

St Aidan’s Catholic Primary School

Y3: Progression of Skills

**Use this document as a track to ensure that all objectives are covered throughout the academic year and to gain an understanding of the progression of skills including prior and future learning.**

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| **NUMBER: Place value** | | |
| **Prior Learning (Year 2 National Curriculum)** | **Year 3 Learning (National Curriculum)** | **Future Learning (Y4 National Curriculum)** |
| * To read and write numbers to at least 100 in numerals and in words. * To recognise the place value of each digit in a two-digit number (tens, ones). * To identify, represent and estimate numbers using different representations (e.g. 52 can be represented as 50 and 2, 40 and 12, 30 and 22 etc), including the number line. * To order numbers from 0 up to 100. * To compare numbers from 0 up to 100 using < ,> and = signs. * To count in steps of 2 from 0. * To count in steps of 3 from 0. * To count in steps of 5 from 0. * To count forwards in tens from any number. * To count backwards in tens from any number. * To use place value and number facts to solve problems.   ***Consolidation and Problem Solving*** | * To read and write numbers up to 1000 in numerals and in words. * To recognise the place value of each digit in a three- digit number (hundreds, ten and ones). * To identify, represent and estimate numbers using different representations. * To compare and order numbers up to 1000. * To count from 0 in multiples of 4. * To count from 0 in multiples of 8. * To count from 0 in multiples of 50. * To count from 0 in multiples of 100. * To find 10 more or less than a given number. * To find 100 more or less than a given number.   To solve number problems and practical problems involving these ideas in place value   * To solve number problems and practical problems involving all ideas in place value.   ***Consolidation and Problem Solving*** | * To recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones). * To identify, represent and estimate numbers using different representations. * To order and compare numbers beyond 1000 (e.g. 1345,1445,1500). * To count in multiples of 6, 7, 9, 25 and 1000. * To find 1000 more or less than a given number. * To round numbers up to the nearest 10. * To round numbers up to the nearest 100. * To round numbers up to the nearest 1000. * To count backwards through zero to include negative numbers. * To solve number and practical problems that involve all of the above and with increasingly large positive numbers. * To read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.   **Revisit objectives throughout the year through fast five and mental maths starters.**   * To solve number and practical problems that involve all aspects of the place value objectives and with increasingly large positive numbers.   ***Consolidation and Problem Solving*** |
| **Key Vocabulary**  Place value, digit, order, compare, round, rounded to, negative number, positive number, partition, digit , Roman Numeral, units, tens, ones, hundreds, thousands, ten thousand, hundred thousand, million, whole, part whole, base ten, number track, represents, exchange, >greater than <, less than, greatest, most, largest, least, fewest, smallest, between, half-way, estimate, roughly, close to, approximate, exact, comparison symbols, inequality symbols, exactly, round, strategy, integer, positive, negative above/below zero odd, even, every other, next, consecutive, sequence, continue, predict, pattern, pair, rule, relationship, sort, classify, |  | |

