***Maths My Way* 4th Class Yearly Plan**

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|  | **Strand and Strand Unit** | **Unit** | **Learning Outcomes** | **Mathematical Language** | **Focus of New Learning** |
| September | All | 1. Let’s Get Started
 | Revision | Revision | Revision |
| **Number**: Place Value and Base Ten | 1. Place Value
 | Explore equivalent numerical expressions of numbers using the base ten system. | place value, ones, tens, hundreds, thousands, part-whole model, smallest, greatest, smaller, greater, rounding | 1. Identify and describe place value in 4-digit whole numbers up to at least 9,999.
 |
| 1. Partition and regroup 4-digit whole numbers in more than one way.
 |
| 1. Compare and order whole numbers up to 9,999.
 |
| 1. Round numbers to the nearest 10, 100 or 1,000.
 |
| **Algebra**:Patterns, Rules and Relationships | 1. Patterns
 | Identify rules that describe the structure of a pattern and use these rules to make predictions. Represent the relationships between quantities. | pattern, rule, predict, growing, shrinking, distributive, associative, geometric, systematic, factor, factor pair, rule, sequence, product | 1. Use a systematic approach to identify the factors of a number.
 |
| 1. Investigate the associative property of multiplication.
 |
| 1. Use the distributive property to solve problems.
 |
| 1. Represent and record structures and rules of patterns in a variety of ways.
 |
| **Number**:Sets and Operations | 1. Addition
 | Understand and apply flexibly the four operations; and the relationships between operations. | addition sentence, calculator, estimate, round, add, total, sum, column addition, check | 1. Begin to use a calculator, estimating to check if answers are reasonable.
 |
| 1. Estimate totals and use mental methods and calculators to check.
 |
| 1. Choose efficient methods to add within 9,999, including written (no renaming).
 |
| 1. Choose efficient methods to add within 9,999, including written (renaming).
 |
| October | **Number**:Sets and Operations | 1. Subtraction
 | Understand and apply flexibly the four operations; and the relationships between operations. | subtract, difference, subtraction sentence, column subtraction, left over, rename | 1. Estimate differences and use calculators to check reasonableness of estimates.
 |
| 1. Choose efficient methods to subtract within 9,999, without renaming.
 |
| 1. Choose efficient methods to subtract within 9,999 with renaming.
 |
| 1. Solve problems with more than 1 step, involving addition and subtraction.
 |
| **Measures**:Time | 1. Time 1
 | Compare, approximate and measure time using appropriate units of measurement.Identify the relationship between different units and representations of time. | o'clock, minute, hour, past, to, quarter, digital, analogue, timetable, earlier, later, before, after, 24-hour clock, 12-hour clock | 1. Read and record time in 1-minute intervals on analogue and digital clocks.
 |
| 1. Explore the relationship between 12-hour and 24-hour times on digital clocks.
 |
| 1. Explore relationships between 12-hour and 24-hour times on analogue and digital clocks.
 |
| 1. Approximate durations of events.
 |
| **Number**:Fractions | 1. Fractions 1
 | Compare and express in equivalent terms; and order fractions. | half, quarter, third, sixth, twelfth, whole, fraction, number sentence, improper fraction, mixed number, equivalence, fraction family | 1. Explore fractions of a whole and equivalences, incl. thirds, sixths, twelfths.
 |
| 1. Identify and represent equivalence in fraction families.
 |
| 1. Compare and order unit and non-unit fractions with different denominators.
 |
| 1. Compare equivalent improper fractions and mixed numbers.
 |
| **Shape and Space**:Shape | 1. 2D Shapes
 | Investigate and analyse the properties of 3-D and 2-D shapes and identify classes of shapes based on these properties. Represent shapes with drawings and models, and calculate dimensions of shapes. | polygon, 2D, side, vertex (vertices), triangle, quadrilateral, regular, irregular, property, parallel, angle, right angle, acute, obtuse, reflex, isosceles, equilateral, scalene, tangram | 1. Estimate angles and use appropriate measuring devices to compare them.
 |
| 1. Compare and classify triangles, based on their properties.
 |
| 1. Compare and classify quadrilaterals, based on their properties.
 |
| 1. Visualise and make conjectures about the possible effects of manipulating shapes.
