St John's Primary School

Maths CURRICULUM MAP

2024/2025

Maths Curriculum Map - Autumn Term

Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn	**Implementation of Mastery of Number scheme** **Introducing Numicon** **Number - Place Value (within 10)** Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10 in numerals and words. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. **Number – Addition and Subtraction (within 10)** Represent and use number bonds and related subtraction facts within 10 Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Add and subtract one digit numbers to 10, including zero. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems..	**Number - Place Value** Read/ write numbers up to 100 Recognise Place value of 2-digit numbers Partition 2 digit numbers into different combinations Identify tens below and above a given number Compare/ order number using inequality signs Count in 2s, 3s, 5s and 10s from a given number Using estimation to reason answers and problems **Number – Addition and Subtraction** Know number bonds + and – up to 20 and related facts Compare number sentences using inequality signs + and – 1 and 2 digit numbers to a 2 digit number inc. crossing the 10s Add 3 1-digit numbers Show that addition is commutative and subtraction is not Recall doubles and halves of numbers to 20 Solve problems of more than one-step using + and – **Measurement – Money** Count in pence and pounds using notes and coins Recognise/ write £ and p symbols Combination of different coins to make same amount Compare amounts using inequality signs Total amounts and find change Solve 2-step problems in a practical context	**Number – Number and Place Value** Identify, represent and estimate numbers using different representations. Find 10 or 100 more or less than a given number Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1000 Read and write numbers up to 1000 in numerals and in words. Solve number problems and practical problems involving these ideas. Count from 0 in multiples of 4, 8, 50 and 100 **Number – Addition and Subtraction** Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. **Number – Multiplication and Division** Count from 0 in multiples of 4, 8, 50 and 100 Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objectives.	**Number – Number and Place Value** Count in multiples of 6, 7, 9. 25 and 1000. Find 1000 more or less than a given number. Count backwards through zero to include negative numbers Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones) Order and compare numbers beyond 1000 Identify, represent and estimate numbers using different representations. Round any number to the nearest 10, 100 or 1000 Solve number and practical problems that involve all of the above and with increasingly large positive numbers. 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 **Number –Addition and Subtraction** Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why **Measurement – Area** Find the area of rectilinear shapes by counting squares **Number –Multiplication and Division** Recall multiplication and division facts for multiplication tables up to 12 × 12 Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers Multiply and divide by 10 and 100	**Number –Number Place Value** Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 Solve number problems and practical problems that involve all of the above. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. **Number –Addition and Subtraction** Add and subtract numbers mentally with increasingly large numbers. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why **Number - Multiplication and Division** Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers Establish whether a number up to 100 is prime and recall prime numbers up to 19 Recognise and use square numbers and the notation for squared (2) Recognise and use cube numbers and the notation for cubed (3) Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	**Number –Number Place Value** I can read, write, order and compare numbers to at least 10,000,000 (ten million) and say the value of each digit I can use negative numbers in context when looking at temperature or money; counting in jumps forwards and backwards through 0 I can round any number to a required degree of accuracy I can solve number and practical problems that involve ordering and comparing numbers to 10 000 000, rounding to a required degree of accuracy, using negative numbers and calculating intervals across zero **Number –Addition and Subtraction** I can mentally calculate using a mix of the four operations7 I can solve problems with more than one step and operation and explain why I used them I can solve addition and subtraction word and practical problems I can solve addition and subtraction word and practical problems **Number – Multiplication and Division** I can multiply numbers of up to 4 digits by a two-digit number using a formal written method I can divide numbers of up to 4 digits by a two-digit number using a formal written method of long division, showing remainders, fractions or rounding as appropriate I can divide numbers of up to 4 digits by a two-digit number using a formal written method of short division, showing remainders, fractions or rounding as appropriate I can mentally calculate using a mix of the four operations and increasingly large numbers I can identify common factors, multiples and prime numbers I can use the order of importance of the four operations when answering questions I can solve addition and subtraction multi-step problems, deciding which operations and methods to use and explain why they were suitable I can use estimating to check answers and problem solving **Geometry – Properties of Shape** I can draw 2-D shapes using dimensions and angles I am given I can recognise, describe and build simple 3-D shapes, including making nets I can recognise angles where they meet at a point, are on a straight line or are vertically opposite. I can then find any missing angles I can compare and classify geometric shapes based on their properties and sizes. I can also find unknown angles in any triangles, quadrilaterals or regular polygons

