with class. Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.1: Develops a sense for and an ability to manipulate (e.g., read, write, form, compare, estimate, and apply operations) and name (in words) large whole numbers of up to 20 digits, and expresses them in scientific notation using exponents and powers	• Students estimate and round off large numbers to the nearest thousand, lakh, and crore.	
		1.4 Indian vs. International number system (lakhs vs. millions)	**Day 4**		**COMMA DANCE** . Teacher show commas using body actions: *Jump = Comma *Step = Digits .Indian System - different Jump pattern .International System - different jump pattern	Class discussion with place-value charts displayed on board. Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation (e.g., multiples of 7, powers of 3, prime numbers), and explains relations between different patterns	• Students identify and describe patterns in number sequences and explain the rule behind each pattern.	

		1.5 Estimation and rounding off large numbers	**Day 5**		**FINGER PLACE** Assign each finger as a place: *Thumb = Ones *Index = Tens *Middle =Hundreds *Ring = Thousands *Little = Lakhs . Teacher says a number :3,45,000 *Students raise the correct finger and say: *5 is in Thousands place	Present estimation problems and have students discuss before sharing with class. Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.1: Develops a sense for and an ability to manipulate (e.g., read, write, form, compare, estimate, and apply operations) and name (in words) large whole numbers of up to 20 digits, and expresses them in scientific notation using exponents and powers	• Students estimate and round off large numbers to the nearest thousand, lakh, and crore.	
		1.6 Introduction to scientific notation (powers of 10)	**Day 6**		**PLACE VALUE LADDER** .Assign roles: Ones , Tens , Hundreds, Thousands, Lakhs, Crores .Give digits to students (3,5,7,2,8,1,6) .Students stand in correct place value order to form a number (eg 3,57,24,816) Whole class reads the numbers aloud	Problem-based learning: If a stadium holds 75,000 people, how many stadiums would hold India's population? Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.1: Develops a sense for and an ability to manipulate (e.g., read, write, form, compare, estimate, and apply operations) and name (in words) large whole numbers of up to 20 digits, and expresses them in scientific notation using exponents and powers	• Students express very large numbers using powers of 10 and basic scientific notation.	
		Revision & Real-life Word Problems (all sub-topics 1.1–1.6)	**Day 7**		**COUNT THE ZEROES** .Teacher says “1 Crore” . Students show number of zeros using fingers (7 fingers---7 zeros)	Problem-based learning: If a stadium holds 75,000 people, how many stadiums would hold India's population? Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation (e.g., multiples of 7, powers of 3, prime numbers), and explains relations between different patterns	• Students solve real-life word problems involving large numbers from contexts such as population, distance, and currency.	
		CT: Breaking large numbers into individual place values to under-stand their structure	**Day 8**		**LAKH CLAP** . Teacher says a number like:1 lakh,2 lakh,5 lakh . Students show using actions: .1 lakh-1 Clap .2lakh- 2 Claps	Small groups explore real-life large number examples from newspapers and price lists. Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students identify and compare large numbers up to 8 digits in both Indian and international systems.	

		CT: Identifying the repeating grouping pattern (ones, thousands, lakhs, crores) in the Indian place value system	**Day 9**		**HUMAN PLACE VALUE TRAIN** Students stand in a line like a train Each becomes: Ones—Tens—Hundreds—Thousands—Lakhs—Crore Teacher gives digits—Students place themselves correctly Whole class shouts the number correctly	Use place-value charts with blocks, then pictures, then numerals. Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students correctly apply the place-value system to identify the value of each digit in a large number.	
Ch.2	**Arithm-etic Expressi-ons**	2.1 Simple Expressions – reading and writing arithmetic phrases	**July** **Day 1**	**July**	**Action Math Drama** Teacher says an expression; students perform actions for operations. Students connect symbols with actions.	Model translating word phrases into mathematical expressions step-by-step on the board Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.1: Understands equality between numerical expressions and learns to check arithmetical equations	• Students accurately read, write, and interpret arithmetic expressions involving all four operations.	
		2.2 Comparing expressions using =, <, >	**Day 2**		**Finger Calculator** Teacher gives a sum; students show the answer with fingers. Students practice quick calculation.	Worked examples with think-aloud strategy – teacher verbalises each step while solving Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.1: Understands equality between numerical expressions and learns to check arithmetical equations	• Students compare two expressions using =, <, > and justify their reasoning.	
		2.3 Brackets in expressions – meaning and priority	**Day 3**		**Freeze the Bracket** Teacher reads an expression; students freeze at brackets. Students notice order of operations.	Present expressions with common mistakes (wrong bracket placement) and ask students to identify and correct them Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.3: Forms algebraic expressions using variables, coefficients, and constants and manipulates them through basic operations	• Students use brackets to change the value of an expression and explain why?	
		2.4 Order of operations (BODMAS / PEMDAS rule)	**Day 4**		**True or False Toss** Teacher gives a statement; students say true or false. Students check correctness.	Students write their own expressions and exchange with a partner to evaluate Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.1: Understands equality between numerical expressions and learns to check arithmetical equations	• Students apply BODMAS rule correctly to evaluate multi-step expressions.	

		2.5 Forming expressions for real-life situations	**Day 5**		**Step-by-Step Race** Teacher starts solving; students continue step by step. Students build problem-solving flow.	Real-life application: pricing menus, electricity bills, shopping – translate each into an expression and evaluate Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.3: Forms algebraic expressions using variables, coefficients, and constants and manipulates them through basic operations	• Students translate real-life word statements (shopping, scoring, sharing) into arithmetic expressions and evaluate them.	
		2.6 Properties of operations: commutativity, associativity, distributivity	**Day 6**		**Whisper Math Challenge** Teacher whispers an expression; students pass it and solve. Students focus and compute.	Error analysis: present expressions with common mistakes (wrong bracket placement) and ask students to identify and correct them Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.1: Understands equality between numerical expressions and learns to check arithmetical equations	• Students identify and apply commutativity, associativity, and distributivity in simplifying expressions.	
		Revision & Mixed Practice (all sub-topics 2.1–2.6)	**Day 7**		**Operation Remix** Teacher changes an operation; students solve again. Students observe effect of operations.	Real-life application: pricing menus, electricity bills, shopping – translate each into an expression and evaluate Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.3: Forms algebraic expressions using variables, coefficients, and constants and manipulates them through basic operations	• Students accurately read, write, and interpret arithmetic expressions involving all four operations; apply BODMAS; and translate real-life situations into expressions.	
		CT : Translating a real-life situation described in words into a compact symbolic mathematical expression	**Day 8**		**Clap the Answer** Teacher gives a problem; students clap the answer. Students enjoy mental math.	Model translating word phrases into mathematical expressions step-by-step on the board Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students accurately read, write, and interpret arithmetic expressions involving all four operations.	
		CT : Evaluating both sides of a comparison and applying relational operators to draw a conclusion	**Day 9**		**Whisper Math Challenge** Teacher whispers an expression; students pass it and solve. Students focus and compute.	Worked examples with think-aloud strategy – teacher verbalises each step while solving Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students compare two expressions using =, <, > and justify their reasoning.	**ASSESSMENT AS LEARNING**

