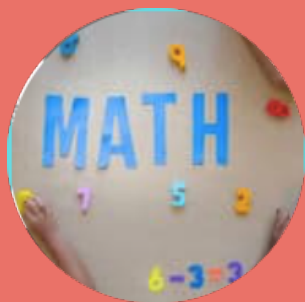
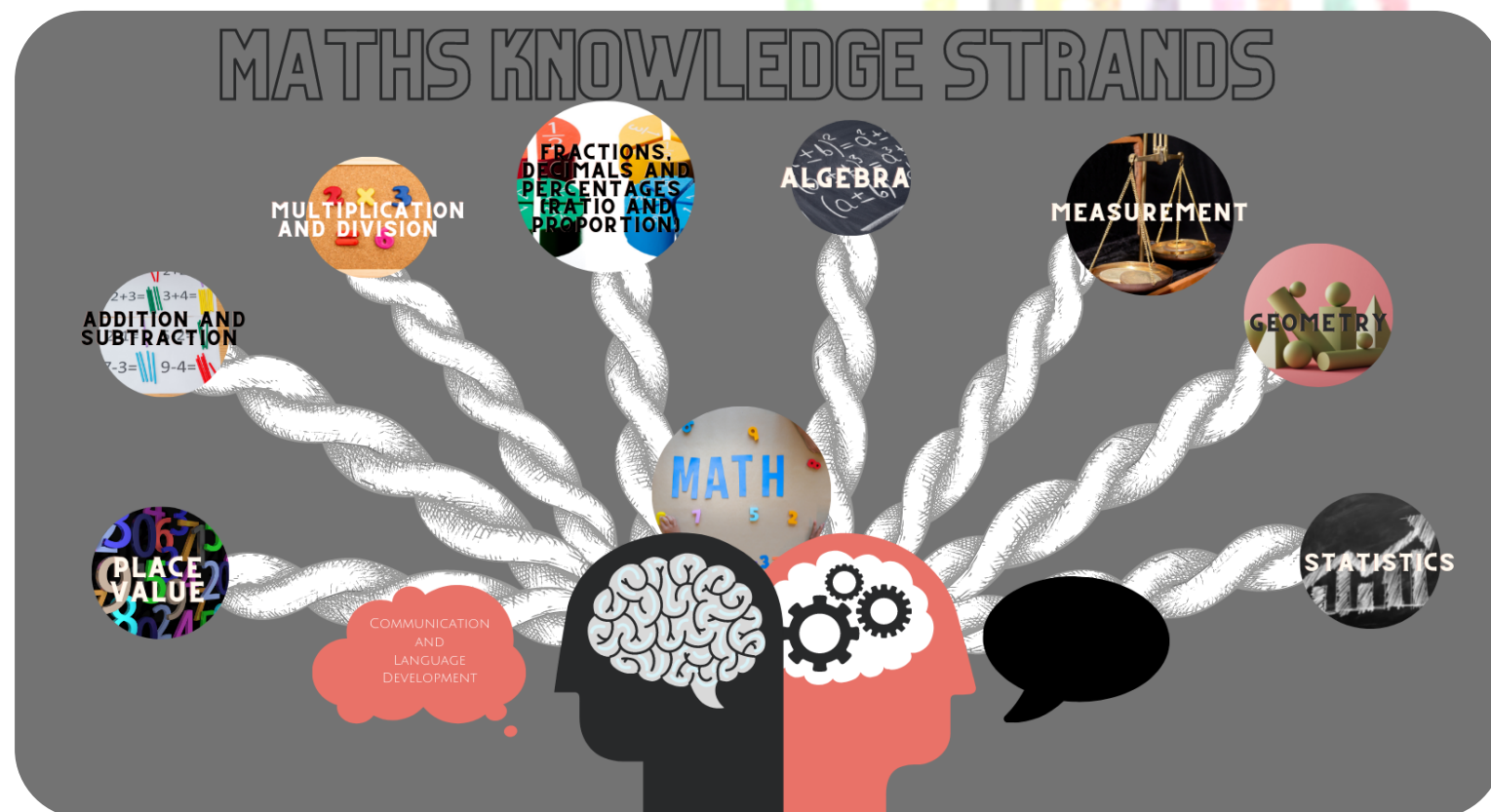




A maths curriculum planned with aspirations for pupils to leave North Wheatley C of E primary with:

- a fluent approach in the fundamentals of maths.
- the ability to reason mathematically and solve problems by applying their learning to varied, real-life problems
- the ability to demonstrate passion and respect for the subject.
- the knowledge to apply a range of taught strategies confidently and independently to support them in becoming mighty mathematicians.