Maths Curriculum Map - Spring Term

Spring	**Number – Addition and Subtraction (within 10)** Read and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Write mathematical statements involving addition (+), subtraction (-) and equals (=) signs Recall at least four of the six number bonds for 10 and reason about associated facts (e.g. 6 + 4 = 10 , therefore 4 + 6 = 10 and 10 – 6 = 4) **Geometry – Shape** Recognise and name common 2-D shapes e.g. rectangles (including squares), circles and triangles	**Number – Multiplication and Division** Recognise/ make/ add equal groups Use the x, ÷ and = signs Use arrays to solve problems Show that multiplication is commutative and division is not Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Make equal groups by grouping and sharing Recognise relationship between repeated addition and x Solve x and ÷ problems of more than 1-step and reason answers **Number – Fractions** Make equal parts	**Number – Multiplication & Division** Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two digit numbers times one-digit numbers, using mental and progressing to formal written methods. Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objectives. **Measurement – Money**	**Number –Multiplication and Division** Recognise and use factor pairs and commutativity in mental calculations Multiply two-digit and three-digit numbers by a one-digit number using formal written layout Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects **Measurement – Length and Perimeter** Convert between different units of measure	**Number - Multiplication and Division** Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes Solve problems involving addition, subtraction, multiplication and	**Number – Fractions** I can use common factors and multiples to simplify fractions and express fractions in the same denomination I can compare and order fractions including those > 1 I can add and subtract fractions with different denominators and mixed numbers I can multiply simple pairs of proper fractions, writing the answer in the simplest form such as 1/4 x 1/2 = 1/8 I can divide proper fractions by whole numbers such as 1/3 ÷ 2 = 1/6 I can link a fraction with division and work out decimal fractions such as knowing that 7 divided by 21 is the same as 7/21 and that