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| **NUMBER: Addition and Subtraction** | | |
| **Prior Learning (Year 2 National Curriculum)** | **Year 3 Learning (National Curriculum)** | **Future Learning (Y4 National Curriculum)** |
| * To add numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones. * To subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones. * To add numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and tens. * To subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and tens. * To add numbers using concrete objects, pictorial representations, and mentally, including two two-digit numbers within 100.   To subtract numbers using concrete objects, pictorial representations, and mentally, including two two-digit numbers within 100.   * To add numbers using concrete objects, pictorial representations, and mentally, including three one-digit numbers. * To subtract numbers using concrete objects, pictorial representations, and mentally, including three one-digit numbers. * To show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. * To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. * To recall and use addition facts to 20 fluently (and to derive and use related facts up to 100). * To recall and use subtraction facts to 20 fluently (and to derive and use related facts up to 100). * To solve problems using concrete objects and pictorial representations, including those involving numbers, quantities and measures (EXP: 1 step problems, GDS: 2 step problems). * To solve problems by applying their increasing knowledge of mental and written methods (EXP: 1 step problems, GDS: 2 step problems). | * To add and subtract mentally a three digit number and ones. * To add and subtract mentally a three digit number and tens. * To add and subtract mentally a three digit number and hundreds. * To add numbers with up to three digits, using formal written methods of columnar addition involving the use of the inverse operation. * To subtract numbers with up to three digits, using formal written methods of columnar subtraction involving the use of the inverse operation. * To estimate the answer to a calculation to check answers. * To use inverse operations to check answers. * To solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction. * To solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.   ***Consolidation and Problem Solving*** | * To add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate. * To subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate. * To estimate to check answers to a calculation. * To use inverse operations to check answers to a calculation. * To solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. * To solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.   ***Consolidation and Problem Solving*** |
| **Key Vocabulary**  Add, subtract, addition, subtraction, calculation ,increase, sum, total, altogether, double, minus, plus, increase, decrease , more, less, altogether, difference, double, half, take away, exchange, mentally, orally, column addition, column subtraction, method, estimate, inverse operation, solve problem, number facts, multiple exchanges, round  How many are left/left over?  Difference between, half, halve, how many more/fewer is… than…?  Is the same as, equals tens boundary hundreds boundary inverse |  | |

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| **NUMBER: Multiplication and Division** | | |
| **Prior Learning (Year 2 National Curriculum)** | **Year 3 Learning (National Curriculum)** | **Future Learning (Y4 National Curriculum)** |
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| * To recall and use multiplication and division facts for the 2 multiplication table, including recognising odd and even numbers. * To recall and use multiplication and division facts for the 5 multiplication table, including recognising odd and even numbers. * To recall and use multiplication and division facts for the 10 multiplication table, including recognising odd and even numbers. * To calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (x) and equals signs (=). * To calculate mathematical statements for division within the multiplication tables and write them using the division (÷) and equals signs (=). * To show that multiplication of two numbers can be done in any order (commutative). * To show that division of one number by another cannot be done in any order (commutative). * To solve problems involving multiplication using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context. * To solve problems involving division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context. | * To recall and use multiplication and division facts for the 3 times table. * To recall and use multiplication and division facts for the 4 times table. * To recall and use multiplication and division facts for the 8 times table. * To write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers multiplied by one-digit numbers using mental and progressing to formal written methods. * To solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and corresponding problems in which *n* objects are connected to *m* objects. * To solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and corresponding problems in which *n* objects are connected to *m* objects. * Not N.C guidance: During Summer term (or Spring term if children are confident), children will extend their learning to include the 6 and 7 x table***.*** | * To recall multiplication and division facts for multiplication tables up to 12 x 12 verbally and in written work. * To use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1. * To use place value, known and derived facts to multiply and divide mentally, including: dividing by 1. * To use place value, known and derived facts to multiply and divide mentally, including: multiplying together three numbers. * To recognise and use factor pairs and know that changing the order of numbers in mental calculations will not affect the outcome and support in finding missing detail e.g. 6\_\_\_ x 4 = 512 is the same as 512 ÷ 4 = 6\_\_\_ * To multiply two-digit and three-digit numbers by a one-digit number using formal written layout. * To recall multiplication and division facts for multiplication tables up to 12 x 12 verbally and in written work. * To solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit.   The Distributive Law says that multiplying a number by a group of numbers added together is the same as doing each multiplication separately e.g. 3 × (2 + 4) = 3 × 2 + 3 × 4   * Non Statutory: Pupils practise to become fluent in the formal written method of short multiplication and short division with exact answers * To solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit.   The Distributive Law says that multiplying a number by a group of numbers added together is the same as doing each multiplication separately e.g. 3 × (2 + 4) = 3 × 2 + 3 × 4 |
| **Key Vocabulary**  Multiply, groups of, lots of, equal groups of, repeated division, times, divide, divisible by, divisor, division facts, share, group, remainder, factor, common factor, multiple, product, formal written method, short multiplication, multiplier, multiplicand, short division, inverse, table, commutative, distributive, equivalent, quotient, arrays, commutative law, inverse, concrete methods, pictoral methods |  | |