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| **Autumn Assessment** |

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|  | **Strand and Strand Unit** | **Unit** | **Learning Outcomes** | **Mathematical Language** | **Focus of New Learning** |
| November | **Number**:Sets and Operations | 1. Multiplication and Division Facts
 | Understand and apply flexibly the four operations; and the relationships between operations. | group, set, repeated addition, multiplication sentence, times table, double, array, partition, fact family table, product | 1. Use known multiplication facts to calculate unknown multiplication facts.
 |
| 1. Make connections between related multiplication tables.
 |
| 1. Link multiplication and division facts.
 |
| 1. Find related multiplication and division facts and use them to solve problems.
 |
| **Measures**:Measuring | 1. Length
 | Compare, estimate and measure length, weight, capacity, area and volume using appropriate instruments and record and communicate appropriately.Identify the relationship between equivalent units of measurement, and rename measures using equivalent units. | length, measure, estimate, millimetre, centimetre, metre, measuring wheel, metre stick, ruler, regular, taller, high, higher, long, longer, longest, convert, perimeter, polygon | 1. Explore the relationship between centimetres and millimetres.
 |
| 1. Estimate, measure, compare and order lengths.
 |
| 1. Add and subtract lengths.
 |
| 1. Estimate and measure perimeters of polygons.
 |
| **Number**:Sets and Operations | 1. Division 1
 | Understand and apply flexibly the four operations; and the relationships between operations. | share, split, equally, group, division sentence, multiplication sentence, number problem, remainder, divisible, multiple, odd, even | 1. Recognise divisibility for multiples of 2 and 4.
 |
| 1. Recognise divisibility for multiples of 5, 10, 3, 6 and 9.
 |
| 1. Use different methods and reason to solve division problems incl. remainders.
 |
| 1. Use divisibility rules and multiples to divide partitioned numbers.
 |
| **Measures**:Measuring | 1. Area
 | Compare, estimate and measure length, weight, capacity, area and volume using appropriate instruments and record and communicate appropriately. | area, space, tangram, square metre, square centimetre, estimate, measure, rectangle, square, calculate, sequence, centimetre-squared paper | 1. Understand area as the amount of space covered.
 |
| 1. Compare and order areas using standard and non-standard units.
 |
| 1. Measure the area of shapes on a centimetre-squared grid.
 |
| 1. Find the area of squares and rectangles.
 |
| December | **Number**:Sets and Operations | 1. Multiplication 1
 | Understand and apply flexibly the four operations; and the relationships between operations. | set, group, addition sentence, multiplication sentence, greater than, less than, equal to, times table, array, partition | 1. Use partitioning to simplify 2-digit by 1-digit multiplications.
 |
| 1. Make connections between 2-digit by 1-digit and 3-digit by 1-digit multiplication.
 |
| 1. Use an expanded written method for 2- and 3-digit by 1-digit multiplication.
 |
| 1. Use a compact written method for 2- and 3-digit by 1-digit multiplication.
 |
| **Data and Chance**:Data | 1. Data
 | Pose questions of interest and collect, display and critically analyse data in a range of ways for a range of purposes and communicate the findings. | question, relevant, survey, collect, tally, record, data, multiple bar chart, tally chart, similarity, difference, represent, scale, key, median, mode, range, statement, analyse, conclusion | 1. Identify and pose appropriate questions to gather data.
 |
| 1. Collect data to answer a question.
 |
| 1. Display data in a multiple bar chart.
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| 1. Analyse and draw conclusions from collected data, exploring the mode, range and median of the data.
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| **Winter Assessment** |

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| January | **Number**:Sets and Operations | 1. Multiplication 2
 | Understand and apply flexibly the four operations; and the relationships between operations. | set, group, addition sentence, multiplication sentence, product, partial product, times table, array, partition, grid method, expanded written method, multiples | 1. Multiply with multiples of 10.
 |
| 1. Use arrays and calculate partial products to complete 2-digit × 2-digit multiplications.
 |
| 1. Calculate partial products to complete 2-digit × 2-digit multiplications.
 |
| 1. Use expanded written methods to complete 2-digit × 2-digit multiplication.
 |
| **Measures**:Time | 1. Time 2
 | Compare, approximate and measure time using appropriate units of measurement.Identify the relationship between different units and representations of time. | o'clock, minute, hour, past, to, quarter, digital, analogue, timetable, earlier, later, before, after, 24-hour clock, 12-hour clock, quickest, slowest, duration | 1. Solve problems involving the addition of units of time.
 |
| 1. Solve problems involving the subtraction of units of time.
 |
| 1. Solve problems involving time durations.
 |
| 1. Solve problems involving adding and subtracting units of time and calculating time durations.
 |
| **Number**:Sets and Operations | 1. Multiplication 3
 | Understand and apply flexibly the four operations; and the relationships between operations. | set, group, multiplication sentence, product, partial product, times table, estimate, partition, grid method, expanded written method, compact written method, multiples | 1. Use a compact written method for 2-digit × 2-digit multiplication.
