**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.
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| **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.
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| **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
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| **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.
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| **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
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| **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.
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| **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.
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| **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
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| **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
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