Ch.3	**A Peek Beyond the Point**	3.1 The Need for Smaller Units – why whole numbers are not always sufficient	**(August) Day 1**	**August**	**Dot Detectives** Teacher shows a dot; students identify it as a point. Students learn basic geometry terms.	Use physical measuring tapes and weighing scales before introducing decimal notation Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns and appreciates relationships between numbers	C-1.4: Explores and understands sets of numbers, such as whole numbers, fractions, integers, rational numbers, and real numbers, and their properties, and visualises them on the number line	• Students explain why decimal numbers are necessary using measurement and money contexts.	
		3.2 Decimal fractions: tenths, hundredths, thousandths on the place-value chart	**Day 2**		**Air Drawing Masters** Teacher names a figure; students draw it in air. Students visualize shapes.	Demonstration with a 10×10 grid – shade parts to show tenths and hundredths visually Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.4: Explores and understands sets of numbers, such as whole numbers, fractions, integers, rational numbers, and real numbers, and their properties, and visualises them on the number line	• Students read and write decimal numbers up to the thousandths place correctly.	
		3.3 Reading, writing, and comparing decimal numbers	**Day 3**		**Point or Line Game** Teacher names objects; students say point or line. Students differentiate concepts.	Place decimal numbers on a number line to build intuition for ordering Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.4: Explores and understands sets of numbers, such as whole numbers, fractions, integers, rational numbers, and real numbers, and their properties, and visualises them on the number line	• Students place decimal numbers accurately on a number line and compare them using <, >, =.	
		3.4 Converting between fractions and decimals	**Day 4**		**Magic Line Tracing** Teacher guides direction; students trace lines in air. Students understand movement of lines.	Students measure classroom objects with rulers and record measurements in decimal form Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students convert fractions with denominators 10, 100, 1000 into equivalent decimals and vice versa.	
		3.5 Addition and subtraction of decimals with and without regrouping	**Day 5**		**Yes-No Blast** Teacher asks a question; students answer yes or no. Students recall concepts quickly.	Real-life context integration: bills, recipes, medical prescriptions – all use decimals Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students add and subtract decimal numbers with different numbers of decimal places by aligning decimal points.	
		3.6 Measurement applications: length, mass, capacity using decimals	**Day 6**		**Statue Point Game** Teacher says “point”; students stay still. Students connect idea of no dimension.	Real-life context integration: bills, recipes, medical prescriptions – all use decimals Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students apply decimal operations to solve real-life problems involving measurement, money, and shopping.	

		Revision & Mixed Practice (all sub-topics 3.1–3.6)	**Day 7**		**Stretchy Line Show** Teacher says “line”; students stretch arms. Students show length visually.	Real-life context integration: bills, recipes, medical prescriptions – all use decimals Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students apply decimal operations to solve real-life problems involving measurement, money, and shopping.	
		CT : Recognising that whole numbers are insufficient for precise measurement and that a new representation (decimals) is needed to fill the gaps	**Day 8**		**Guess the Shape** Teacher describes a figure; students guess it. Students imagine shapes.	Use physical measuring tapes and weighing scales before introducing decimal notation Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students explain why decimal numbers are necessary using measurement and money contexts.	
		CT : Extending the place value chart rightward past the decimal point, decomposing numbers into tenths, hundredths, and thousandths	**Day 9**		**Statue Point Game** Teacher says “point”; students stay still. Students connect idea of no dimension.	Demonstration with a 10×10 grid – shade parts to show tenths and hundredths visually Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students read and write decimal numbers up to the thousandths place correctly.	
Ch.4.	**Expressions Using Letter-Numbers**	4.1 The Notion of Letter-Numbers – using a letter to stand for any number	**(August) Day 1**	**August**	**Mystery Letter Math** Teacher assigns value to a letter; students solve the expression. Students learn substitution.	Begin with specific numerical examples, then generalise using a letter Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.2: Extends the representation of a number in the form of a variable or an algebraic expression using a variable	• Students understand and explain what a variable (letter-number) represents in an algebraic expression.	
		4.2 Writing algebraic expressions for real-life relationships (age, money, distance)	**Day 2**		**Value Hunt** Teacher gives x value; students calculate result. Students practice algebra basics.	Story-based problems: embed algebraic expressions in relatable narratives (sharing food, earning pocket money) Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.3: Forms algebraic expressions using variables, coefficients, and constants and manipulates them through basic operations	• Students write algebraic expressions for real-life situations involving one variable.	
		4.3 Evaluating an expression	**Day 3**		**Variable Clap Game** Teacher reads	Classroom discussion: students justify whether two	CG-2: Understands the concepts of variable,	C-2.3: Forms algebraic expressions using	• Students evaluate expressions by	

		by substituting a value for the letter			expression; students clap at variables. Students identify variables.	expressions are equivalent by substituting multiple values Board Work	constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	variables, coefficients, and constants and manipulates them through basic operations	substituting given numerical values for the variable.	
		4.4 Like and unlike terms; combining like terms	**Day 4**		**Match the Math** Teacher shows expression; students match correct answer. Students build accuracy.	Pattern investigation: students extend number patterns and derive the general term using letter-numbers Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.3: Forms algebraic expressions using variables, coefficients, and constants and manipulates them through basic operations	• Students identify like and unlike terms and simplify expressions by combining like terms.	
		4.5 Forming and verifying rules for patterns using letter-numbers	**Day 5**		**Replace & Solve** Teacher gives values; students replace and solve. Students apply concepts.	Visual representation: matchstick patterns – count sticks for 1, 2, 3 squares; find the expression for n squares Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.5: Develops own methods to solve puzzles and problems using algebraic thinking	• Students use letter-numbers to express the general rule for a numerical or geometric pattern.	
		4.6 Introduction to the concept of an equation vs. an expression	**Day 6**		**Equation Checker** Teacher states equation; students say correct or not. Students verify results.	Classroom discussion: students justify whether two expressions are equivalent by substituting multiple values Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.2: Extends the representation of a number in the form of a variable or an algebraic expression using a variable	• Students distinguish between an expression and an equation, and explain the difference using examples.	
		Revision & Mixed Practice (all sub-topics 4.1–4.6)	**Day 7**		**Finger Algebra** Teacher gives simple expression; students solve using fingers. Students gain confidence.	Story-based problems: embed algebraic expressions in relatable narratives (sharing food, earning pocket money) Board Work	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.5: Develops own methods to solve puzzles and problems using algebraic thinking	• Students write, evaluate, and simplify algebraic expressions and distinguish them from equations.	
		CT : Replacing a specific unknown number with a letter symbol, abstracting away from a particular value to represent any possible value	**Day 8**		**Rapid Fire X** Teacher asks rapid questions; students answer quickly. Students improve speed.	Begin with specific numerical examples, then generalise using a letter Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students solve problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered step.	**ASSESSMENT FOR LEARNING**

