**Barlows Primary School Mathematics Long Term Plan** (Nursery – Year 6)

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| **Nursery** | | |
| **Autumn 1** | **Spring 1** | **Summer 1** |
| * Uses some number names and number language spontaneously * Uses some number names accurately in play * To recite some number names in sequence from 0-10 * Knows that numbers identify how many objects are in a set. * Understands some talk about immediate past and future e.g. before, later or soon. * Anticipates specific time-based events such as mealtimes or home time * Shows an interest in shape and space by playing with shapes or making arrangements with objects * Shows awareness of similarities of shapes in the environment. | * To know numbers identify how many objects are in a set. * To compare different groups of objects, saying when they have the same number. * To complete number problems when finding the number before and after a given numeral. * To show an interest in numerals in the environment. * To measure different lengths saying which is the longest and shortest. * To make comparisons between quantities and comparing different weights, saying which is the heaviest/lightest. * To use measuring equipment to measure ingredients. | * To count up to three or four objects by saying one number name for each item. * To recognise numerals 1 to 5 * To estimate how many objects and check by counting. * To count up to six objects from a larger group. * To use the language of “more” and “fewer” to compare two sets of objects. * To find the total number of items in two groups by counting all of them. * To order two items by weight or capacity. * To order and sequence familiar events. * To use shapes to recreate patterns and build models. |
| **Autumn 2** | **Spring 2** | **Summer 2** |
| * To be able to select a small number of objects from a group * To recite some number names in sequence from 0. * To begin to create with symbols representing ideas of number. * To make comparisons between   Quantities   * Comparing different weights, saying which is the heaviest/lightest | * To show an interest in representing numerals in the environment. * To count up to three or four objects by saying one number name for each item. * To count objects to 10, and beginning to count beyond. * To count out up to six objects from a larger group. To select the correct numeral to represent objects 1-10. * To estimate how many objects and check by counting. * To match numeral and quantity together correctly. * To complete number problems when finding the number before and after a given numeral. | * To find the total number of items in two groups by counting all of them. * To begin to use the vocabulary involved in adding and subtracting. * To begin to use everyday language related to money. * To estimate how many objects and check by counting. * To use the language of “more” and “fewer” to compare two sets of objects. * To find the total number of items in two groups by counting all of them. |

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| **Reception** | | |
| **Autumn 1** | **Spring 1** | **Summer 1** |
| * Recognises numbers for personal significance. * To recognise numerals 1-5 * Count actions and objects that can’t be moved. * Count objects to 10 and then beyond. * Select the correct numeral to represent 1-5 and then 1-10 * To count an irregular arrangement of objects to 10 reliably * To put numbers 1-10 then 1-20 in order. * To use the language of more and fewer to compare two sets of objects. * To use familiar objects and common shapes to create a pattern and build models. * To select a particular named shape. | * To be able to say the number one more or one less than a given number to 20. * To understand the process of subtraction and the language related to it. * To count reliably from 1-20 * To order numbers 1-20. * To use everyday language related to money. * To order items by weight or capacity. * To use everyday language related to time. * To order and sequence familiar events. * Decomposition of numbers 2,3,4,5. | * To be able to say the number one more or one less than a given number to 20. * To count reliably from 1-20 * To put numbers 1-20 in order. * Using practical materials to understand place value for 0-20. * In practical activities children add and subtract two single-digit numbers and count on or back to find the answer. * To count in 2s and 10s * To solve problems that involves combining sets of 2s, 5s, and 10s. * To solve problems that involves sharing. * To estimate groups of objects. |
| **Autumn 2** | **Spring 2** | **Summer 2** |
| * To be able to say the number one more or one less than a given number to 10. * To count reliably from 1-20 * To put numbers 1-20 in order. * To add two groups to find a total. * To begin to record calculations. * To order items by length or size. * To use mathematical names to talk about 2d and 3d shapes. * To use positional language and ordinal numbers | * To be able to say the number one more or one less than a given number to 20. * To count reliably from 1-20 * To put numbers 1-20 in order. * Using practical materials to understand place value for 0-20. * In practical activities children add and subtract two single-digit numbers and count on or back to find the answer. * To recognise, create and describe patterns. * To use mathematical names for 3D shapes. * To use mathematical names for 2D shapes. * To begin to double and find half of quantities. * To use everyday language related to time. | * Using practical materials to understand place value for 0-20. * In practical activities children add and subtract two single-digit numbers and count on or back to find the answer. * To know doubles to 10. * To count in 2s, 5s and 10s. * To use everyday language related to money. * To find half of a shape. * To double and find half of quantities. * To use mathematical names for 2D and 3D shapes. * Use mathematical language to talk about properties of 2D and 3D shapes. * To use everyday language to describe position. * To order and sequence familiar events. |