 |
| 1. Use expanded written methods for 3-digit × 2-digit multiplication.
 |
| 1. Use a compact written method for 3-digit × 2-digit multiplication.
 |
| 1. Choose methods to use for multiplication.
 |
| **Data and Chance**:Chance | 1. Chance
 | Describe and test predictability and (un)certainty in events. | likely, unlikely, even, probability, chance, likelihood, certain, possible, impossible, predict, fair, unfair, event, equal, outcomes, predicted outcomes, actual outcomes, least, most | 1. Use mathematical language to describe the likelihood of events.
 |
| 1. Rank possible events in order of their likelihood.
 |
| 1. Conduct a dice investigation (predict likelihood, then test, and compare results).
 |
| 1. Compare experimental values with theoretical values of an investigation.
 |
| February | **Shape and Space**:Shape | 1. 3D Shapes
 | Investigate and analyse the properties of 3-D and 2-D shapes and identify classes of shapes based on these properties.Represent shapes with drawings and models, and calculate dimensions of shapes. | polyhedron, 3D, cone, cube, pyramid, cylinder, cuboid, sphere, 2D, polygon, face, edge, vertices (vertex), square-based, pentagon-based, hexagon-based, triangle-based, prism, net, curved surface, octahedron | 1. Sort and classify shapes according to multiple properties and rules.
 |
| 1. Represent logical classification of shapes on suitable diagrams or tables.
 |
| 1. Devise nets for simple 3D shapes.
 |
| 1. Construct and de-construct 3D shapes from net designs.
 |
| **Number**:Sets and Operations | 1. Division 2
 | Understand and apply flexibly the four operations; and the relationships between operations. | share, split, equally, group, division sentence, multiplication sentence, number problem, remainder, divisible, multiple, odd, even, short division | 1. Divide using short division, including one exchange and remainders.
 |
| 1. Divide using short division, including more than one exchange and remainders.
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| 1. Complete calculations using short division and represent them pictorially.
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| 1. Solve problems involving division.
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| March | **Number**:Fractions | 1. Fractions 2
 | Compare and express in equivalent terms; and order fractions.Calculate the fraction of quantities and express in multiple ways. | half, third, quarter, fifth, sixth, eighth, ninth, tenth, twelfth, whole, fraction, unit fraction, non-unit fraction, improper fraction, mixed number, equivalence, fraction family, bar model | 1. Represent and calculate fractions of quantities for non-unit fractions.
 |
| 1. Given the unit fraction of a whole, calculate the whole.
 |
| 1. Add and subtract fractions with the same denominators.
 |
| 1. Add and subtract fractions with unlike denominators.
 |
| **Measures**:Measuring | 1. Capacity
 | Compare, estimate and measure length, weight, capacity, area and volume using appropriate instruments and record and communicate appropriately. | capacity, volume, estimate, litre, millilitre, mixed number, smaller/greater, smallest/greatest, scale, interval, accurate, difference, tenth, quarter, fifth, hundredth | 1. Understand the relationship between capacity and volume of liquids.
 |
| 1. Convert between litres and millilitres.
 |
| 1. Estimate, measure, compare and order capacities/volumes.
 |
| 1. Solve capacity and volume problems.
 |
| **Number**:Place Value and Base Ten | 1. Decimals
 | Explore equivalent numerical expressions of numbers using the base ten system. | 100-grid, fraction, decimal, decimal number, place value, digit, part, whole, tenths, hundredths | 1. Make connections between fractional and decimal hundredths.
 |
| 1. Express known fractions as decimals, e.g. $\frac{25}{100}$ = 0.25 =$\frac{1}{4}$.
 |
| 1. Understand that decimal numbers can be represented in different ways.
 |
| 1. Round numbers with one decimal place to the nearest whole number.
 |
| **Algebra**:Expressions and Equations | 1. Expressions and Equations
 | Represent and express problems with known and unknown values in different ways to include the use of appropriate letter-symbols or words. | multiply, divide, expression, express, equation, unknown, phrase, symbol, values, substitute, product, pattern, greater, smaller, possible, rule, sequence, term | 1. Generate tables and word and symbolic expressions for the structure of patterns.
 |
| 1. Substitute values for variables and investigate the impact on results or outputs.
 |
| 1. Apply multiplication and division properties to find an unknown value.
 |
| 1. Generate a pattern in shapes from a function.