		CT : Moving from specific numerical relationships (e.g., 6p, 10p) to a general algebraic expression (np) that works for all cases	**Day 9**		**Replace & Solve** Teacher gives values; students replace and solve. Students apply concepts.	Story-based problems: embed algebraic expressions in relatable narratives (sharing food, earning pocket money) Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students solve problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered step.	
Ch.5	**Parallel and Intersecting Lines**	5.1 Across the Line – identifying lines in everyday objects and plane surfaces	**(September) Day 1**	**(September)**	**Parallel Pose** Teacher says parallel; students show straight arms. Students visualize parallel lines	Hands-on geometry: students use rulers, set squares, and protractors to draw and measure angles formed by intersecting lines Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.1: Describes, classifies, and understands relationships among different types of two- and three-dimensional shapes using their defining properties/attributes	• Students identify and correctly name parallel, intersecting, and perpendicular lines in diagrams and real-life photographs.	
		5.2 Intersecting lines – point of intersection, angles formed	**Day 2**		**Cross-Hand Clash** Teacher says intersecting; students' cross hands. Students understand intersection.	Students measure pairs of angles formed by two intersecting lines and discover the vertically opposite angle property themselves Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.2: Outlines the properties of lines, angles, triangles, quadrilaterals, and polygons and applies them to solve related problems	• Students explain and apply the property that vertically opposite angles are equal.	
		5.3 Vertically opposite angles and adjacent angles	**Day 3**		**Spot the Lines** Teacher asks for examples; students identify around them. Students connect to real life.	Students measure pairs of angles formed by two intersecting lines and discover the vertically opposite angle property themselves Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.2: Outlines the properties of lines, angles, triangles, quadrilaterals, and polygons and applies them to solve related problems	• Students measure adjacent angles formed at a point of intersection and verify they are supplementary.	
		5.4 Parallel lines – definition, identification, properties	**Day 4**		**Yes-No Lines** Teacher names objects; students say yes or no. Students recognize line types.	Geoboard or dot paper activities to visualise parallel and intersecting lines Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.1: Describes, classifies, and understands relationships among different types of two- and three-dimensional shapes using their defining properties/attributes	• Students use a ruler and set square to draw parallel and perpendicular lines accurately.	
		5.5 Transversal cutting parallel lines – corresponding, alternate, co-interior angles	**Day 5**		**Air Drawing Lines** Teacher instructs drawing; students draw in air. Students practice shapes.	In pairs, students draw a transversal across two parallel lines and measure all 8 angles formed Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.2: Outlines the properties of lines, angles, triangles, quadrilaterals, and polygons and applies them to solve related problems	• Students will identify all angle pairs (corresponding, alternate interior, co-interior) when a transversal crosses parallel lines. •	

		5.6 Perpendicular lines and right angles in real-life structures	**Day 6**		**Human Line Shapes** Teacher gives pose; students form lines. Students engage physically.	Real-world connections: architecture photographs (bridges, buildings) showing parallel and perpendicular lines Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.4: Draws and constructs geometric shapes, such as lines, parallel lines, perpendicular lines, angles, and simple triangles, with specified properties using a compass and straightedge	• Students solve numerical problems to find unknown angles using properties of parallel lines.	
		CT: Sorting lines into categories (parallel, intersecting, perpendicular) based on their defining geometric properties	**Day 7**		**Clap for Parallel** Teacher names object; students clap if parallel. Students respond actively.	Hands-on geometry: students use rulers, set squares, and protractors to draw and measure angles formed by intersecting lines Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students identify and correctly name parallel, intersecting, and perpendicular lines in diagrams and real-life photographs.	
		CT : Measuring multiple pairs of vertically opposite angles and recognising that they are always equal, leading to a generalised property	**Day 8**		**Finger Cross Game** Teacher says intersect ; students cross fingers. Students reinforce concept.	Discovery learning: students measure pairs of angles formed by two intersecting lines and discover the vertically opposite angle property themselves Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students explain and apply the property that vertically opposite angles are equal.	
Ch.6	**Number Play**	6.1 Numbers Tell us Things – decoding information from numbers (codes, positions, rankings)	**(September) Day 1**	**(September)**	**Even-Odd Party** Teacher says number; students clap or snap for even/odd. Students classify numbers**.**	Gamification: Number puzzles, magic squares, and Sudoku-style activities to develop number sense Board Work	CG-7: Engages with puzzles and mathematical problems and develops own creative methods and strategies to solve them	C-7.2: Engages in and appreciates the artistry and aesthetics of puzzle making and puzzle solving	• Students decode information embedded in numbers (jersey numbers, pin codes, date formats).	
		6.2 Picking Parity: Patterns in numbers: even/odd rules, multiples,	**Day 2**		**Pattern Party** Teacher starts pattern; students continue it. Students understand sequences.	Discovery learning: Virahanka Numbers	CG-7: Engages with puzzles and mathematical problems and develops own creative methods and strategies to solve them	C-7.1: Demonstrates creativity in discovering ones own solutions to puzzles and other problems, and appreciates	• Students identify and extend number patterns (arithmetic sequences, Fibonacci-like	

		factors						the work of others in finding their own, possibly different solutions	sequences).	
		6.3 Explorations in Grids 3×3 and 4×4	**Day 3**		**Reverse Ninja** Teacher says number; students reverse it. Students think quickly.	Collaborative investigation: Turtles Back, Navgraha Yantra Board Work	CG-7: Engages with puzzles and mathematical problems and develops own creative methods and strategies to solve them	C-7.1: Demonstrates creativity in discovering one's own solutions to puzzles and other problems, and appreciates the work of others in finding their own, possibly different solutions	• Students make 3×3 and 4×4 magic squares.	
		6.4 Magic squares in History & Culture	**Day 4**		**Skip Counting Train** Teacher starts skip counting; students continue. Students learn patterns.	Historical context: Introduce magic square Board Work	CG-9: Knows and appreciates the development of mathematical ideas over a period of time and the contributions of past and modern mathematicians from India and across the world	C-9.2: Knows and appreciates the contributions of specific Indian mathematicians, such as Baudhayana, Pingala, Aryabhata, Brahmagupta, Virahanka, Bhaskara, and Ramanujan	• Students make 3×3 and 4×4 magic squares.	
		6.5 The Virahanka-Fibonacci Numbers	**Day 5**		**Rule Master Game** Teacher gives rule; students apply it. Students enjoy number tricks.	Discovery learning: Virahanka Numbers Board Work	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation (e.g., multiples of 7, powers of 3, prime numbers), and explains relations between different patterns	• Students use the Virahanka-Fibonacci Numbers.	
		6.6 Digits in disguise – Cryptarithms/Alphametics	**Day 6**		**Prime Time Check** Teacher says number; students check prime. Students recall concepts.	Gamification: Number puzzles, magic squares, and Sudoku-style activities to develop number sense Board Work	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation (e.g., multiples of 7, powers of 3, prime numbers), and explains relations between different patterns	• Students identify and extend number patterns (arithmetic sequences, Fibonacci-like sequences).	
		CT: Breaking down a coded number (e.g., PIN code, jersey number) into its component parts and interpreting the meaning of each segment	**Day 7**		**Fast Math Fire** Teacher asks multiplication; students answer fast. Students build speed.	Gamification: Number puzzles, magic squares, and Sudoku-style activities to develop number sense Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students decode information embedded in numbers (jersey numbers, pin codes, date formats).	
		CT: Identifying even/odd and divisibility patterns in sequences of	**Day 8**		**Predict the Pattern** Teacher shows pattern; students predict next. Students analyse.	Virahanka Numbers Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data	• Students identify and extend number patterns (arithmetic sequences, Fibonacci-like	