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| **Year 1** | | |
| **Autumn 1** | **Spring 1** | **Summer 1** |
| * Comparisons: ordering * Comparisons of sets * Number pictures * Identifying, writing and using 0 and 1. * Identifying writing and using 2 * Comparisons: balancing equations | * Revision and practice of numbers 0-8 * Writing and using 9: number line, number bonds, practice (<,>, +, -. =) * Writing and using 10: number line, number bonds, practice (<,>, +, -. =) * Revision and practice of numbers 0-10 * Recognise and distinguish shapes: circle, triangle, square * Calendar: days, weeks, months, seasons | * Number bonds and sums to 15 * Revision and practice * Number bonds and sums to 16 and 17 * Number bonds and sums to 18 and 19 * Number bonds and sums to 20 |
| **Autumn 2** | **Spring 2** | **Summer 2** |
| * Writing and using 3: number line, practice (<,>, +, -. =) * Writing and using 4: number line, number bonds, practice (<,>, +, -. =) * Writing and using 5: number line, number bonds, practice (<,>, +, -. =) * Writing and using 6: number line, number bonds, practice (<,>, +, -. =) * Writing and using 7: number line, number bonds, practice (<,>, +, -. =) * Writing and using 8: number line, number bonds, practice (<,>, +, -. =) | * Revision and practice * Extending the number lines 0 -20, operations without crossing 10. * Number bonds and sums to 11 * Number bonds and sums to 12 * Number bonds and sums to 13 * Number bonds and sums to 14 | * Measurement up to 20cm * Shapes and reflections * Time: hours, days, months * Ordering sets * Number Sequences * Tables * Revision and practice |

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| **Year 2** | | |
| **Autumn 1** | **Spring 1** | **Summer 1** |
| * Revision, numbers to 20. * Addition and subtraction * Addition and subtraction in context * Measurement: length, capacity, mass. * Plane shapes * Addition with equal numbers, preparation for multiplication and division. * Extending number line to 100. Writing and reading numbers on the number line. * Ordering: money. | * Measurement: estimation and units up to 1m (100cm) * Geometry: rectangle, square * Capacity: litres and centilitres * Mass: estimation, comparison * Revision and practice * Multiplication and division in context (2, 5 and 10) * Multiplication tables: 10, 2 and 5. | * Multiplication and division table for 9. * Operations in context * Multiplication and division for 7 and 8. * Fractions: half, quarter, three quarters * Division with remainders in context. * Revision and practice. |
| **Autumn 2** | **Spring 2** | **Summer 2** |
| * Number sequences: adding and subtracting in 10s and 5s. * Counting by 10, 5, 2: addition with 10s. * Ordering 2-digit numbers: creating 2 digit numbers from 3 or 4 digits. * Addition/subtraction with whole tens, and 1-digit numbers to whole tens. * Addition/subtraction of 1-digit (and 2-digit) to 2-digit numbers without tens crossing. * Addition/subtraction of 1-digit (and 2-digit) to 2-digit numbers with tens crossing. * Revision and practice: numbers 0-100, addition/subtraction of 2-digit numbers. | * Multiplication and division table for 3 * Revision and practice * Multiplication and division table for 4, relationship with 2 (and 8) * Decomposing numbers into sums and products * Geometry: reflection, enlargement * Multiplication and division table for 6, relationship with 3 and 2 (and 9) | * Division by 2, 3, 4, 5, 6 and 9. * Extending the number line: counting above 100. * Hundreds, tens and units. * Revision and practice * Puzzles and challenges |