Subject Progression Framework

Concrete Pictorial Abstract (CPA) is a three step instructional approach that has been found to be highly effective in teaching math concepts.

Concrete

Anything which children may use to help them carry out practical maths activities, for example counters to help with addition, cubes and rods for place value or playdough to make 3D shapes.

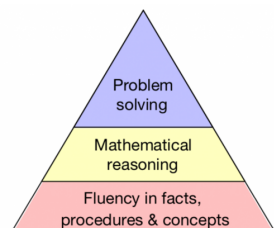
Pictorial

The pictorial stage uses visual representations of concrete objects to model problems, encouraging children to make connections between the physical object and the picture that represents the object. Anything you can draw to represent the numbers and amounts to solve problems.

Abstract

Abstract representations are sometimes called the 'symbolic' stage. It is where learners use numerals and recognisable mathematical notation of symbols to represent the concrete and pictorial.

'I think of fluency and mathematical reasoning, not as ends in themselves, but as means to support pupils in the most important goal of all: solving problems.' Foster 2019



Fluency

Fluency in maths is about developing number sense and being able to use the most appropriate method for the task at hand. While a part of this is about knowing key mathematical facts and recalling them efficiently, fluency means so much more than this as it allows pupils to delve much deeper.

Reasoning

Reasoning in maths is the process of applying logical and critical thinking to a mathematical problem in order to work out the correct strategy to use (and as importantly, not to use) in reaching a solution.

Problem Solving

Problem solving is not necessarily just about answering word problems in maths. If a child already has a readily available method to solve this sort of problem, problem solving has not occurred. Problem solving in maths is finding a way to apply knowledge and skills you have to answer unfamiliar types of problems.

The Concrete, Pictorial and Abstract approach is used to develop Fluency, Reasoning and Problem Solving in each of these Mathematical strands within the curriculum.

Place Value

Place value is the value of each digit in a number. It is important that children understand that whilst a digit can be the same, its value depends on where it is in the number.

Addition and Subtraction

Addition is a mathematical operation that represents combining objects into a larger collection whereas subtraction is a mathematical operation that represents the process of finding the difference between numbers or quantities. The two are the inverse of each other.

Multiplication and Division

Multiplication is the mathematical operation that involves combining groups of equal sizes. It is represented by the x symbol. Division is the inverse operation of multiplication and is a method of distributing a group of things into equal parts.

Fractions, Decimals and Percentages

Decimals, Fractions and Percentages are just different ways of showing the same value:

A fraction is how many equal parts of a whole.

Our Decimal System lets us write numbers as large or as small as we want, using the decimal point.

When we say "Percent" we are really saying "per 100"

Ratio and Proportion

A ratio says how much of one thing there is compared to another thing. Proportion says that two ratios (or fractions) are equal. So 1-out-of-3 is equal to 2-out-of-6. The ratios are the same so they are in proportion.

Algebra

Algebra is where letters and other general symbols are used to represent numbers and quantities in formulae and equations.

Measurement

Measurement is a process of finding a number that shows the amount of something using a standard unit. We measure time, distance, mass, capacity, temperature and money.

Geometry

Geometry is where children learn about the properties, measurements, position and relationships of points, lines, angles and shapes.

Statistics

Statistics is the study of the collection, analysis, interpretation, presentation, and organization of data.