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| **NUMBER: Fractions Decimals Percentages** | | |
| **Prior Learning (Year 2 National Curriculum)** | **Year 3 Learning (National Curriculum)** | **Future Learning (Y4 National Curriculum)** |
| * To recognise name and write fractions 1/3 of a length, shape, set of objects or quantity. * To write fractions ¼ of a length, shape, set of objects or quantity. * To recognise name and write fractions 2/4 of a length, shape, set of objects or quantity. * To write fractions ¾ of a length, shape, set of objects or quantity. * To write simple fractions, for example, ½ of 6=3. * To recognise the equivalence of 2/4 and ½. | * To recognise and use fractions as numbers: unit fractions with small denominators. * To recognise and use fractions as numbers: non-unit fractions with small denominators. * To recognise and find fractions of a discrete set of objects; unit fraction e.g. 1/5, 1/2 and non-unit fractions e.g. 2/5, 2/3 with small denominators. * To write fractions of a discrete set of objects; unit fraction e.g. 1/5, 1/2 and non-unit fractions e.g. 2/5, 2/3 with small denominators. * To order unit fractions, and fractions with the same denominators. * To compare unit fractions, and fractions with the same denominators. * To recognise, using diagrams, equivalent fractions with small denominators. * To show, using diagrams, equivalent fractions with small denominators. * To add fractions with the same denominator within one whole for example, 5/7 + 1/7 = 6/7. * To subtract fractions with the same denominator within one whole for example, 5/7 + 1/7 = 6/7. * To recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. * To count up and down in tenths   To solve problems that involve all of the above. | * To recognise and show, using diagrams, families of common equivalent fractions. * To recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. * To count up and down in hundredths, * To add fractions with the same denominator. * To subtract fractions with the same denominator. * To solve problems involving increasingly harder fractions (beyond ½, ¼, 1/5, 1/10 and 1/3) to calculate amounts, and fractions to divide amounts, including fractions with a numerator greater than 1 ( 2/3, ¾ etc.) where the answer is a whole number. * To recognise and write decimal equivalents to ¼, ½, ¾. * To recognise and write decimal equivalents of any numbers of tenths or hundredths. * To find the effect of dividing a one or two digit number by 10, identifying the value of the digits in the answer as ones, tenths and hundredths. * To find the effect of dividing a one or two digit number by 100, identifying the value of the digits in the answer as ones, tenths and hundredths. * To compare numbers with the same number of decimal places up to two decimal places. * To round decimals with one decimal place to the nearest whole number. * To solve problems involving increasingly harder fractions (beyond ½, ¼, 1/5, 1/10 and 1/3) to calculate amounts, and fractions to divide amounts, including fractions with a numerator greater than 1 ( 2/3, ¾ etc.) where the answer is a whole number. * To solve simple measures and money problems involving fractions and decimals to decimal places. * ***Consolidation and Problem Solving*** |
| **Key Vocabulary**  numerator, denominator, unit fraction, non-unit fraction, equivalent fraction, factor, integer, quantities, whole, halves, quarters, fifths, sixths, sevenths, eighths, ninths, tenths, elevenths, twelfths, quantities, proportion, fraction, add, convert, count up, count down,  Decimals, decimal point, decimal place, place value, tenths, hundredths, decimal tenths, decimal hundredths, part-whole model, rounding, decimal point, place value, whole number |  | |