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| **Year 3** | | |
| **Autumn 1** | **Spring 1** | **Summer 1** |
| * Revision: numbers up to 100, addition and subtraction * Revision: Multiplication * Revision: Division * Revision: Division with remainders, 4 operations * Revision: length, capacity, mass, time * Collecting recording, interpreting data; lists, tables, graphs. | * Extending numbers to 100 * Operations with whole tens and hundreds up to 1000. * Roman numerals. * Sequences * Rounding to tens and hundreds. * Measuring length * Changing units * Measurement: calculation with quantities * Capacity and money * Estimation * Vertical addition without crossing tens (HTU) * Problems in context. * Column addition, crossing tens (ThHTU) | * Revision and practice * Equations and inequalities * Negative numbers * Multiplication: Estimation of products * Multiplication without tens crossing: problems in context * Graphs * Perimeter and area of rectangles * Quantities: mass, capacity, length, time * Division: divisor, factor, multiple * Division: problems in context |
| **Autumn 2** | **Spring 2** | **Summer 2** |
| * Numbers up to 200, addition and subtraction * Numbers up to 200, multiplication and division * Numbers up to 200, 4 operations * Order of calculation: rounding to the nearest 10. * 2D and 3D shapes, parallel and perpendicular lines * Fractions: half, quarter, third * Time: quarter, half, three quarters of an hour * Introduction to the 24 hour clock. * Fractions, contextual problems * Revision and practice | * Estimation differences, column subtraction * Addition and subtraction, problems in context. * Geometry: sorting 1D, 2D, 3D shapes * Comapss directions * Right angle turns * Reflection, symmetry * Parallel and perpendicular lines * Enlargements, reductions * Building 3D shapes * Fractions; using and finding halves, quarters, eighths and thirds. | * Roman numerals * Money problems * Revision: enlargement, reduction, similarity, perimeter, area * Building and drawing solids * Revision and practice: length, capacity, mass * Puzzles and challenges |

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| **Year 4** | | |
| **Autumn 1** | **Spring 1** | **Summer 1** |
| * Revision: numbers up to 100, writing ordering, comparison, rounding, sequences * Revision: operations with numbers up to 1000, addition and subtraction * Revision: operations with numbers up to 1000, multiplication and division tables * Revision: written calculations, division with remainders, divisibility. * Revision: length, capacity, mass, time. Numbers up to 2000 * Revision: Numbers and calculations up to 2000 | * Revision and practice: 4 operations, geometry * Problems in context * Fractions, including tenths. Equivalents fractions. Position on number line * Review and practice: Natural numbers and fractions. Equations. * Fractions and decimals. Decimal notation. | * Positive and negative numbers; thermometers, number line. * Positive and negative numbers; money, cash and debt. Addition and subtraction. * Revision and practice: numbers, word problems, factors, multiples. * Revision and practice: geometry, geometric games and puzzles. * Collecting and displaying data. Tally charts and grouping * Data, diagrams, tables, functions, single line graphs. |
| **Autumn 2** | **Spring 2** | **Summer 2** |
| * Extending numbers up to 10 000, counting, reading, writing, ordering, rounding, number line. * Addition and subtraction up to 10 000. Written calculations. * Multiplication and division up to 10 000. * Geometry: grouping 1D, 2D and 3D objects. Angles. Parallel and perpendicular lines. * Shapes: properties, angles; parallel and perpendicular lines. * Shapes and solids: similarity and congruence, reflection and symmetry * Revision and practice: multiplication and division by 1-digit numbers. | * Addition and subtraction of decimals (1 decimals place) * Fractions and decimals in context. Problems in length, capacity, mass, time, money. * Perimeter, area, volume * Practice addition, subtraction, multiplication and division * Natural numbers up to 10 000. Rounding * Problems in context, measures and fractional parts | * Revision and practice * Puzzle and challenges |