CURRICULUM STRANDS	Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages/ Ratio and Proportion	Algebra	Measurement	Geometry	Statistics
EYFS	See EYFS Tapestry Curriculum for Birth to Early Learning Goal Curriculum. The EYFS Tapestry feeds into the Key Stage One Curriculum.							
Key Vocabulary	Numerals 1-10 Less, more, the same	Add, subtract, equals	Double, half, share, equal		Missing number, pattern	Compare, less, more, same, equal, heavy, light, tall, short, long, full, empty, days of the week, months and seasons	Begin to use names for 2d and 3d shapes – use everyday language to describe	Vote, count, most, least,
CURRICULUM STRANDS	Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages	Algebra	Measurement	Geometry	Statistics
Year 1	*Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. *Count numbers to 100 in numerals; count in multiples of twos, fives and tens *Identify and represent numbers using objects and pictorial representations *Read and write numbers to 100 in numerals *Read and write numbers from 1 to 20 in numerals and words *Given a number, identify one more and one less	*Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs *Represent and use number bonds and related subtraction facts within 20 *Add and subtract one-digit and two-digit numbers to 20, including zero *Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	*Solve one-step problems involving multiplication and division, by calculating the answer using objects, pictorial representations and arrays with the support of the teacher	*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	Beginning of algebraic thinking: *Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	*Compare, describe and solve practical problems for: lengths and heights; mass/ weight; capacity and volume; time *Measure and begin to record the following: lengths and heights; mass/ weight; capacity and volume; time *Recognise and know the value of different denominations of coins and notes *Sequence events in chronological order using language *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	*Recognise and name common 2-D shapes *Recognise and name common 3-D shapes *Describe position, direction and movement, including whole, half, quarter and three-quarter turns	Taught through daily classroom practice (such as book vote)
Communication and Language Development								
Communication and language development is taught through every aspect of the Maths curriculum using: 'I know that' 'I know how' 'I know when'								
Key Vocabulary	numerals, tens, ones, hundreds, more, less, one more, one less	addition, subtraction, equals, symbols, number bonds, digits	multiplication, multiply, division, divide, arrays	half, equal, shape, quantity, quarters	addition, subtraction, equals, symbols	long/ short, longer/ shorter, tall/short, double/half; heavy/light, heavier than/ lighter than; full/empty, more than, less than, half, half full, quarter, quicker, slower, earlier, later, hours, minutes, seconds, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening	rectangles (including squares), circles, triangles, cuboids (including cubes), pyramids, spheres, whole, half, quarter, three-quarter turns	Vote, count, most, least, fewest, popular, difference

CURRICULUM STRANDS	Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages	Algebra	Measurement	Geometry	Statistics
Year 2	*Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward *Read and write numbers to at least 100 in numerals and in words *Identify, represent and estimate numbers using different representations, including the number line *Recognize the place value of each digit in a two-digit number (tens, ones) *Compare and order numbers from 0 up to 100; use <, > and = signs *Use place value and number facts to solve problems	*Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 *Show that addition of two numbers can be done in any order and subtraction of one number from another cannot *Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems *Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers *Solve problems with addition and subtraction; using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods	*Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognizing odd and even numbers *Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot *Calculate mathematical statements for multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs *Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	*Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity *Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ *Write simple fractions for example, $\frac{1}{2}$ of 6=3	Beginning of algebraic thinking: *Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	*Choose and use appropriate standard units to estimate and measure length/ height in any directions; mass; temperature; capacity to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels *Compare and order lengths, mass, volume/ capacity and record the results using <, > and = *Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value *Find different combinations of coins that equal the same amounts of money *Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change *Compare and sequence intervals of time *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 the number of minutes in an hour and the number of hours in a day	*Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line *Identify 2-D shapes on the surface of 3-D shapes, (for example, a circle on a cylinder and a triangle on a pyramid) *Compare and sort common 2-D shapes and everyday objects *Recognise and name common 3-D shapes *Compare and sort common 3-D shapes and everyday objects *Order and arrange combinations of mathematical objects in patterns and sequences *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	*Interpret and construct simple pictograms, tally charts, block diagrams and simple tables *Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity *Ask and answer questions about totaling and comparing categorical data
Communication and Language Development								
Communication and language development is taught through every aspect of the Maths curriculum using:								
'I know that' 'I know how' 'I know when'								
Key Vocabulary	numbers to 100, estimate, tens, ones, greater than, less than, equal to	related facts, commutative, inverse, numbers, quantities and measures	multiplication, division, odd, even, commutative, arrays, repeated addition	fractions, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, equivalent	inverse addition, subtraction, calculations, missing number problems	m, cm, kg, g, °C, litres, ml, quarter past, quarter to, £, p, change	properties, line symmetry, vertical, faces, surfaces, cuboids (including cubes), pyramids and spheres, patterns and sequences, turns, half, whole, quarter, clockwise, anti-clockwise	pictograms, tally charts, block diagrams, tables, categories, comparing data

CURRICULUM STRANDS	Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages	Algebra	Measurement	Geometry	Statistics
Year 3	*Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number *Identify, represent and estimate numbers using different representations *Read and write numbers up to 1000 in numerals and in words *Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) *Compare and order numbers up to 1000 *Solve number problems and practical problems involving these ideas	*Estimate the answer to a calculation and use inverse operations to check answers *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 *Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	*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 that 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 objects	*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, find and write fractions of a discrete set of objects; unit fractions and non-unit fractions with small denominators *Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators *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 (for example $5/7 + 1/7 = 6/7$) *Solve problems that involve all of the above	Beginning of algebraic thinking: *Solve problems, including missing number problems	*Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml) *Add and subtract amounts of money to give change, using both £ and p in practical contexts *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 minute and the number of days in each month, year and leap years *Compare durations of events (for example to calculate the time taken by particular events or tasks) *Measure the perimeter of simple 2-D shapes	*Draw 2-D shapes *Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them *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	*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
Communication and Language Development								
Communication and language development is taught through every aspect of the Maths curriculum using: 'I know that' 'I know how' 'I know when'								
Key Vocabulary	multiples, identify, represent, estimate, hundreds, tens, ones	inverse operations, mentally, formal written methods, columnar addition and subtraction	multiplication and division facts, missing number problems, positive integer scaling	tenths, denominators, equivalent, unit fractions	missing number problems	m/ cm/ mm; kg/ g; l/ ml; Roman numerals, minute, seconds, hours, o'clock, a.m./ p.m. morning, afternoon, noon, midnight, leap year, durations, perimeter	orientations, right angles, greater than, less than, horizontal, vertical, perpendicular, parallel lines	How many more? How many fewer? Scaled bar charts