	Recognise and name common 3-D shapes e.g. cuboids (including cubes), pyramids and spheres **Number - Place Value (within 20)** Identify one more and one less of a given number Read and write numbers from 1 to 20 in numerals Read and write numbers from 1 to 20 in words Compare and order groups of objects and numbers **Number – Addition and Subtraction (within 20)** Find ad make number bonds. Add by making 10. Represent and use number bonds within 20 Represent and use subtraction facts within 20 Add one-digit and two-digit numbers to 20, including zero Subtract one-digit and two-digit numbers to 20, including zero Solve one-step problems that involve addition, subtraction and missing numbers using concrete objects and pictorial representations **Number - Place Value (within 50)** Represent, compare and order numbers to 50 Count in multiples of twos and fives from 0 Identify one more and one less of a given number **Measurement – Length and Height** Compare, describe and solve practical problems for lengths and heights e.g. long/short, longer/shorter, tall/short, double/half Measure and begin to record length/height	Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity and demonstrate understanding that all parts must be equal parts of the whole Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and ½ Count in fractions **Geometry – Properties of Shape** Recognise and name 2D and 3D shapes Identify/ describe properties of 2D and 3D shapes Recognise/ draw lines of symmetry Compare/ sort 2D/ 3D shapes Make patterns **Measurement – Time** Tell and write time to o'clock and half past the hour Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times Know number of minutes in an hour/ hours in a day Find/ compare and sequence intervals of time	Add and subtract amounts of money to give change, using both £ and p in practical contexts. **Statistics** Interpret and present data using bar charts, pictograms and tables. Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables **Measurement – Length and Perimeter** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Measure the perimeter of simple 2D shapes **Number – Fractions** Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Solve problems that involve all of the above	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres **Number – Fractions** Recognise and show, using diagrams, families of common equivalent fractions Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number Add and subtract fractions with the same denominator **Number – Decimals** Recognise and write decimal equivalents of any number of tenths or hundredths Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	division and a combination of these, including understanding the meaning of the equals sign Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates **Number – Fractions** Identify and name equivalent fractions of a given fraction, represented visually, including tenths and hundredths Write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number e.g. 2/5 + 4/5 = 6/5 = 1 1/5 Compare and order fractions whose denominators are all multiples of the same number Add and subtract fractions with the same denominator and denominators that are multiples of the same number Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams **Number – Decimals and Percentages** Round decimals with two decimal places to the nearest whole number and to one decimal place Read and write decimal numbers as fractions e.g. 0.71 = 71/100, 8.09 = 8 + 9/? Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Read, write, order and compare numbers with up to three decimal places **Number - Problem solving** **Measuring - Area and Perimeter** Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes **Statistics** Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables including timetables	this is equal to 1/3, and 0.378 is 3/8 as a simple fraction I can explain the place value of any digit in a number with up to 3 decimal places and multiply or divide these by 10, 100 or 1000 I can multiply numbers less than 10 with up to 2 decimal places by whole numbers I can use written division methods for numbers with up to two decimal places I can solve problems which require answers to be rounded to specified degrees of accuracy I can use equivalences between simple fractions, decimals and percentages to help me solve problems **Measurement – Area, Perimeter and Volume** I can recognise that shapes with the same areas can have different perimeters and vice versa I can recognise when it is possible to use formulae to find the areas or volumes of shapes I can calculate the areas of parallelograms and triangles I can calculate, estimate and compare volumes of cubes and cuboids using standard units, including cubic centimetres (cm³),cubic metres (m³). I can extend this to other units e.g. mm³ and km³ **Algebra** I can use simple formulae I can create and describe linear number sequences I can record missing number problems algebraically I can find pairs of numbers which complete an equation with two unknowns I can create a list of possibilities of the combination of two variables **Measurement – Converting Units (Imperial units)** I can use, read, write and convert between standard units. I can convert measurement of length, mass, volume and time from a smaller unit to a larger unit and vice versa. I can do this using decimal notation up to the three decimal places I can convert between miles and kilometres I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to three places if I need to **Number – Ratio** Use ratio language and introduce the ratio symbol Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts e.g. find 7/9 of 108 Solve problems involving the calculation of percentages e.g. of measures, and such as 15% of 360 and the use of percentages for comparison Solve problems involving similar shapes where the scale factor is known or can be found Solve problems involving unequal sharing and grouping using knowledge of fractions and multiple
Maths Curriculum Map - Summer Term						
Summer	**Measurement – Mass and Volume** Compare, describe and solve practical problems for mass/weight e.g. heavy/light, heavier than, lighter than Compare, describe and solve practical problems for capacity and volume e.g. full/empty, more than, less than, half, half full, quarter Measure and begin to record mass/weight Measure and begin to record capacity and volume **Number – Multiplication and Division** Count in multiples of twos, fives and tens from 0 Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher Solve one-step problems involving division by calculating the answer	**Measurement – Length and Height** Choose and use appropriate standard units to measure length/ height in any directions (cm/ m) Compare and order length/ height using inequality signs Solve simple problems in cm/ m using the 4 operations **Measurement – Mass, Capacity, Temperature** Choose and use appropriate standard units to measure mass/ volume and temperature (g/ kg/ ml/ l/ degrees) Compare and order mass/ volume and temperature using inequality signs Solve simple problems in g/ kg/ ml/ l and degrees using the 4 operations Read scales where not all numbers on the scale are given and estimate points in between **Statistics**	**Number – Fractions** Recognise and show, using diagrams, equivalent fractions with small denominators. Compare and order unit fractions, and fractions with the same denominators. Add and subtract fractions with the same denominator within one whole Solve problems that involve all of the above **Measurement – Time** Tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12-hour and 24-hour clocks. Estimate and read time with increasing accuracy to the nearest minute. Record and compare time in terms of seconds, minutes and hours. Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. Know the number of seconds in a	**Number – Decimals** Recognise and write decimal equivalents to 1/4, 1/2, ¾ Round decimals with one decimal place to the nearest whole number Compare numbers with the same number of decimal places up to two decimal places Solve simple measure and money problems involving fractions and decimals to two decimal places **Measurement – Money** Estimate, compare and calculate different measures, including money in pounds and pence **Measurement – Time** Read, write and convert time between analogue and digital 12- and 24-hour clocks Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	**Geometry – Properties of Shape** Identify angles at a point and one whole turn (total 360°) Compare and order angles Draw given angles, and measure them in degrees (°) Calculate angles on a straight line Identify angles at a point on a straight line and 1/2 a turn (total 180°) Identify angles at a point and one whole turn (total 360°) Identify 3-D shapes, including cubes and other cuboids, from 2-D representations Use the properties of rectangles to deduce related facts and find missing lengths and angles Distinguish between regular and irregular polygons based on reasoning about equal sides and angles **Geometry – Position and Direction** Identify, describe and represent the position of a shape following	**Statistics** Interpret and construct pie charts and line graphs and use these to solve problems Calculate and interpret the mean as an average **Revision** **Investigations/ Consolidation**