		numbers and articulating the rule governing each pattern					representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	representations; learns to devise and follow algorithms	sequences).	
Ch.7.	**A Tale of Three Intersec-ting Lines**	7.1 Equilateral Triangles – properties and compass construction	**(Septem-ber)** **Day 1**	**(Septem-ber)**	**Three-Line Magic** Teacher mentions three lines; students show using fingers. Students visualize intersections.	Hands-on construction: students construct equilateral and isosceles triangles using compass and ruler; measure to verify properties Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.1: Describes, classifies, and understands relationships among different types of two- and three-dimensional shapes using their defining properties/attributes	• Students classify any triangle by sides (equilateral, isosceles, scalene) and by angles (acute, right, obtuse).	
		7.2 Isosceles Triangles – properties: equal sides, equal base angles	**Day 2**		**Angle Arms Show** Teacher names angle; students form using arms. Students understand angles.	Discovery-based learning: paper-folding and tearing activities to 'see' the angle sum property before the formal proof Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.2: Outlines the properties of lines, angles, triangles, quadrilaterals, and polygons and applies them to solve related problems	• Students state and apply the Angle Sum Property to find missing angles in a triangle.	
		7.3 Scalene Triangles – identifying and classifying; 7.4 Angle Sum Property (proof by cutting and rearranging angles)	**Day 3**		**Find the Angle** Teacher asks examples; students identify. Students connect learning.	Discovery-based learning: paper-folding and tearing activities to 'see' the angle sum property before the formal proof Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.2: Outlines the properties of lines, angles, triangles, quadrilaterals, and polygons and applies them to solve related problems	• Students state and apply the Angle Sum Property to find missing angles in a triangle.	
		7.5 Exterior Angle Property – an exterior angle = sum of two non-adjacent interior angles	**Day 4**		**Quick Answer Blast** Teacher asks question; students respond quickly. Students recall ideas.	Logical reasoning: guide students through the exterior angle property using the angle sum property as a stepping stone Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.2: Outlines the properties of lines, angles, triangles, quadrilaterals, and polygons and applies them to solve related problems	• Students state and use the Exterior Angle Property to solve numerical problems.	
		7.6 Triangle Inequality: sum of any two sides > third side; Revision & Construction Practice	**Day 5**		**Angle Pose Game** Teacher says angle type; students pose it. Students engage actively.	Straw activity: try forming triangles with straw pieces of different lengths to explore triangle inequality; Collaborative proof: groups present different methods of demonstrating that angles of a triangle sum to 180° Board Work	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.4: Draws and constructs geometric shapes with specified properties using a compass and straightedge	• Students verify the Triangle Inequality by physical experimentation and explain it in their own words; Students will accurately construct an equilateral triangle and an isosceles triangle using compass and ruler; Students will solve multi-step problems combining angle properties of	

									triangles and straight lines.	
		CT: Identifying that an equilateral triangle has three equal sides AND three equal angles, abstracting these as defining properties	**Day 6**		**Right Angle Clap** Teacher says right angle; students clap twice. Students remember properties.	Hands-on construction: students construct equilateral and isosceles triangles using compass and ruler; measure to verify properties Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students classify any triangle by sides (equilateral, isosceles, scalene) and by angles (acute, right, obtuse).	
		CT : Measuring base angles of multiple isosceles triangles and recognising that they are always equal	**Day 7**		**Line Story Game** Teacher describes lines; students respond. Students interpret concepts.	Discovery-based learning: paper-folding and tearing activities to 'see' the angle sum property before the formal proof Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students state and apply the Angle Sum Property to find missing angles in a triangle.	
Ch.8.	**Working with Fractions**	8.1 Multiplication of Fractions – whole number × fraction, fraction × fraction	**(October) Day 1**	**(Octo-ber)**	**Fraction Hands Show** Teacher says fraction; students show using hands. Students visualize parts.	Visual/area model: use grid paper to multiply fractions visually before introducing the algorithm Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students multiply a fraction by a whole number and by another fraction using both the area model and the standard algorithm.	
		8.2 Visual models: area model for fraction multiplication using grids; 8.3 Reciprocal of a fraction and its meaning	**Day 2**		**Half Clap Fun** Teacher says 1/2; students clap half. Students understand division.	Begin with paper folding and shading (concrete), then grid drawings (pictorial), then the rule (abstract) Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students explain why multiplying by a fraction less than 1 gives a product smaller than the original number; Students will find the reciprocal of any non-zero fraction and explain what reciprocal means.	
		8.4 Division of a fraction by a whole number and by another fraction	**Day 3**		**Finger Fractions** Teacher says fraction; students show with fingers. Students represent fractions.	Common misconceptions: address 'multiplying makes bigger' directly using examples showing otherwise Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real	C-1.4: Explores and understands sets of numbers, such as whole numbers, fractions, integers, rational numbers,	• Students divide a fraction by a whole number and by another fraction using the 'invert	

							numbers), looks for patterns, and appreciates relationships between numbers	and real numbers, and their properties, and visualises them on the number line	and multiply' rule.	
		8.5 Mixed numbers: converting to improper fractions and operating	**Day 4**		**Fraction Fight** Teacher compares fractions; students answer. Students analyse size.	Story problems: embed every operation in a real-life story (cooking, fabric cutting, time sharing) to maintain meaning Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students convert between mixed numbers and improper fractions and perform operations on mixed numbers.	
		8.6 Real-life word problems: sharing, scaling, rates involving fractions	**Day 5**		**Add & Win** Teacher gives addition; students solve. Students practice operations.	Interactive practice: students create their own fraction word problems, exchange and solve each other's problems Board Work	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students solve at least 3-step word problems involving multiplication and division of fractions in real contexts.	
		CT: Representing fraction multiplication as an area on a grid, then abstracting this visual model into a numeric algorithm (multiply numerators, multiply denominators)	**Day 6**		**Rapid Fraction Fire** Teacher asks rapid questions; students answer fast. Students improve speed.	Visual/area model: use grid paper to multiply fractions visually before introducing the algorithm Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students multiply a fraction by a whole number and by another fraction using both the area model and the standard algorithm.	
		CT: Observing that multiplying by fractions less than 1 always produces a smaller result, identifying this as a consistent pattern	**Day 7**		**Spot the Fraction** Teacher shows example; students identify fraction. Students connect visuals.	Begin with paper folding and shading (concrete), then grid drawings (pictorial), then the rule (abstract) Board Work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students explain why multiplying by a fraction less than 1 gives a product smaller than the original number; Students will find the reciprocal of any non-zero fraction and explain what reciprocal means.	
GP 2										
Ch.1	**Geometric Twins**	1.1 Geometric Twins – understanding congruence through real-life examples (signboards, tiles)	**(November) Day 1**	**(November)**	**Perfect Match** Show 2-3 pair of objects like 2 identical coins, 2 same size note book pages, 2 different shapes Ask: Can one object exactly cover the other?	Think And Apply Discussion with Real life Examples Prior knowledge Board work	CG-6: Develops mathematical thinking and the ability to communicate mathematical ideas logically and precisely	C-6.1: Applies both inductive and deductive logic to formulate definitions and conjectures, evaluate and produce convincing arguments or proofs to turn these definitions and	• Student explains logic to formulate definitions and proof definitions.	

