MATHS CURRICULUM MAP

At Sheen Mount, all children, whatever their starting points are encouraged and supported to:

- *develop a deep knowledge and understanding of key mathematical principles and concepts*
- *explain, justify and apply their thinking, with a sound understanding of mathematical vocabulary, so that they become mathematically literate*
- *make connections across mathematical ideas, in order to develop fluency and reasoning skills within the subject*
- *gain an enjoyment and curiosity of the subject and build confidence in their understanding and application of mathematical skills so that, by the time they leave Sheen Mount, they are in a strong position to access the secondary school curriculum*
- *understand the real world application of maths, its link to other subjects, and gain the mathematical skills required to navigate our world.*

Purpose of study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

MATHS CURRICULUM MAP

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Primary National Curriculum, Key Stages 1 and 2 Framework Document

September 2013

EYFS – Mathematics (Specific Area of Learning)						
	Autumn Term		**Spring Term**		**Summer Term**	
Reception	Completion of Maths Baseline. Patterns and Repeated Patterns Looking at colour, number, shapes, objects in a repeated pattern. - When comparing things in play and everyday activities, Encourage children to predict and give reasons. Use the names of shapes and their properties (e.g. straight, curved, edges) Discuss shapes in different orientations. Introduce the numbers 1, 2 and 3 Introduce writing these numbers Including doubling. Recognising when one quantity is greater than, less than or the same as the other quantity. Odd and Even numbers. Sharing (distributed equally)	Introduce the numbers 3,4 and 5 Introduce 0 while looking at the countdown for a rocket. Introduce writing these numbers Number bonds 1-5 5 Frame Counting verbally beyond 10 Composition of numbers to 10 Using non-standard units of measure and comparison to weigh and order different objects including pumpkins and gourd vegetables from Halloween. Board Games (number lines) Perform simple addition and subtraction with concrete materials	Introduce the numbers 6,7 and 8 Introduce writing these numbers Introduce 10 frame Board Games (number lines) Perform simple addition and subtraction number sentences.	Introduce the numbers 9 and 10 Introduce writing these numbers Understand the 'one more than/one less than' relationship between consecutive numbers. Compare the length, weight and capacity of things in play and everyday activities, encourage children to predict and give reasons. Board Games (number lines) Continue working with simple addition and subtraction number sentences.	Revisit and deepen understanding of the numbers from 1-10 Consolidate Subitising (recognise quantities without counting) up to 5 Recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) Explore and represent patterns within numbers up to 10, including evens and odds. Board Games (number lines) Work with addition and subtraction number sentences up to 10.	Revisit and deepen understanding of the numbers from 1-10 Automatically recall some number bonds to 10, including double facts Verbally count beyond 20, recognising the pattern of the counting system Board Games (number lines) Look at addition up to 20 using resources. Children explore squared paper to support with transition into Year 1.