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| **MEASUREMENT** | | |
| **Prior Learning (Year 2 National Curriculum)** | **Year 3 Learning (National Curriculum)** | **Future Learning (Y4 National Curriculum)** |
| * To choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers. * To compare and order lengths and record the results using > , < , and = * To know the number of minutes in an hour and the number of hours in a day. * To sequence intervals of time. * To compare intervals of time. * To tell the time to five minutes, including quarter past/to the hour. * To write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. * To recognise and use symbols for pounds (£) and pence (p) * To combine amounts to make a particular value. * To find different combinations of coins that equal the same amounts of money. * To solve simple problems in a practical context involving addition of money of the same unit, including giving change. * To solve simple problems in a practical context involving subtraction of money of the same unit, including giving change. * To choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit, using scales.   To compare and order mass and record the results using > , < , and =   * To choose and use appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit, using vessels. * To compare and order volume/capacity and record the results using > , < , and = . * To choose and use appropriate standard units to estimate and measure temperature (°C): capacity (litres/ml) to the nearest appropriate unit, using thermometers.   ***Consolidation and Problem Solving*** | * To tell and write the time from an analogue clock. Including using Roman numerals from I to XII. * To write the time from an analogue clock. Including using Roman numerals from I to XII. * To tell the time from a 12-hour clock. * To write the time from a 12-hour clock. * To tell the time from a 24-hour clock. * To write the time from a 24-hour clock. * To estimate and read time with increasing accuracy to the nearest minute. * To record and compare time in terms of seconds, minutes and hours. * To use vocabulary such as o’clock, am/pm, morning, afternoon, noon and midnight. * To know the number of seconds in a minute and the number of days in each month, year and leap year. * To compare durations of events (for example to calculate the time taken by particular events or tasks). * To add amounts of money to give change, using both £ and p in practical contexts. * To subtract amounts of money to give change, using both £ and p in practical contexts. * To measure lengths (m/cm/mm). * To compare lengths (m/cm/mm). * To add and subtract lengths (m/cm/mm). * To measure the perimeter of simple 2-D shapes. * To measure mass (kg/g). * To compare mass (kg/g). * To add and subtract mass (kg/g). * To measure volume/capacity (l /ml). * To compare volume/capacity (l /ml). * To add and subtract volume/capacity (l /ml).   ***Consolidation and Problem Solving*** | * To measure the perimeter of a rectilinear figure (including squares) in centimetres and meters. * To find the area of rectilinear shapes by counting squares. * To convert between different units of measure (for example, kilometre to meter; hour to minute). * To read and write the time for an analogue clock.      * To read and write the time for a digital 12 hour clock. * To read and write the time for a digital 24 hour clock. * To write and convert time between analogue and digital 12- and 24-hour clocks. * To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. * To convert between different units of measure (for example, kilometer to meter; hour to minute). * To estimate different measures, including money in pounds and pence. * To compare different measures, including money in pounds and pence.   ***Consolidation and Problem Solving*** |
| **Key Vocabulary**  Calculate, convert, estimate, measure, measurement, measurement equipment, perimeter, rectilinear, side, width, area, squares, rectangle  Money, amount, change, combinations, estimate, decimal, pence, penny. pounds, round ,value, convert, price, cost buy, bought, sell, sold spend, spent, pay, change,  Minute hand, hour hand, O’clock, quarter past, half past, quarter to, 12 hour time, 24-hour time, digital clock, Roman Numerals, analogue, hours, minutes, seconds, midday, midnight, noon ,am, pm, clock, watch leap year, week, month, year, day, century, millennium, timetable, arrive, depart hour,  Compare unit, standard unit metric unit, imperial unit measuring scale, estimate approximately, perimeter kilometre (km), metre (m), centimetre (cm), millimetre (mm) mile Mass: gram (g) balance kilogram (kg), half-kilogram, capacity: (ml)pint litre (l), half-litre, millilitre area, covers, surface square centimeter (cm2), |  | |

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| **GEOMETRY: Position and Direction** | | |
| **Prior Learning (Year 2 National Curriculum)** | **Year 3 Learning (National Curriculum)** | **Future Learning (Y4 National Curriculum)** |
| * To order and arrange combinations of mathematical objects in patterns and sequence. * To use mathematical vocabulary to describe position, direction and movement. Including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).   ***Consolidation and Problem Solving*** |  | * To describe positions of a 2-D grid as coordinates in the first quadrant. * To describe movements between positions as translations of a given unit to the left/right and up/down. * To plot points on a graph and draw sides to complete a given polygon. * To plot points on a graph and draw sides to complete a given polygon.   ***Consolidation and Problem Solving*** |
| **Key Vocabulary**  Position, direction, quadrant, first quadrant,  Quadrant, translation, y-axis, x-axis, vertex, vertices, position, brackets, coordinates, plotting, movement, right, left, point, integer, 2-d grid, up, down, polygon, orientation |  | |