					YES—Congruent NO—Not Congruent			conjectures into theorems or correct statements, particularly in the areas of algebra, elementary number theory and geometry		
		1.2 Criteria for congruence of triangles: SSS	**Day 2**		**Two truths and a lie** Each student quickly says: 2 True things and 1 false thing Class guesses the lie *Builds curiosity and interaction	Comparing triangles cut outs Measuring sides and angles Verifying SSS congruence Board work	CG-3: Understands, formulates and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.5: Understands congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles	• Students describes congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles.	
		1.2 Criteria for congruence of triangles: SAS and ASA	**Day 3**		**Rapid fire favourites** Ask quick questions like: Favourite food? Favourite Game? Favourite Subject? Students answer in one word	Constructing triangles using given measurements Verifying SAS & ASA congruence Board work	CG-3: Understands, formulates and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.5: Understands congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles	• Students identifies similarity as it applies to geometric shapes and identifies similar and congruent triangles.	
		1.2 Criteria for congruence: RHS	**Day 4**		**Emoji introduction** Students describe their mood using Emoji. Others guess What they mean.	Constructing triangles using given measurements Verifying RHS congruence Board work	CG-3: Understands, formulates and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.5: Understands congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles	• Student describes congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles.	
		1.3 Corresponding sides and angles in congruent triangles	**Day 5**		**Fast fact challenge** Ask rapid questions like 7x8 Half of 50 100/4	Constructing triangles using given measurements Verifying corresponding sides and angles Board work	CG-3: Understands, formulates and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.5: Understands congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles	• Student describes congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles.	
		1.4 Identifying congruent figures by measurement and superimpositio n	**Day 6**		**Mirror me** Students pair up One does actions, the other copies like a mirror	Constructing triangles using given measurements Verifying congruent figures Board work	CG-3: Understands, formulates and applies properties and theorems regarding simple geometric shapes (2D and 3D)	C-3.5: Understands congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles	• Student describes congruence and similarity as it applies to geometric shapes and identifies similar and congruent triangles.	
		1.5 Similarity vs. congruence: same shape but different size; Revision	**Day 7**		**Stand up if…** Stand up if you like cricket… Stand up if you woke up early today.	Explanation and discussion on similarity and congruence Board work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Student describes problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates	

							computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning		problems into series of ordered steps.	
		CT : Developing the concept of congruence as an abstract property (same shape AND same size) from physical comparison of shapes	**Day 8**		**Act it out** Give words like run, sleep, Dance.. Students act	Discussion on properties & theorems, Real life examples Board work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Student describes systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms.	
		CT : Determining the minimum set of conditions (SSS) needed to guarantee triangle congruence without measuring all six elements	**Day 9**		**Table snap** Teacher says a number (eg 4) Students clap only on multiples of 4	Discussion on properties & theorems, Real life examples Board work	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered step	• Student solves problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered step.	**ASSESSMENT OF LEARNING**
Ch.2	**Operations with Integers**	2.1 A Quick Recap of Integers – review of positive and negative numbers on the number line	**(November) Day 1**	**(November)**	**Sign Show Game** Teacher says integers; students show positive/negative with hand signs. Students identify integers.	Number line model: use a large floor number line for physical movement to model adding and subtracting integers	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.3: Learns about the inclusion of zero and negative quantities as numbers, and the arithmetic operations on them, as given by Brahmagupta	• Students place integers correctly on a number line and compare their values.	
		2.2 Multiplication of integers: rules for sign (positive × negative = negative, etc.)	**Day 2**		**Add It Fast** Teacher gives addition; students solve mentally. Students practice integer addition.	Pattern discovery: build a multiplication table for integers extending into negatives and ask students to find the sign rules from the pattern	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.3: Learns about the inclusion of zero and negative quantities as numbers, and the arithmetic operations on them, as given by Brahmagupta	• Students state and apply the rules for multiplication and division of integers involving positive and negative numbers.	
		2.3 Division of integers: quotient rules for signs	**Day 3**		**Subtract & Tell** Teacher gives subtraction; students answer quickly. Students learn integer	Real-life anchoring: all four operations on integers are introduced through real-world contexts (temperature, finance, elevation, time	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real	C-1.4: Explores and understands sets of numbers, such as whole numbers, fractions, integers, rational numbers,	• Students state and apply the rules for multiplication and division of integers involving positive	

					rules.	zones)	numbers), looks for patterns, and appreciates relationships between numbers	and real numbers, and their properties, and visualises them on the number line	and negative numbers.	
		2.4 Properties of multiplication and division of integers: closure, commutativity, associativity	**Day 4**		**Number Line Walk** Teacher shows number line; students imagine movement. Students understand direction.	Error analysis: present common mistakes (e.g., −4 × −3 = −12) and ask students to identify and correct	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.4: Explores and understands sets of numbers, such as whole numbers, fractions, integers, rational numbers, and real numbers, and their properties, and visualises them on the number line	• Students verify and apply the commutative, associative, and distributive properties for integer multiplication.	
		2.5 Order of operations (BODMAS) with integers	**Day 5**		**Sign Predictor** Teacher says operation; students respond with sign of answer. Students predict results.	Real-life anchoring: all four operations on integers are introduced through real-world contexts (temperature, finance, elevation, time zones)	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.3: Learns about the inclusion of zero and negative quantities as numbers, and the arithmetic operations on them, as given by Brahmagupta	• Students evaluate multi-step integer expressions using BODMAS correctly.	
		2.6 Real-life applications: temperature change, profit/loss, altitude, sea level	**Day 6**		**Mixed Math Blast** Teacher gives mixed problems; students solve. Students build accuracy.	Brahmagupta's contribution: explain how Brahmagupta formalised rules for operations with negative numbers in 7th century CE	CG-9: Knows and appreciates the development of mathematical ideas over a period of time and the contributions of past and modern mathematicians	C-9.2: Knows and appreciates the contributions of specific Indian mathematicians, such as Baudhayana, Pingala, Aryabhata, Brahmagupta, Virahanka, Bhaskara, and Ramanujan	• Students represent and solve real-life problems involving integers (temperature, profit/loss, sea level); Students will explain Brahmagupta's contribution to the formalisation of operations with negative numbers.	
		Revision & Mixed Practice (all sub-topics 2.1–2.6)	**Day 7**		**True or False** Integers Teacher says statement; students answer true/false. Students verify rules.	Real-life anchoring: all four operations on integers are introduced through real-world contexts (temperature, finance, elevation, time zones)	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.3: Learns about the inclusion of zero and negative quantities as numbers, and the arithmetic operations on them, as given by Brahmagupta	• Students state and apply all integer operation rules and evaluate multi-step expressions using BODMAS.	
		CT: Extending the number line beyond zero to include negative numbers, abstracting direction (left/right) as sign (+/−)	**Day 8**		**Rapid Fire Integers** Teacher asks quick questions; students respond fast. Students improve speed.	Number line model: use a large floor number line for physical movement to model adding and subtracting integers	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students place integers correctly on a number line and compare their values.	