MATHS CURRICULUM MAP

	Introduce the symbols + , - and = Perform simple addition and subtraction with concrete materials Counting objects, actions and sounds Board Games (number lines)					
	ELG: Number Children at the expected level of development will: - Have a deep understanding of number to 10, including the composition of each number; - Subitise (recognise quantities without counting) up to 5; - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.			**ELG: Numerical Patterns** Children at the expected level of development will: - Verbally count beyond 20, recognising the pattern of the counting system; - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.		
Year 1	**Autumn Term**		**Spring Term**		**Summer Term**	
	Place Value and Number: Counting, writing and ordering numbers to 10. Developing an understanding of how numbers combine in different ways using 'part part whole'. Identifying, counting and representing numbers using objects and pictorial representations to 10. Place value for numbers 11-20, understanding and representing these numbers using objects and pictures. Identifying 1 more and 1 less than a number within 20. Beginning to count in 2s. **Addition and subtraction:** Representing and using number facts within and for 10 using bar models and 'part part whole' Beginning to use number facts to find missing numbers for numbers within 10. (e.g. 2 + ? = 5) Interpreting and using mathematical symbols + = Solving addition sentences involving 1 digit numbers and some 2 digit to 1 digit numbers using a range of practical and mental methods. **Geometry Shape:**	**Place Value and Number:** Counting, writing and ordering numbers to 20. Identifying, counting and representing numbers using objects and pictorial representations to 20. Writing numbers to 10 in words. Counting in 2s, 5s and 10s **Addition and subtraction:** Continuing to develop an understanding of how to make numbers up to 20 in different ways using 'part, part, whole'. Continuing to use number facts to find missing numbers for numbers within 20. (e.g. 10 - ? = 5) Interpreting and using mathematical symbols - = Solving subtraction sentences involving 1 digit numbers and some 2 digit to 1 digit numbers using a range of practical and mental methods. **Measures Length and Height:** Beginning to use standard units of measurement to measure length and height. Comparing, describing and solving practical problems involving length and height, using related language for	**Place Value and Number:** Counting to 50 forwards and backwards from any given number. Reading, writing and ordering numbers to 50. Identifying and representing numbers using objects and pictorial representations. Consolidating 1 more and 1 less than a number, moving on to 2 more, 2 less etc using practical resources and a 100 square. Counting in 2s, 5s and 10s. Partitioning 2 digit numbers to 50 into Tens and Ones using dienes and ones cubes. **Addition and subtraction:** Consolidating number facts within 20. Securing addition and subtraction using a range of practical and mental methods. Adding and subtracting 2 digit and 1 digit numbers (e.g. 12 + 4 25 – 3). Starting to add 10s to a number using Tens and Ones knowledge and a 100 square. **Measures Time:** Recognising and using language relating to dates, including days of the week, months and years.	**Measure Time:** Reading the given time to the hour and half past the hour, interpreting hands on a clock face. Telling the time to the hour and half past the hour, drawing hands on a clock face to show these times. Recognising and using language relating to dates, including days of the week, months and years. Sequencing events in chronological order using language. (e.g. first, next, before, after etc) **Multiplication and division:** Counting in multiples of 2, 5 and 10. Using counting strategies to solve problems. Grouping objects into groups of 2s, 5s and 10s, beginning to understand multiplication as adding groups of numbers. Using arrays to solve multiplication sentences. Using the x symbol and understanding that it means 'lots of/groups of'. Sharing numbers into 2s, 5s and 10s, beginning to understand division as sharing objects equally.	**Geometry Shape:** Consolidating knowledge of common 2D and 3D shapes. Beginning to describe common 3D shapes. Continuing and creating simple shape patterns. Continuing to develop knowledge of position, direction and movement, including whole, half, quarter and three quarter turns. **Place Value and Number:** Counting to 100 forwards and backwards from any given number. Reading, writing and ordering numbers to 100. Finding 10 more 10 less using practical resources and a 100 square. Counting in 2s, 5s and 10s. Learning about odd and even numbers. Revising partitioning 2 digit numbers to 100 into Tens and Ones using dienes and ones cubes. **Addition and subtraction:** Representing and using number facts within 20, involving addition and subtraction sentences.	**Measure Time:** Reading the given time to the hour and half past the hour, interpreting hands on a clock face. Telling the time to the hour and half past the hour, drawing hands on a clock face to show these times. **Number and Number facts:** Consolidating number bonds within 20 and for 10 and 20. Finding doubles and halves of numbers. Writing numbers to 20 in words. **Multiplication and division:** Revising grouping and sharing strategies. Solving multiplication and division problems using arrays and pictorial representations. Beginning to understand that multiplication is commutative. **Fractions:** Recognising, finding and naming a half as one of two equal parts of an object, shape or quantity. Recognising, finding and naming a quarter as one of four equal parts of an object, shape or quantity. **Measures Money, Weight, Volume/Capacity**