 |
| **Spring Assessment** |
| April | **Number**:Sets and Operations | 1. Add and Subtract with Decimals
 | Understand and apply flexibly the four operations; and the relationships between operations. | decimal, decimal number, tenth, hundredth, whole, addition sentence, inverse, fact family, column method, total, difference, estimate, reasonable | 1. Add pairs of hundredths that total 1 and subtract hundredths from 1.
 |
| 1. Add hundredths within 1 and subtract hundredths from a number less than 1.
 |
| 1. Add decimal numbers to two decimal places with whole amounts greater than 1.
 |
| 1. Find the difference between pairs of number with 2 decimal places.
 |
| **Shape and Space**:Transformation | 1. Transformation
 | Model and explain the effects of transformations on shapes and line segments. | transform, transformation, reflect, reflection, rotate, rotation, translate, translation, clockwise, anticlockwise, horizontal, vertical, mirror line, rotational symmetry, order of rotational symmetry, degree of rotational symmetry, pentomino, tessellate, tangram | 1. Interpret and follow simple instructions to transform shapes.
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| 1. Explore rotational symmetry, identifying the order and angle of rotation.
 |
| 1. Explore tessellation using one or more geometric shapes.
 |
| 1. Manipulate shapes to solve tangram problems.
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|  | **Strand and Strand Unit** | **Unit** | **Learning Outcomes** | **Mathematical Language** | **Focus of New Learning** |
| May | **Measures**:Money | 1. Money 1
 | Transfer knowledge of the base ten system in number to monetary contexts and use for purposes of calculation. | estimate, actual, calculate, value, total value, cost, amount, change, spend, euro, cent, price, note, coin, save, altogether, smallest, largest, combination, offer, discount | 1. Combine coins and notes to make given amounts.
 |
| 1. Estimate and calculate a monetary total.
 |
| 1. Estimate, then solve problems involving addition and subtraction.
 |
| 1. Explore addition and subtraction within a problem-solving context, with a focus on better value.
 |
| **Number**:Sets and Operations | 1. Multiply and Divide with Decimals
 | Understand and apply flexibly the four operations; and the relationships between operations. | decimal, decimal number, decimal point, tenth, hundredth, multiply, divide, inverse, related calculation, written method, estimate, partition | 1. Use known facts and understanding of place value to multiply decimal numbers.
 |
| 1. Divide decimal numbers by a 1-digit number using known facts.
 |
| 1. Multiply decimal numbers using partitioning and a written method.
 |
| 1. Divide decimal numbers using base ten blocks and a written method.
 |
| **Shape and Space**:Spatial Awareness and Location | 1. Spatial Awareness and Location
 | Describe, interpret and record directional instructions and location.Compare and classify angles, recognising them as a property of a shape and as a description of a turn. | angle, acute, obtuse, reflex, degrees, estimate, angle measurer, protractor, greatest, smallest, cardinal directions, north, north-east, east, south-east, south, south-west, west, north-west, compass, approximately, kilometres, distance, grid reference, scaled map | 1. Identify and classify angles as acute, obtuse or reflex.
 |
| 1. Use a protractor to test estimations; to compare and order angles.
 |
| 1. Interpret scale and cardinal directions to discuss location and give directions.
 |
| 1. Create scale drawings where the relative size and position of key elements are reasonably precise.
 |
| **Measures**:Money | 1. Money 2
 | Transfer knowledge of the base ten system in number to monetary contexts and use for purposes of calculation. | estimate, actual, multiply, divide, share evenly, calculate, value, amount, change, euro, cent, note, coin, altogether, sale, fair, earn, minimum, better/best/least value, unit price | 1. Solve and complete practical money problems and tasks involving multiplication.
 |
| 1. Solve and complete practical money problems and tasks involving division.
 |
| 1. Compare the value of items by calculating their unit price.
 |
| 1. Solve and complete practical problems involving money.
 |
| June | **Measures**:Measuring | 1. Weight
 | Compare, estimate and measure length, weight, capacity, area and volume using appropriate instruments and record and communicate appropriately.Identify the relationship between equivalent units of measurement, and rename measures using equivalent units. | weigh, weight, estimate, kilogram (kg), gram (g), metric unit, lighter/heavier, lightest/heaviest, mechanical scale, digital scale, interval, accurate, double number line, mixed number, maximum, total | 1. Estimate and measure weights in grams and kilograms.
 |
| 1. Convert between kilograms and grams.
 |
| 1. Estimate, compare and order weights.
 |
| 1. Solve weight problems.
 |
| All | 1. Let’s Look Back
 | Revision | Revision | Revision |
| **Summer Assessment** |