							CG-2: Develop spatial and visual reasoning			
		CT: Extending the multiplication table into negative numbers and discovering sign rules (positive × negative = negative, negative × negative = positive) from the pattern	**Day 9**		**Number Line Walk** Teacher shows number line; students imagine movement. Students understand direction.	Pattern discovery: build a multiplication table for integers extending into negatives and ask students to find the sign rules from the pattern	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students state and apply the rules for multiplication and division of integers involving positive and negative numbers.	
Ch.3	**Finding Common Ground**	3.1 The Greatest of All – Greatest Common Divisor (GCD/HCF) through the tiling problem	**(December) Day 1**	**(December)**	**Factor Friends** Teacher gives two numbers; students find common factors. Students identify HCF idea.	Problem-based learning: every new concept (HCF, LCM) is introduced through a concrete problem that creates the need for the concept	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation	• Students find the HCF of two or three numbers using at least two different methods (prime factorisation, Euclid's algorithm).	
		3.2 Methods to find HCF: listing factors, prime factorisation	**Day 2**		**Multiple Match** Teacher says multiples; students find common ones. Students understand LCM.	Multiple methods: HCF taught via factor listing, Venn diagram of prime factors, and Euclid's algorithm – students compare efficiency	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation	• Students find the HCF of two or three numbers using at least two different methods (prime factorisation, Euclid's algorithm).	
		3.2 Methods to find HCF: Euclid's division algorithm	**Day 3**		**Smallest Winner** Teacher gives numbers; students say smallest common multiple. Students practice LCM.	Euclid's algorithm: teach as a step-by-step procedure; discuss its ancient origin and elegance	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation	• Students explain Euclid's algorithm as a step-by-step procedure and trace it for given pairs of numbers	
		3.3 The Least Common Multiple (LCM): finding using multiples and prime factorisation	**Day 4**		**Yes-No Factors** Teacher asks yes/no; students respond. Students recall concepts.	Collaborative problem-solving: groups tackle real-life scheduling and measurement problems; each group uses a different method	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation	• Students find the LCM of two or three numbers and verify the HCF × LCM = product relationship	
		3.4 Relationship between HCF and LCM: HCF × LCM =	**Day 5**		**Mental Math Match** Teacher gives examples; students solve mentally. Students apply logic.	Technology integration (if available): use Desmos or GeoGebra to visualise common multiples on a number line	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation	• Students find the LCM of two or three numbers and verify the HCF × LCM = product	

		product of two numbers					numbers		relationship	
		3.5 Real-life applications: tiling, gear teeth, schedule synchronisation, sharing problems	**Day 6**		**Factor Race** Teacher says factors; students list quickly. Students strengthen basics.	Collaborative problem-solving: groups tackle real-life scheduling and measurement problems; each group uses a different method	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation	• Students identify which method (HCF or LCM) is appropriate for a given real-life problem and apply it correctly; Students will solve problems involving tiling, sharing, synchronisation, and measurement using HCF and LCM	
		Revision & Mixed Practice (all sub-topics 3.1–3.5)	**Day 7**		**Common Ground Hunt** Teacher compares numbers; students find common ground. Students analyse relations.	Multiple methods: HCF taught via factor listing, Venn diagram of prime factors, and Euclid's algorithm – students compare efficiency	CG-1: Understands numbers and sets of numbers, looks for patterns, and appreciates relationships between numbers	C-1.2: Discovers, identifies, and explores patterns in numbers and describes rules for their formation	• Students describe the connection between prime factorisation, HCF, and LCM using Venn diagrams	
		CT: Relationship between HCF and LCM: HCF × LCM = product of two numbers	**Day 8**		**Fast Factor Fire** Teacher asks rapid questions; students answer fast. Students gain confidence.	Problem-based learning: every new concept (HCF, LCM) is introduced through a concrete problem that creates the need for the concept	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students find the HCF of two or three numbers using at least two different methods (prime factorisation, Euclid's algorithm)	
		CT: Reviewing applications: tiling, gear teeth, schedule synchronisation, sharing problems	**Day 9**		**Smallest Winner** Teacher gives numbers; students say smallest common multiple. Students practice LCM.	Multiple methods: HCF taught via factor listing, Venn diagram of prime factors, and Euclid's algorithm – students compare efficiency	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students find the HCF of two or three numbers using at least two different methods (prime factorisation, Euclid's algorithm)	
Ch.4	**Another Peek Beyond the Point**	4.1 A Quick Recap of Decimals – place value, reading and	**(January) Day 1**	**(January)**	**Geometry Spotter** Teacher shows diagram; students identify lines and points. Students revise	Fraction bridge: always connect decimal multiplication to equivalent fraction multiplication to explain the algorithm	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students connect decimal operations to their fraction equivalents and explain why the	**ASSESSMENT AS LEARNING**

		comparing			geometry basics.		numbers), looks for patterns, and appreciates relationships between numbers		methods are consistent.	
		4.2 Multiplication of a decimal by a whole number	**Day 2**		**Air Shape Draw** Teacher names figure; students draw in air. Students visualize.	Estimation first: train students to estimate the answer before computing (e.g., $4.7 \times 2.3 \approx 5 \times 2 = 10$) to develop number sense	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students multiply a decimal number by a whole number and by another decimal correctly, explaining the placement of the decimal point.	
		4.3 Multiplication of a decimal by a decimal – using the fraction equivalence method	**Day 3**		**Yes-No Geometry** Teacher asks question; students answer yes/no. Students recall concepts.	Visual: grid-based area model for decimal multiplication (e.g., a 0.4×0.3 rectangle)	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students multiply a decimal number by a whole number and by another decimal correctly, explaining the placement of the decimal point.	
		4.4 Division of a decimal by a whole number	**Day 4**		**Ray or Segment Game** Teacher shows rays/segments; students identify. Students differentiate figures.	Contextual problem sets: all practice problems are drawn from science, commerce, and daily measurements	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.4: Explores and understands sets of numbers, such as whole numbers, fractions, integers, rational numbers, and real numbers, and their properties, and visualises them on the number line	• Students divide a decimal by a whole number and by a decimal using equivalent fraction conversion.	
		4.5 Division of a decimal by a decimal – converting to equivalent whole-number division	**Day 5**		**Follow the Draw** Teacher guides drawing; students follow. Students practice mentally.	Pattern discovery: multiply 12.5×10, $\times 100$, $\times 1000$ – observe and explain the pattern of the decimal point moving	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students divide a decimal by a whole number and by a decimal using equivalent fraction conversion; Students will identify the pattern in multiplying/dividing decimals by powers of 10 and apply it mentally.	
		4.6 Real-life contexts: unit pricing, currency conversion, measurements in science	**Day 6**		**Guess the Figure** Teacher describes figure; students guess. Students imagine shapes.	Contextual problem sets: all practice problems are drawn from science, commerce, and daily measurements	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real numbers), looks for patterns, and appreciates relationships between numbers	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students solve real-life problems requiring multiplication and division of decimals (pricing, measurement, medicine, science).	
		Revision & Mixed Practice (all sub-topics 4.1–4.6)	**Day 7**		**Example Connect** Teacher gives examples; students respond. Students connect ideas.	Estimation first: train students to estimate the answer before computing to develop number sense	CG-1: Understands numbers and sets of numbers (whole numbers, fractions, integers, rational numbers, and real	C-1.6: Explores and applies fractions (both as ratios and in decimal form) in daily-life situations	• Students use estimation to verify the reasonableness of decimal computation	