MATHS CURRICULUM MAP

	Recognising and naming common 2D and 3D shapes discretely and as everyday objects. Beginning to describe properties of 2D shapes. Describing position, direction and movement, including whole, half, quarter and three quarter turns.	length. E.g. long/short, longer/shorter.	Sequencing events in chronological order using language. (e.g. first, next, before, after etc)	Using sharing circles to solve division sentences. Understanding and interpreting the division symbol. Solving one step problems involving multiplication and division. **Fractions:** Relating division work to fractions. Recognising, finding and naming a half as one of two equal parts of an object, shape or quantity. Recognising, finding and naming a quarter as one of four equal parts of an object, shape or quantity.	Beginning to understand commutativity, inverse and related number sentences. Using this knowledge to find missing numbers and solving more complex number sentences (e.g 7 = ? – 9, 2 + 3 = ? + 4). Consolidating on addition and subtraction strategies. Solving one step problems involving addition and subtraction, identifying key vocabulary. **Measure Time:** Reading the given time to the hour and half past the hour, interpreting hands on a clock face. Telling the time to the hour and half past the hour, drawing hands on a clock face to show these times.	Recognising and knowing the value of different coin denominations. Adding similar and different coins. Using coins to make the same/different amounts. Beginning to use standard units of measurement to measure weight and volume/capacity. Comparing, describing and solving practical problems involving weight and volume/capacity, using related language. E.g. heavier/lighter, full/empty/half full/quarter **Data handling:** Collecting data and representing it using pictograms and bar charts.
Year 2	**Place Value and Number:** Reading, writing and ordering numbers up to 100. Counting in steps of 2, 5 and 10 from any number forward and backward. Recognising odd and even numbers. Comparing and ordering numbers from 0 to 100 using > < = symbols. Estimating numbers to 100 on a number line. Consolidating understanding of how numbers combine in different ways using 'part part whole'. Recognising the place value of each digit in a 2 digit number. Partitioning into Tens and Ones. **Addition and subtraction:** Recalling and using addition and subtraction facts to 20. Understanding commutativity in that addition can be done in any order but that subtraction cannot. Adding and subtracting numbers using concrete	**Geometry Shape:** Continuing with work from previous term, **Number and number facts:** Recalling doubles of numbers up to 20. Counting in steps of 2, 5 and 10 from any number forward and backward. Working out, recalling and using number bonds within and for 10 using both addition and subtraction. Recognising the relationship between addition and subtraction and use this knowledge to check calculations and find missing numbers. Understanding commutativity in addition. Finding inverse and related number sentences using 'part, part, whole' models (e.g. bar model). Finding missing numbers and solving more complex number sentences. **Measures Money:**	**Place Value and Number:** Counting in 2s, 3s, 5s and 10s from any given number. Writing numbers from 0-20 in words. Identifying, representing and estimating numbers using different representations, including the number line. Recognising the place value of each digit in a 2 digit number. Partitioning into Tens and Ones. Recalling the multiples of 10 below and above any given 2 digit number e.g 67 the multiples are 60 and 70. Partition any 2 digit number into different combinations of tens and ones. (e.g: 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones) **Addition and subtraction:** Adding and subtracting numbers using concrete objects, pictorial representations, and mentally, including 3 one digit numbers, a two digit number and ones,	**Multiplication and division:** Understanding multiplication as adding groups of numbers and using arrays and mental methods to work out sentences. Recognising the relationships between repeated addition and multiplication and repeated subtraction and division. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Understanding division are sharing and using concrete materials and mental methods to show working out. Understanding the symbols for each calculation. Recalling and using multiplication and division facts for 2, 5 and 10 and use them to solve simple problems. Solving unfamiliar word problems that involve more than one step. Solving problems involving multiplication and division, using arrays, repeated addition and multiplication and division	**Place Value and Number:** Writing numbers within 100 in words. Identifying, representing and estimating numbers using different representations, including the number line. Recalling the multiples of 10 below and above any given 2 digit number e.g 67 the multiples are 60 and 70. Partition any 2 digit number into different combinations of tens and ones. (e.g: 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones) **Addition and subtraction:** Consolidating and revision of number facts within 20, recapping inverse and related number sentences. Deriving and using related facts to 100. Consolidating and revising addition and subtraction strategies, relating subtraction to finding the difference. Using numbers and relationships to solve more complex problems and explaining thinking. Including missing number, balancing	**Place Value and Number:** Revising and consolidating previous areas. Developing reasoning and problem solving skills. **Measures:** Choosing and using appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Reading scales in divisions of ones, twos, fives and tens and reading scales where not all numbers on the scale are given and estimating points in between. Comparing and ordering lengths, mass, volume/capacity and record the results using >, < and =. **Measures Time:** Reading and drawing/writing the time on a clock to the nearest 15 minutes. Reading the time on a clock to the nearest 5 minutes **Data Handling and Graphs:**