	using concrete objects, pictorial representations and arrays with the support of the teacher **Number – Fractions** Recognise, find and name a half as one of two equal parts of an object, shape or quantity Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity **Geometry – Position and Direction** Describe position, direction and movement, including whole, half, quarter and three-quarter turns **Number - Place Value (within 100)** Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count and read numbers to 100 in numerals Count and write numbers to 100 in numerals Partition and combine numbers using apparatus if required e.g. partition 76 into tens and ones; combine 6 tens and 4 ones Compare and order numbers **Measurement – Money** Recognise and know the value of different denominations of coins and notes Count in coins **Measurement – Time** Compare, describe and solve practical problems for time e.g. quicker, slower, earlier, later Sequence events in chronological order using language e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening Recognise and use language relating to dates, including days of the week, weeks, months and years Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times Measure and begin to record time (hours, minutes, seconds)	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables Interpret and construct simple pictograms, tally charts, block diagrams and simple tables in (1s, 2s, 5s and 10s) Ask and answer questions about totalling and comparing categorical data **Geometry – Position and Direction** 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) Order and arrange combinations of mathematical objects in patterns and sequences **Investigations/ Consolidation**	minute and the number of days in each month, year and leap year. Compare durations of events [for example to calculate the time taken by particular events or tasks] **Geometry – Properties of shapes** Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. Draw 2-D shapes and make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations and describe them. **Measurement – Mass & Capacity** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	**Geometry – Properties of Shape** Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes Identify acute and obtuse angles and compare and order angles up to two right angles by size Identify lines of symmetry in 2-D shapes presented in different orientations Complete a simple symmetric figure with respect to a specific line of symmetry **Statistics** Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs **Geometry – Position and Direction** Describe positions on a 2-D grid as coordinates in the first quadrant Describe movements between positions as translations of a given unit to the left/right and up/down Plot specified points and draw sides to complete a given polygon	a reflection or translation, using the appropriate language, and know that the shape has not changed **Geometry – Coordination and Reflection** Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed **Number – Decimals** Solve problems involving number up to three decimal places Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25 Adding/ subtracting decimals with different decimal places Adding/ subtracting wholes and decimals Describing and writing rules for decimal sequences **Number and Place Value – Negative Numbers** Count forwards or backwards in steps of powers of 10 for any given number up to 1000000. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. **Measurement – Converting Units** Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints Solve problems involving converting between units of time Use all four operations to solve problems involving measure e.g. length, mass, money using decimal notation, including scaling **Measurement – Volume** Estimate volume e.g. using 1 cm^3 blocks to build cuboids (including cubes) and capacity e.g. using water Use all four operations to solve problems involving measure e.g. volume, using decimal notation, including scaling	

Subject Intent - Children can solve a range of problems by applying and recalling learnt facts and using prior knowledge. This allows them to make connections and move fluently amongst different mathematical concepts. Their curiosity and resolve instils a determination to explore and challenge an understanding of the world around them and reason their findings to others.

Statement - At St John's we teach children the fundamentals of mathematics within meaningful real-life contexts, so that children develop a good mathematical understanding as well as the ability to recall and apply their knowledge to different situations, investigations and problem solving activities. Our core scheme of work uses White Rose maths which is supported by our calculation policy. The children are encouraged to use mathematical vocabulary to support their work while testing their ideas. They learn to solve increasingly complex problems and to persevere in finding solutions. Children have the opportunity to develop and apply their maths skills while working both indoors and outdoors, and through playing different maths games. Cross curricular maths work enables children to see the relevance of maths and provides frequent opportunities for application.