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| **GEOMETRY: Properties of Shape** | | |
| **Prior Learning (Year 2 National Curriculum)** | **Year 3 Learning (National Curriculum)** | **Future Learning (Y4 National Curriculum)** |
| * To identify the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. * To describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. * To identify the properties of 3-D shapes, including the number of edges, vertices and faces. * To describe the properties of 3-D shapes, including the number of edges, vertices and faces. * To identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid]. * To compare and sort common 2-D shapes and everyday objects. * To compare and sort common 3-D shapes and everyday objects.   ***Consolidation and Problem Solving*** | * To draw 2-D shapes and describe their properties. * To make 3-D shapes using modelling materials. * To recognise 3-D shapes in different orientations and describe them. * To recognise angles as a property of shape. * To recognise angles as a description of a turn. * To identify right angles. * To identify whether angles are greater than or less than a right angle. * To recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn. * To identify horizontal lines. * To identify vertical lines. * To identify pairs of perpendicular lines. * To identify pairs of parallel lines.   *Consolidation and problem solving* | * To compare and classify geometric shapes, including quadrilaterals(*e.g. parallelogram, rhombus, trapezium)*  and triangles (*e.g. isosceles, equilateral, scalene)* based on their properties and sizes. * To identify lines of symmetry in 2-D shapes * To identify lines of symmetry in 2-D shapes presented in different orientations. * To finish drawing a simple symmetric shape with respect to a specific line of symmetry. * To identify acute and obtuse angles. * To compare and order angles up to two right angles by size. |
| **Key Vocabulary**  2-D, shape, 3-D shape, polygon, isosceles, equilateral, scalene, quadrilateral, rhombus, parallelogram. Trapezium, trapezium, kite, regular/irregular shape, triangles, right angle triangle, isosceles triangle, scalene triangle, equilateral triangle, right angle triangle, quadrilaterals, four sides, equal length, order, ,  flat, curved, edge, vertex, vertices, face, side,  angle, degrees, protractor orientation, turn, half turn, three quarter turn, complete turn, horizontal lines, parallel line, vertical lines, perpendicular lines, right angle, acute, obtuse, right angle horizontal, vertical, diagonal, parallel, perpendicular, two-dimensional, ,  Lines of symmetry, patterns, reflection, line of symmetry, reflection, mirror line, multiple lines of symmetry, mirror lines vertical, horizontal, diagonal, symmetrical, polyhedral, compare, classify, geometric, |  | |

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| **STATISTICS** | | |
| **Prior Learning (Year 2 National Curriculum)** | **Year 3 Learning (National Curriculum)** | **Future Learning (Y4 National Curriculum)** |
| * To interpret simple tally charts. * To construct simple tally charts. * To interpret simple pictograms.      * To construct simple pictograms. * To interpret block diagrams. * To construct block diagrams. * To interpret simple tables. * To construct simple tables. * To ask and answer questions about totaling and comparing categorical data.   To ask and answer simple questions by counting the number of objects in each category and sorting categories by amount e.g. In a Venn diagram or sorting trays. | * To interpret data using bar charts. * To present data using bar charts. * To interpret data using pictograms. * To present data using pictograms. * To interpret data using tables. * To present data using tables. * To solve one-step questions (for example, ‘How many more? How many fewer?’) using information presented in scaled bar charts and pictograms and tables. * To solve two-step questions (for example, ‘How many more? How many fewer?’) using information presented in scaled bar charts and pictograms and tables. | * To read discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. * To present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. * To solve problems that involve comparing data, adding and subtracting using information presented in bar charts, pictograms, tables and other graphs. |
| **Key Vocabulary**  Bar charts, pictogram, tables, axis, scale, tally, sort, vote survey, questionnaire, data, graph, block graph, Carroll diagram frequency table, tally chart, discrete data, continuous data, time graph, sum, difference, comparison, interpret, frequency tables, interpret data ,present data, read data, Venn diagram label, title, most popular, most common least popular, least common |  | |

**Please note ~ objectives must be revisited during mental maths, arithmetic tests to ensure revision and consolidation.**