MATHS CURRICULUM MAP

	objects, pictorial representations, and mentally, including 3 one digit numbers, a two digit number and ones, a two digit number and tens and two two digit numbers where regrouping is not required. **Geometry Shape:** Naming common 2D and 3D shapes and describing some of their properties (sides, corners, edges, faces, vertices) Ordering and arranging combinations of mathematical objects in patterns and sequences.	Recognising and using symbols for pound and pence and combining amounts to make a particular value. Knowing the value of different coins. Using different coins to make the same amount. **Measures Length, Height, Mass/Weight:** Choosing and using appropriate standard units to estimate and measure length/height in any direction (m/cm) and mass/weight (kg/g) to the nearest unit, using rulers and scales. Comparing and ordering measures and recording results using < > =.	a two digit number and tens and two two digit numbers where regrouping is required. Solving problems with addition and subtraction including those involving numbers, quantities and measures. Using place value and number facts to solve problems. Applying increasing knowledge of mental and written methods. **Measures Time:** Developing knowledge of time and remembering the number of minutes in an hour and the number of hours in a day. Comparing and sequencing internals of time. Reading and drawing/writing the time on a clock to the nearest 15 minutes.	facts, including problems in contexts. **Fractions:** Identifying 1/4, 1/3, 1/2, 2/4, 3/4, of a number or shape, and know that all parts must be equal parts of the whole. Writing simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2. Comparing fractions. Recalling halves of numbers to 20.	equations and word problems involving numbers, quantities and measures. Using estimation to check answers to calculations are reasonable. **SATs assessments:** Revision of previous work **Geometry Shape:** Recapping on previous shape work looking specifically at symmetry. Comparing, sorting and describing similarities and differences of 2-D and 3-D shapes, using their properties.	Sort data into Venn and Carroll diagrams. Interpreting and constructing simple pictograms, tally charts, block diagrams and simple tables. Asking and answering simple questions by counting the number of objects in each category and sorting the categories by quantity. Answering and asking questions about totalling and comparing categorical data. **Measure Money:** Consolidating previous work on money and coins. Solving simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. = **Fractions:** Consolidating previous work
Year 3	**Autumn Term**		**Spring Term**		**Summer Term**	
	Number – Place Value Representing hundreds and counting in hundreds Represent numbers to 1,000 in numerals and words Recognise the place value of each digit in a 3-digit number Number line representations to 1,000 Find 1, 10, 100 more or less than a given number Compare objects to 1,000 Compare numbers to 1,000 Order numbers up to 1,000 Count in multiples of 50 and 100s Identify, represent and estimate numbers using different representations. Solve number problems and practical problems involving these ideas. **Number – Addition and Subtraction** Throughout the topic: children are taught to add and subtract numbers mentally Add and subtract multiples of 100	**Number – Addition and Subtraction** Add two 3-digit numbers: not crossing 10 or 100 Add two 3-digit numbers: crossing 10 or 100 Subtract a 3-digit number from a 3-digit number: no exchange Subtract a 3-digit number from a 3-digit number: exchange Throughout the topic: - estimate answers to calculations and use inverse operations to check answers - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction **Measurement – money** Add and subtract amounts of money to give change, using both £ and p in practical contexts. Pounds and pence Converting pounds and pence Adding money Subtracting money	**Number – Multiplication and Division** Multiplication – equal groups Multiplying by 3 drawing on knowledge of counting in 3s Dividing by 3 - sharing and grouping Consolidating the 3 times-table Multiplying by 4 – building on two times table knowledge Dividing by 4 - sharing and grouping Consolidating the 4 times-table Multiplying by 8 – building on four times table knowledge Dividing by 8 - sharing and grouping Count from 0 in multiples of 3, 4 and 8 Comparing statements of multiplication using <,>, or =. Related calculations where the multiplicand or multiplier is ten times larger Multiply 2-digit numbers by 1-digit numbers	**Number – fractions** Unit and non-unit fractions Making the whole What are tenths? recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 Count up and down in tenths Tenths as decimals Recognise and use fractions as numbers: counting forward and backwards on a number line Find and write fractions of a discrete set of objects Solve problems that involve all of the above. **Statistics** Interpret and present data using pictograms Interpret and present data using bar Charts Interpret and present data using tables Solve one-step and two-step questions using information	**Number – fractions** Recognise and show, using diagrams, equivalent fractions with small denominators Compare unit fractions, and fractions with the same denominators Order fractions unit fractions, and fractions with the same denominators Add fractions with the same denominator within one whole Subtract fractions with the same denominator within one whole Solve problems that involve all of the above. **Measurement – time** Months and years Hours in a day Know the number of seconds in a minute Telling the time *from an analogue clock, including using Roman numerals from I to XII* to 5 minutes Telling the time to *from an analogue clock, including*	**Geometry – properties of shape** recognise angles as a property of shape or a description of a turn identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn Compare angles and identify whether angles are greater than or less than a right angle Draw accurately Identify horizontal and vertical lines Identify pairs of parallel and perpendicular Recognise and describe 2D shapes Recognise and describe 3D shapes in different orientations Make 3D shapes draw 2-D shapes and make 3-