CURRICULUM STRANDS	Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages	Algebra	Measurement	Geometry	Statistics
Year 4	*Count in multiples of 6, 7, 9, 25 and 1000 *Count backwards through zero to include negative numbers *Identify, represent and estimate numbers using different representations *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 *Find 1000 more or less than a given number *Recognize the place value of each digit in a four-digit number (thousands, hundreds, tens, ones) *Order and compare numbers beyond 1000 *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	*Estimate and use inverse operations to check answers to a calculation *Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate *Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	*Recall multiplication and division facts for multiplication tables up to 12x12 *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 *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	*Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten *Recognise and show, using diagrams, families of common equivalent fractions *Add and subtract fractions with the same denominator *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 *Recognise and write decimal equivalents of any number of tenths or hundredths *Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ *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 *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 *Solve simple measure and money problems involving fractions and decimals to two decimal places	Continue to recap and apply prior learning in algebraic thinking	*Convert between different units of measure (for example, kilometre to metre; hour to minute) *Estimate, compare and calculate different measures *Estimate, compare and calculate different measures, including money in pounds and pence *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 *Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres *Find the area of rectilinear shapes by counting squares	* Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes *Identify lines of symmetry in 2-D shapes presented in different orientations *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 *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	*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
Communication and Language Development								
Communication and language development is taught through every aspect of the Maths curriculum using: ‘I know that’ ‘I know how’ ‘I know when’								
Key Vocabulary	negative numbers, numeral system, thousands, hundreds, tens, ones, round	inverse operations, columnar addition and subtraction	derived facts, factor pairs, commutativity, distributive law	hundredths, common equivalent fractions		convert, kilometre to metre, hour to minute, analogue, digital, rectilinear figure	geometric shapes, quadrilaterals, obtuse angles, lines of symmetry, first quadrant, translations, polygon	discrete and continuous data, graphical methods

CURRICULUM STRANDS	Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages	Algebra	Measurement	Geometry	Statistics
Year 5	*Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	*Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy *Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) *Add and subtract numbers mentally with increasingly large numbers *Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why *Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding of the meaning of the equals sign	*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 cube numbers, and the notation for squared (²) and cubed (³) *Multiply numbers up to 4 digits by a one-digit or two-digit number using a formal written method, including long multiplication for two-digit numbers *Multiply and divide numbers mentally drawing upon known facts *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	*Identify, name and write equivalent fractions of a given fractions, 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 (for example, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$) *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 *Read and write decimal numbers as fractions (for example, $0.71 = 71/100$) *Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents *Round decimals with two decimal places to the nearest whole number and to one decimal place *Read, write, order and compare numbers with	Continue to recap and apply prior learning in algebraic thinking	*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 *Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling *Use all four operations to solve problems involving measure (for example, money) *Solve problems involving converting between units of time *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 (cm ²) and square metres (m ²) and estimate the area of irregular shapes *Estimate volume (for example, using 1 cm ³ blocks to build cuboids	*Distinguish between regular and irregular polygons based on reasoning about equal sides and angles *Use the properties of rectangles to deduce related facts and find missing lengths and angles *Identify 3-D shapes, including cubes and other cuboids, from 2-D representations *Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles *Draw given angles, and measure them in degrees *Identify: angles at a point and one whole turn (total 360°); angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°); other multiples of 90° *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	*Complete, read and interpret information in tables, including timetables *Solve comparison, sum and difference problems using information presented in a line graph
Communication and Language Development	*Count forwards and backwards with positive and negative whole numbers, including through zero *Read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit *Read Roman numerals to 1000 (M) and recognise years written in Roman numerals *(Read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit *Interpret negative numbers in context *Round any number up to 1 000 000 to the nearest 10, 100,							
Communication and language development is taught through every aspect of the Maths curriculum using:	‘I know that’ ‘I know how’ ‘I know when’							