							numbers), looks for patterns, and appreciates relationships between numbers		results; Students will connect decimal operations to their fraction equivalents and explain why the methods are consistent.	
		CT : Reviewing the decimal place value pattern and connecting it to fractions with powers of 10 as denominators	**Day 8**		**Quick Geometry Quiz** Teacher asks quick quiz; students answer. Students revise quickly.	Fraction bridge: always connect decimal multiplication to equivalent fraction multiplication to explain the algorithm	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students connect decimal operations to their fraction equivalents and explain why the methods are consistent.	
		CT : Following a step-by-step algorithm to multiply a decimal by a whole number (multiply as integers, then count and place decimal point)	**Day 9**		**Ray or Segment Game** Teacher shows rays/segments; students identify. Students differentiate figures.	Estimation first: train students to estimate the answer before computing (e.g., $4.7 \times 2.3 \approx 5 \times 2 = 10$) to develop number sense	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students multiply a decimal number by a whole number and by another decimal correctly, explaining the placement of the decimal point.	
Ch.5	**Connecting the Dots…**	5.1 Of Questions and Statements – making and evaluating statistical claims	**(January) Day 1**	**(January)**	**Dot to Shape** Teacher shows dots; students imagine joining them. Students visualize shapes.	Data collection projects: students collect real data (shoe sizes, favourite subject, height) and go through the entire statistical cycle	CG-5: Collects, organises, represents (graphically and in tables), and interprets data/information from daily-life experiences	C-5.1: Collects, organises, and interprets the data using measures of central tendencies such as average/mean, mode, and median	• Students collect, tally, and organise raw data into a frequency distribution table.	
		5.2 Types of data: raw data, grouped data, tally marks, frequency tables	**Day 2**		**Pattern Predictor** Teacher gives dot pattern; students predict shape. Students analyse patterns.	Data collection projects: students collect real data and go through the entire statistical cycle	CG-5: Collects, organises, represents (graphically and in tables), and interprets data/information from daily-life experiences	C-5.1: Collects, organises, and interprets the data using measures of central tendencies such as average/mean, mode, and median	• Students collect, tally, and organise raw data into a frequency distribution table.	
		5.3 Measures of central tendency: mean (average), median, and mode	**Day 3**		**Connect Logic Game** Teacher asks how to connect; students answer. Students think logically.	Statistical reasoning: use mean, median, mode to make predictions and decisions (e.g., What salary should we expect?)	CG-5: Collects, organises, represents (graphically and in tables), and interprets data/information from daily-life experiences	C-5.1: Collects, organises, and interprets the data using measures of central tendencies such as average/mean, mode, and median	• Students calculate mean, median, and mode for a given data set and explain which measure is most appropriate in a	

									given context.	
		5.4 Bar graphs and double bar graphs – drawing and interpreting	**Day 4**		**Grid Shape Hunt** Teacher shows grid; students identify shapes. Students explore geometry.	Collaborative graphing: groups draw different representations of the same data set; class compares and evaluates each	CG-5: Collects, organises, represents (graphically and in tables), and interprets data/information from daily-life experiences	C-5.2: Selects, creates, and uses appropriate graphical representations (e.g., pictographs, bar graphs, histograms, line graphs, and pie charts) of data to make interpretations	• Students draw accurate bar graphs and double bar graphs with correct scale, labels, and titles.	
		5.5 Pie charts – reading and interpreting; understanding percentages in charts	**Day 5**		**Idea Connector** Teacher gives example; students respond. Students connect ideas.	Collaborative graphing: groups draw different representations of the same data set; class compares and evaluates each	CG-5: Collects, organises, represents (graphically and in tables), and interprets data/information from daily-life experiences	C-5.2: Selects, creates, and uses appropriate graphical representations (e.g., pictographs, bar graphs, histograms, line graphs, and pie charts) of data to make interpretations	• Students read and interpret pie charts, converting sectors to percentages and actual values.	
		5.6 Misleading graphs and statistics – developing critical thinking about data	**Day 6**		**Quick Think Dots** Teacher asks question; students answer. Students improve thinking.	Critical literacy: analyse real newspaper graphs for misleading visual choices; students redesign to be honest	CG-5: Collects, organises, represents (graphically and in tables), and interprets data/information from daily-life experiences	C-5.2: Selects, creates, and uses appropriate graphical representations (e.g., pictographs, bar graphs, histograms, line graphs, and pie charts) of data to make interpretations	• Students identify misleading features in incorrectly drawn or scaled graphs and redesign them correctly; Students will use data and its representations to make evidence-based statements and predictions.	
		CT: Breaking the data collection process into steps (formulate question → collect → tally → organise → interpret)	**Day 7**		**Shape Guess Game** Teacher describes connection; students guess shape. Students imagine structures.	Data collection projects: students collect real data (shoe sizes, favourite subject, height) and go through the entire statistical cycle	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students collect, tally, and organise raw data into a frequency distribution table.	
		CT: Organising raw data into tally marks and frequency tables as structured representations that make patterns visible	**Day 8**		**Mind Picture Maker** Teacher shows dots; students form mental picture. Students build spatial skills.	Data collection projects: students collect real data and go through the entire statistical cycle	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students collect, tally, and organise raw data into a frequency distribution table.	