MATHS CURRICULUM MAP

	Add and subtract 3-digit numbers and ones: not crossing 10 Add 3-digit and 1-digit numbers: crossing 10 Subtract a 1-digit number from a 3-digit number: crossing 10 Add and subtract 3-digit numbers and tens: not crossing 100 Add a 3-digit number and tens: crossing 100 Subtract tens from a 3-digit number: crossing 100 Add and subtract 100s Pattern spotting Add and subtract a 2-digit and 3-digit number: not crossing 10 or 100 Add a 2-digit and 3-digit number: crossing 10 or 100 Subtract a 2-digit number from a 3-digit number: cross the 10 or 100	Giving change **<u>Measurement – length and perimeter</u>** **Measure, compare, add and subtract: lengths (m/cm/mm).** Measure the perimeter of simple 2D shapes. Measure length Equivalent lengths – m & cm Equivalent lengths – mm & cm Compare lengths Add lengths Subtract lengths Measure perimeter Calculate perimeter	Divide 2-digit numbers by 1-digit numbers Scaling problems and correspondence problems in which *n* objects are connected to *m* objectives Solve how many combination problems Throughout the topic: Solve problems, including missing number problems, involving multiplication and division, including positive integer Children are supported to use mental methods of calculation	presented in scaled bar charts and pictograms and tables.	*using Roman numerals from I to XII t*he minute AM and PM 24 hour clock Finding the duration Comparing the duration Start and end times Measuring time in seconds Tell and write the time. Estimate and read time with increasing accuracy to the nearest minute. Record and compare time in terms of seconds, minutes and hours.	D shapes using modelling materials; **<u>Measurement – mass and capacity</u>** **Measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml).** Measure mass Compare mass Add and subtract mass Measure capacity Compare capacity Add and subtract capacity