	1000, 10 000 and 100 000 *Solve number problems and practical problems that involve all of the above		of factors and multiples, squares and cubes *Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates *Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	up to three decimal places *Solve problems involving numbers up to three decimal places *Recognise the percent symbol (%) and understand that percent 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 $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25		(including cubes)) and capacity (for example, using water)		
Key Vocabulary	positive and negative whole numbers	accuracy	factors, prime numbers, composite, square numbers, long multiplication	equivalent fractions, proper fractions, thousandths, percent		kilometre, metre, centimeter, metre, millimetre, gram, kilogram, litre, millilitre, metric units, common imperial units, inches, pounds, pints, decimal notation	regular and irregular polygons, properties, degrees, acute	

CURRICULUM STRANDS	Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages/ Ratio and Proportion	Algebra	Measurement	Geometry	Statistics
Year 6	*Read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit	*Perform mental calculations, including with mixed operations and large numbers *Use their knowledge of the order of operations to carry out calculations involving the four operations *Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Identify common factors, common multiples and prime numbers *use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy *Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication *Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context *Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context *Perform mental calculations, including with mixed operations and large numbers *Solve problems involving addition, subtraction, multiplication and division *Use their knowledge of the order of operations to carry out calculations involving the four operations	*Use common factors to simplify fractions; use common multiples to express fractions in the same denomination *Compare and order fractions, including fractions >1 *Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions *Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) *Divide proper fractions by whole numbers (for example, $\frac{1}{3} \div 2 = \frac{1}{6}$) *Identify the value of each digit in numbers given to three decimal places *Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places *Multiply one-digit numbers with up to two decimal places by whole numbers *Use written division methods in cases where the answer has up to two decimal places *Solve problems which require answers to be rounded to specified degrees of accuracy *Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, $\frac{3}{8}$) *Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts *Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	*Use simple formulae *Generate and describe linear number sequences *Express missing number problems algebraically *Find pairs of numbers that satisfy an equation with two unknowns *Enumerate possibilities of combinations of two variables	*Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate *Use, read, write and convert between standards units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places *Convert between miles and kilometres *Use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa *Recognise that shapes with the same areas can have different perimeters and vice versa *Recognise when it is possible to use formulae for area and volume of shapes *Calculate the area of parallelograms and triangles *Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units (for example, mm ³ and km ³)	*Draw 2-D shapes using given dimensions and angles *Compare and classify geometric shapes based on their properties and sizes *Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius *Recognise, describe and build simple 3-D shapes, including making nets *Find unknown angles in any triangles, quadrilaterals, and regular polygons *Recognise angles where they meet at a point, are on a straight line or are vertically opposite, and find missing angles *Describe positions on the full coordinate grid (all four quadrants) *Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	*Interpret and construct pie charts and line graphs and use these to solve problems *Calculate and interpret the mean as an average
Communication and Language Development	*(Read, write), order and compare numbers up to 10 000 000 and determine the value of each digit *Round any whole number to a required degree of accuracy *Use negative numbers in context, and calculate intervals across zero *Solve number and practical problems that involve all of the above							
Communication and language development is taught through every aspect of the Maths curriculum using:	‘I know that’ ‘I know how’ ‘I know when’							

				*Solve problems involving the calculation of percentages (for example, 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 multiples				
Key Vocabulary	degree of accuracy, negative numbers	mental calculations, order of operations	common factors, common multiples, prime numbers, multi-digit, remainders	simplify fractions, simplest, calculation of percentages, scale factor, unequal sharing and grouping	formulae, linear number sequencing, algebraically, variables	conversion, formulae for area, volume of shapes, parallelograms	radius, diameter, circumference, nets	pie charts, mean

Cohort attainment and progress tracker

(Entering=E, Beginning=B, Developing=D, Meeting=M, Exceeding=Exc, Greater Depth Standard=GDS)

Cohort's Achievement Each Term (%)							
		E	B	D	M	Exc	GDS
Year 1	Autumn						
	Spring						
	Summer						
Year 2	Autumn						
	Spring						
	Summer						
Year 3	Autumn						
	Spring						
	Summer						
Year 4	Autumn						
	Spring						
	Summer						
Year 5	Autumn						
	Spring						
	Summer						
Year 6	Autumn						
	Spring						
	Summer						

Continuous dialogue reflecting yearly progress of learning and notes to feedforward for future planning.

	Notes and feedforward (Individual pupils, group, class)	QA by Subject Leader
EYFS		
Year 1		
Year 2		
Year 3		
Year 4		
Year 5		
Year 6		