							CT & AI CG-2: Develop spatial and visual reasoning			
Ch.6	**Constructions and Tiling's**	6.1 Geometric Constructions: constructing the 'Eyes' shape; perpendicular bisector of a segment	**(February)** **Day 1**	**(February)**	**Pattern Detective** Teacher shows pattern; students identify repetition. Students understand tiling.	Step-by-step construction: teacher demonstrates each construction step-by-step on the board; students replicate simultaneously in their notebooks	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes	C-3.4: Draws and constructs geometric shapes, such as lines, parallel lines, perpendicular lines, angles, and simple triangles, with specified properties using a compass and straightedge	• Students accurately construct a perpendicular bisector of a given line segment using compass and ruler and verify by measurement.	
		6.2 Angle bisector construction using compass and straightedge	**Day 2**		**Shape Talk Time** Teacher asks about shapes; students answer. Students recognize patterns.	Justification-based learning: after each construction, students explain why each step is mathematically valid	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes	C-3.4: Draws and constructs geometric shapes, such as lines, parallel lines, perpendicular lines, angles, and simple triangles, with specified properties using a compass and straightedge	• Students construct the bisector of a given angle and verify it by measuring both halves.	
		6.3 Constructing perpendicular from a point on and outside a line	**Day 3**		**Design Decoder** Teacher shows design; students describe it. Students observe details.	Error correction: present constructions with intentional errors; students identify where and why the method went wrong	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes	C-3.4: Draws and constructs geometric shapes, such as lines, parallel lines, perpendicular lines, angles, and simple triangles, with specified properties using a compass and straightedge	• Students construct a perpendicular from an external point to a line.	
		6.4 Constructing parallel lines using angle properties of transversals	**Day 4**		**Tile or Not** Teacher gives example; students say if it tiles. Students analyse coverage.	Art integration: connect geometric constructions to Indian art (rangoli, Islamic tiling, Mughal architecture) to make constructions culturally meaningful	CG-3: Understands, formulates, and applies properties and theorems regarding simple geometric shapes	C-3.4: Draws and constructs geometric shapes, such as lines, parallel lines, perpendicular lines, angles, and simple triangles, with specified properties using a compass and straightedge	• Students construct a pair of parallel lines using properties of corresponding or co-interior angles.	
		6.5 Introduction to tiling's (tessellations): which shapes tile the plane and why	**Day 5**		**Recall & Respond** Teacher asks question; students respond. Students recall concepts.	Creative project: students design their own tiling pattern using 2–3 geometric shapes, colour it, and present it with geometric justification	CG-4: Develops understanding of perimeter and area for 2D shapes	C-4.3: Constructs various designs (using tiling) on a plane surface using different 2D shapes and appreciates their appearances in art in India and around the world	• Students identify which regular polygons tessellate and explain mathematically why (interior angle criterion).	
		6.6 Tiling patterns in Indian art, architecture, and rangoli; fractal awareness	**Day 6**		**Fit the Shape** Teacher shows shapes; students imagine fitting. Students build spatial sense.	Art integration: connect geometric constructions to Indian art (rangoli, Islamic tiling, Mughal architecture) to make constructions culturally meaningful	CG-10: Knows about and appreciates the interaction of mathematics with each of their other school subjects	C-10.1: Recognises interaction of Mathematics with multiple subjects across Science, Social Science, Visual Arts, Music, Vocational Education and Sports	• Students design and draw an original tiling pattern and justify its geometric properties.	
		CT: Following a precise step-	**Day 7**		**Guess the Tile** Teacher describes	Step-by-step construction: teacher demonstrates each	CG-8: Develops basic skills and capacities of	C-8.1: Approaches problems using	• Students accurately construct a	

		by-step construction algorithm (set compass → draw arcs from both ends → join intersections) to construct a perpendicular bisector			tiling; students guess shape. Students visualize.	construction step-by-step on the board; students replicate simultaneously in their notebooks	computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	perpendicular bisector of a given line segment using compass and ruler and verify by measurement.	
		CT: Following the angle bisector construction algorithm and justifying each step using properties of congruent triangles formed by the arcs	**Day 8**		**Rapid Tile Quiz** Teacher asks rapid questions; students answer. Students revise quickly.	Justification-based learning: after each construction, students explain why each step is mathematically valid	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students construct the bisector of a given angle and verify it by measuring both halves.	**ASSESSMENT AS LEARNING**
Ch.7	**Finding the Unknown**	7.1 Find the Unknowns – weighing scale puzzles leading to the idea of an equation	**(February) Day 1**	**(February)**	**Missing Number Magic** Teacher gives equation; students find missing value. Students solve unknowns.	Balance model: use physical or drawn balance scales to make the concept of 'keeping both sides equal' intuitive before formal algebra	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.4: Poses and solves linear equations to find the value of an unknown, including to solve puzzles and word problems	• Students write a linear equation in one variable to represent a given real-life situation or puzzle	**ASSESSMENT FOR LEARNING**
		7.2 Writing an equation from a word problem or a puzzle; 7.3 Solving one-variable linear equations: balancing method	**Day 2**		**Check the Equation** Teacher assigns value; students verify equation. Students check correctness.	Gradual release: model the full process (read → define variable → write equation → solve → verify) then guide students, then have them work independently	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.4: Poses and solves linear equations to find the value of an unknown, including to solve puzzles and word problems	• Students write a linear equation in one variable to represent a given real-life situation or puzzle; Students will solve one-variable linear equations using the balancing method, showing every step clearly.	
		7.4 Equations with variables on both sides	**Day 3**		**True or False Algebra** Teacher asks true/false; students answer. Students build logic.	Categorised word problem practice: separate problems by type (age, money, consecutive numbers) then mix for challenge	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.5: Develops own methods to solve puzzles and problems using algebraic thinking	• Students solve equations where the variable appears on both sides.	

		7.5 Word problems: age, number, money, measurement – setting up and solving equations	**Day 4**		**Solve It Fast** Teacher gives expression; students solve mentally. Students practice algebra.	Categorised word problem practice: separate problems by type (age, money, consecutive numbers) then mix for challenge	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.4: Poses and solves linear equations to find the value of an unknown, including to solve puzzles and word problems	• Students classify and solve word problems of various types (age, money, measurement, number) using equations	
		7.6 Verifying solutions by substituting back into the original equation; Revision & Puzzle-based Extension	**Day 5**		**Change & Solve** Teacher changes value; students solve again. Students observe changes.	Verification culture: insist that students always substitute their answer back into the original equation; this builds self-correction habits; Puzzle-based extension: 'magic number' puzzles and logic puzzles that require setting up and solving equations	CG-2: Understands the concepts of variable, constant, coefficient, expression, and (one-variable) equation, and uses these concepts to solve meaningful daily-life problems with procedural fluency	C-2.1: Understands equality between numerical expressions and learns to check arithmetical equations; C-2.5: Develops own methods to solve puzzles and problems using algebraic thinking	• Students verify their solution by substituting it into the original equation and confirming the equality; Students will create their own word problem or mathematical puzzle that leads to a linear equation and provide a complete solution.	
		CT: Translating a physical balance scale situation into a symbolic equation, replacing the unknown quantity with a variable	**Day 6**		**Quick Answer X** Teacher asks quick question; students respond. Students improve speed.	Balance model: use physical or drawn balance scales to make the concept of 'keeping both sides equal' intuitive before formal algebra	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.1: Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps	• Students write a linear equation in one variable to represent a given real-life situation or puzzle.	
		CT: Following the balancing method algorithm (perform the same operation on both sides) to systematically isolate the variable	**Day 7**		**Puzzle Solver Game** Teacher gives puzzle; students think and answer. Students enjoy problem-solving.	Gradual release: model the full process (read → define variable → write equation → solve → verify) then guide students, then have them work independently	CG-8: Develops basic skills and capacities of computational thinking, namely decomposition, pattern recognition, data representation, generalisation, abstraction, and algorithms in order to solve problems where such techniques of computational thinking are effective CT & AI CG-2: Develop spatial and visual reasoning	C-8.2: Learns systematic counting and listing, systematic reasoning about counts and iterative patterns, and multiple data representations; learns to devise and follow algorithms	• Students write a linear equation in one variable to represent a given real-life situation or puzzle; Students will solve one-variable linear equations using the balancing method, showing every step clearly.	**ASSESSMENT OF LEARNING**