MATHS CURRICULUM MAP

Year 4

Autumn Term

Number - Place Value

Represent numbers to 1,000
100s, 10s and 1s
Number line to 1,000
Round to the nearest 10
Round to the nearest 100
Count in 1,000s
Partitioning four digit numbers
Number line to 10,000
Find 1,10, 100 more or less
1,000 more or less
compare numbers
Order numbers
Round to the nearest 1,000
Count in 25s
Negative numbers
Roman numerals up to 100

count in multiples of 6, 7, 9, 25 and 1,000
find 1,000 more or less than a given number
count backwards through 0 to include negative numbers
recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s)
order and compare numbers beyond 1,000
identify, represent and estimate numbers using different representations
round any number to the nearest 10, 100 or 1,000
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 0 and place value

Addition and Subtraction

Measurement – perimeter

Equivalent lengths m and km
Measure perimeter
Perimeter on a grid
Perimeter of a rectangle
Perimeter of rectilinear shapes

Multiplication and division

Multiply by 10
Multiply by 100
Divide by 10
Divide by 100
Multiply by 1 and 0
Divide by 1 and itself
Multiply and divide by 3
The 3 - times table
Multiply and divide by 6
6 times table and division facts
Multiply and divide by 9
9 times table and division facts
Multiply and divide by 7
7 times table and division facts

Throughout the above sequence: solve problems using multiplication and addition.

Spring Term

Multiplication and division

11 and 12 times-table
Multiply 3 numbers
Factor pairs and commutativity
Efficient multiplication in mental calculations
Written methods
Multiply 2-digits by 1-digit
Multiply 2-digits by 1 digit
Multiply 3- digits by 1 digit
Divide 2-digits by 1-digit
Divide 3-digits by 1-digit
Correspondence problems

Measurement – area and length

What is area?
Counting squares
Making shapes
Comparing area

Multiplication and division

Recall and use 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.
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.

Fractions

What is a fraction?
Recognise and show, using diagrams, families of common equivalent fractions
Fractions greater than 1
Count in fractions
Add 2 or more fractions
Subtract 2 fractions
Subtract from whole amounts
Calculate fractions of a quantity
Problem solving - calculate quantities

Decimals

Recognise tenths and hundredths
Tenths as decimals
Tenths on a place value grid
Tenths on a number line
Divide 1-digit by 10
Divide 2-digits by 10
Hundredths
Hundredths as decimals
Hundredths on a place value grid
Divide 1 or 2-digits by 100

Fractions, Decimals

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.

Recognise and write decimal equivalents of any number of tenths or hundredths.

Summer Term

Decimals

Compare numbers with the same number of decimal places up to two decimal places.
Round decimals with one decimal place to the nearest whole number.
Recognise and write decimal equivalents to 14, 12 and 34
Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths

Measurement - Money

Estimate, compare and calculate different measures, including money in pounds and pence. Solve simple measure and money problems involving fractions and decimals to two decimal places.

Measurement - Time

Read, write and convert between different units of measure [for example, kilometre to metre; hour to minute].
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.

Statistics

Interpret and present discrete and continuous data using different types of graphs.
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

Geometry – properties of shape

Geometry: Properties of shape
Identify acute and obtuse angles and compare and order angles up to two right angles by size.
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.
Complete a simple symmetric figure with respect to a specific line of symmetry.

Geometry – position and direction

Describe positions on a 2-D grid as coordinates in the first quadrant. Plot specified points and draw sides to complete a given polygon. Describe movements between positions as translations of a given unit to the left/ right and up/ down.