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| **Year 5** | | |
| **Autumn 1** | **Spring 1** | **Summer 1** |
| * Revision: natural numbers and the number system, measures * Revision: natural numbers – comparing, ordering , rounding: addition and subtraction. * Revision: natural numbers – multiplication, tables, mental strategies, factors and multiples * Revision: natural numbers – division by 2-digit numbers: division tables, written procedures. * Integers: comparing, ordering, rounding. Sequences. * Fractions and decimals, | * Practice: operations with natural numbers (mental and written) * Word problems * Sets of points: circle, sphere * Constructing triangles * Parallel and perpendicular lines * Special quadrilaterals; trapeziums, parallelograms, rhombus, deltoid, rectangle, square. * Angles: types of angles, comparing, measuring and drawing. * Compass directions * Reflection: symmetry, translations, similarity and congruence * Geometric transformations: translations, rotation, enlargements and reduction. | * Dividing decimals by natural numbers * Decimal forms of fractions * Percentages * Collecting, displaying, interpreting continuous and discrete data. * Graphs and averages. * Review: numbers and calculations * Roman numerals * Negative numbers * Fractions and decimals. |
| **Autumn 2** | **Spring 2** | **Summer 2** |
| * Time: 12 hour and 24 hour clock, am and pm word problems; graphs, relationships * Order of operations. Brackets. Practice: mental and written calculations. Word problems. * Revision: Properties of 2D and 3D shapes. Perimeter and area of polygons. * Revision: Nets. Surface area and volume of solids. * Capacity * Ordering and adding integers * Cash and debt * Subtraction of integers using models. * Subtraction as difference on the number line * Multiplying and dividing integers by natural numbers. | * Comparing fractions with equal and different denominators; simplifying and expanding. * Adding and subtracting fractions with equal and different denominators. * Practice: addition and subtraction with integers and fractions * Percentages * Multiplication and division of fractions by natural numbers. * Decimals, read and writing. * Place value * Addition and subtraction of decimals * Rounding * Word problems * Measures using decimals. * Multiplying decimals by natural numbers. | * Revision: order of operations, operations using integers, fractions and decimals. * Revision: Measures and units, polygons, solids, transformations. * Revision: perimeter, area, surface area, volume * Problems and practice * Puzzles and challenges |

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| **Year 6** | | |
| **Autumn 1** | **Spring 1** | **Summer 1** |
| * Review: numbers up to 1 000 000. Reading, writing, place value, ordering, rounding. * The 4 operations: mental strategies, arithmetic laws, brackets, squares of multiples of 10. * The 4 operations: written procedure (short and long) * Problems in context. * Properties of natural numbers. Multiples and factors. Test of divisibility. * Number sequences * Positive and negative numbers. | * Multiplying by fractions or decimals * Percentages of quantities * Dividing by fractions or decimals * Simple problems * Understanding percentage. Calculating percentage parts or a whole from the percentage. * Line and rotational symmetry * Reflection, translation, similarity and congruence. * Recognising and constructing reflections in an axis. Constructing symmetrical triangles. * Symmetrical quadrilaterals: properties, perimeter, area, angles. * Regular polygons. | * Revision: fractions decimals and percentages * Revision: 2D and 3D shapes * Revision: perimeter, area and volume * Revision: angles * Revision: Ratio and proportion |
| **Autumn 2** | **Spring 2** | **Summer 2** |
| * Fractions, decimals, mixed numbers. * Multiplication and division by natural numbers * Fractions and decimals. * Finding fractions of a whole. * Review: 2D and 3D shapes. Angles: measuring, drawing, sum of angles in a triangle. * Metris and imperial measures * Perimeter and area of compound shapes * Data collection, presentation, analysis. * Averages * Frequency tables * Calculating with fractions | * Angles in a triangle or around a point; acute, obtuse, reflex. * Metric and imperial units. Conversions of units, percentages. * 24 hour clock. * Perimeter and area * Square and square roots * Volume/surface area of cubes and cuboids. * Graphs * Ratio and proportion * Ratio and percentage * Revision: multiples and factors | * Transition activities * Puzzles and challenges |