MATHS CURRICULUM MAP

	Add two 4-digit numbers - no exchange Add two 4-digit numbers one exchange Add two 4-digit numbers - more than one exchange Subtract two 4-digit numbers - no exchange Subtract two 4-digit numbers - one exchange Subtract two 4-digit numbers more than one exchange Efficient subtraction Estimate answers Checking strategies .		**Measurement – area and length** find the area of rectilinear shapes by counting squares Convert between different units of measure [for example, kilometre to metre]	 Find the effect of dividing a one or two digit number by 10 or 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. Convert between different units of measure [for example, kilometre to metre].	charts, pictograms, tables and other graphs.	
Year 5	**Place Value** Read, write, order and compare numbers to at least 1,000,000. Count in steps of powers of 10 for any given number up to 1,000,000. Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000. Interpret negative numbers. Solve number problems and practical problems using all of the above. Read Roman numerals to 1000 and recognise years in Roman numerals. **Addition and subtraction** Add and subtract whole numbers with more than 4 digits, including using formal written methods. Use rounding to check answers to calculations. Solve addition and subtraction multi-step problems. Add and subtract numbers mentally with increasingly large numbers. **Geometry** Measure and calculate the perimeter of composite rectilinear shapes. (using previous addition and subtraction skills)	**Multiplication and division** Multiply numbers up to 4 digits by a one or two digit number using a formal written method. Divide numbers up to 4 digits by a one digit number using a formal written method and interpret remainders appropriately. Solve problems involving addition and subtraction, multiplication and division. **Geometry** Recap of perimeter of composite rectilinear shapes. Calculate and compare the area of squares and rectangles and estimate the area of irregular shapes. (using previous multiplication skills)	**Multiplication and division** Identify multiples and factors. Establish whether a number up to 100 is prime and recall prime numbers up to 19. Solve problems by decomposing larger numbers into their factors, using prime numbers, prime factors and composite numbers. Multiply and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers and **decimals** by 10, 100 and 1000. Recognise and use square numbers and cube numbers. **Measurement** Convert between different units of metric measure. Estimate volume. Use all four operations to solve problems involving measure.	**Fractions** Identify, name and write equivalent fractions of a given fraction. Compare and order fractions whose denominators are multiples of the same number. Recognise mixed numbers and improper fractions and convert. Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	**Decimals and percentages** Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths as fractions and decimals. Round decimals with 2 decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places. Recognise the % symbol and write percentages as fractions and decimals. Solve problems which require knowing percentage and decimal equivalents. Use all four operations to solve problems involving measure using decimal notation, including scaling. **Geometry** Distinguish between regular and irregular polygons using reasoning. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Identify 3D shapes from nets.	**Geometry** 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 within a whole turn including multiples of 90°. Identify, describe and represent the position of a shape following a reflection or translation. **Statistics** Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables including timetables. **Measurement** Solve problems involving converting between units of time. Understand and use approximate equivalences between metric units and common imperial units. **End of Year Assessment**

MATHS CURRICULUM MAP

Year 6	**Number and Place Value** - 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. **Four Operations** - addition, subtraction - long multiplication - long division - multistep problems	**Four Operations** - identify common factors, common multiples and prime numbers (including squares and cubes) - order of operations **Fractions, Decimals and Percentages** - use common factors to simplify fractions - compare and order fractions - add and subtract fractions (including mixed numbers) - multiply fractions by whole numbers - multiply simple pairs of proper fractions - divide proper fractions by whole numbers - find fractions of an amount - associate a fraction with division and calculate decimal fraction equivalents - identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 - multiply and divide decimals by integers - equivalence between fractions, decimals and percentages - find percentages of an amount	**Measurement** - solve problems involving the calculation and conversion of units of measure - use, read, write and convert between standard units - convert between miles and kilometres - 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 **Geometry** - draw 2-D shapes using given dimensions and angles - recognise, describe and build simple 3-D shapes - compare and classify geometric shapes based on their properties and sizes and find unknown angles - illustrate and name parts of circles - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	**Geometry** - describe positions on the full coordinate grid - draw and translate simple shapes on the coordinate plane, and reflect them in the axes **Statistics** - interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average **Ratio and Proportion** - solve problems involving the relative sizes of two quantities - solve problems involving the calculation of percentages - solve problems involving similar shapes (scale factor) - solve problems involving unequal sharing and grouping	**Algebra** - 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. **Revision** - revision of all KS2 maths skills	**Using Mathematical Knowledge and Skills in the Real World** Bizworld –entrepreneurial project