Shillington Lower school and Stondon Lower school (Shillington and Stondon Federation)

Curriculum map/skills progression grid

Date	Maths Skills Progression Review date	Subject Leader
September 2024	September 2025	Ciara Dumpleton

This document aims to give guidance on the progression of skills and knowledge across the year groups. It is used to support planning the year groups long term overviews that break up content into termly blocks. As children make progress through the school, it is expected that they can demonstrate a wider range of independent skills and knowledge in the 7 strands of maths across the curriculum. In maths, like in other subjects, we recognise the importance that a range of different teaching methods could be used in supporting pupils to know more, understand more and remember more. In maths we use the following approaches of small steps in learning to ensure that children build on previous learning, concrete equipment to support children to understand different processes and concepts, pictorial representations which build upon on the concrete and allow children to learn how to represent number in a variety of ways, written methods which use conceptual and procedural variation to extend children's thinking and problem solving and reasoning to develop children's verbal and written responses to solve different mathematical tasks. These will be evident in pupil discussion, observations and work in books in order that learning opportunities in maths are as effective as possible and that pupils make progress throughout the year and across different years.

Strand	EYFS **ELG**	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value							
Vocabulary	one, two, three … to twenty and beyond teens numbers, eleven, twelve … twenty none how many …? count, ones, twos, fives, tens is the same as more, less odd, even few pattern pair ones tens digit the same number as, as many as more, larger, bigger, greater fewer, smaller, less fewest, smallest, least most, biggest, largest, greatest one more, ten more one less, ten less compare order size first, second, third… twentieth	Number Zero, one, two, three to twenty, and beyond None Count Before, after More, less, many, few, fewer, least, fewest, smallest, greater, lesser Equal to, the same as Odd, even Units, ones, tens Ten more/less Digit Numeral Compare Size Value Between, halfway Above, below	Numbers to one hundred Hundreds Partition, recombine Hundred more/less	Numbers to one thousand	Tenths, hundredths Decimal (places) Round (to nearest) Thousand more/less than Negative integers Roman numerals (I to C)	Powers of 10	Numbers to ten million

	last, last but one before, after guess how many …? estimate nearly close to about the same as just over, just under too many, too few enough, not enough						
Counting	count objects, action and sounds subitise – recognise the number of objects in a small group without needing to count them count beyond 10 Automatically recall number bonds for numbers 0-5 and some to 10. **Have a deep understanding of number to 10, including the composition of each number** **Subitise (recognise quantities without counting) up to 5;** **Verbally count beyond 10, recognising the pattern of the counting system;**	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals, count in multiples of 2s, 5s, and 10s.	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.	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	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 Count forwards and backwards with positive and negative numbers, including through zero	continue to count forwards and backwards from any given number including positive and negative numbers, including through zero
Place Value	compare numbers	partition and combine numbers using apparatus if required	recognise the place value of each digit	recognise the place value of each digit in a three-digit	recognise the place value of each digit in a four-digit number	Compare numbers to at least 1 000 000 and determine the value of each digit.	Order and compare numbers up to 10 000 000 and

	understand the 'one more than/one less than' relationship between consecutive numbers explore the composition of numbers to 10 **Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;**	e.g. partition 76 into tens and ones; combine 6 tens and 4 ones Compare numbers using <, > and = signs	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 partition two-digit numbers into different combinations of tens and ones using apparatus if needed e.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones recall the multiples of 10 below and above any given 2-digit number e.g. say that for 67 the multiples are 60 and 70	number (hundreds, tens, ones) compare and order numbers up to 1000 Know that 10 tens are equivalent to 1 hundred, Know that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.	(thousands, hundreds, tens and ones) order and compare numbers beyond 1000 round any number to the nearest 10, 100 or 1000 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-	Interpret negative numbers in context. Round any number up to 1 000 000 to the nearest: - 10 - 100 - 1000 - 10, 000 - 100, 000	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.
Representing Number	link the number symbol (numeral) with its cardinal number value	identify and represent numbers using objects and pictorial representations including the number line, & use language of: equal to, more than, less than (fewer), most, least read and write numbers from 1 to 20 in numerals and words	identify, represent and estimate numbers using different representations, including the number line read and write numbers to at least 100 in numerals and in words	identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words	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	Read, write (order and compare) numbers to at least 1 000 000 and determine the value of each digit. Read Roman numerals to 1000 and recognize years written in Roman numerals.	Read, write (order and compare) numbers up to 10 000 000 and determine the value of each digit.
Addition and Subtraction							

Vocabulary	add, more, and make, sum, total altogether double one more, two more … ten more how many more to make …? how many more is … than …? how much more is …? take away how many are left/left over? how many have gone? one less, two less, ten less … how many fewer is … than …? how much less is …? difference between	Number bonds, number line Add, more, plus, make, sum, total, altogether Inverse Double, near double Half, halve Equals, is the same as (including equals sign) Difference between How many more to make..? How many more is…than..? How much more is..? Subtract, take away, minus How many fewer is…than..? How much less is..?	addition add, more, and make, sum, total altogether double near double half, halve one more, two more … ten more … one hundred more how many more to make …? how many more is … than …? how much more is …? subtract take away how many are left/left over? how many have gone? one less, two less, ten less … one hundred less how many fewer is … than …? how much less is …? difference between equals is the same as number bonds/pairs/facts tens boundary	addition add, more, and make, sum, total altogether double near double half, halve one more, two more … ten more … one hundred more how many more to make …? how many more is … than …? how much more is …? subtract take away how many are left/left over? how many have gone? one less, two less, ten less … one hundred less how many fewer is … than …? how much less is …? difference between equals is the same as number bonds/pairs/facts missing number tens boundary, hundreds boundary	addition add, more, and make, sum, total altogether double near double half, halve one more, two more… ten more… one hundred more how many more to make …? how many more is … than …? how much more is …? subtract take away how many are left/left over? how many have gone? one less, two less, ten less … one hundred less how many fewer is … than …? how much less is …? difference between equals is the same as number bonds/pairs/facts missing number tens boundary, hundreds boundary inverse	addition add, more, and make, sum, total altogether double near double half, halve one more, two more … ten more … one hundred more how many more to make …? how many more is … than …? how much more is …? subtract take away how many are left/left over? how many have gone? one less, two less, ten less … one hundred less how many fewer is … than …? how much less is …? difference between equals is the same as number bonds/pairs/facts missing number tens boundary, hundreds boundary, ones boundary, tenths boundary inverse	addition add, more, and make, sum, total altogether double near double half, halve one more, two more … ten more … one hundred more how many more to make …? how many more is … than …? how much more is …? subtract take away how many are left/left over? how many have gone? one less, two less, ten less … one hundred less how many fewer is … than …? how much less is …? difference between equals is the same as number bonds/pairs/facts missing number tens boundary, hundreds boundary, ones boundary, tenths boundary inverse
Number Facts	automatically recall number bonds for numbers 0 – 5 and some to 10 **Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to**	given a number, identify one more and one less 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) represent and use number bonds and related subtraction facts within 20	recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships recall and use addition and subtraction facts to 20 fluently, and derive and use	Continue to use number bonds to solve problems involving three - digit numbers Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	Continue to use number bonds to solve problems involving four-digit numbers	Continue to use number bonds to solve problems involving four-digit numbers and beyond	Continue to use number bonds to solve problems involving four-digit numbers and beyond

	10, including double facts. **Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.**	Develop fluency in addition and subtraction facts within 10.	related facts up to 100 recall doubles and halves to 20 e.g. knowing that double 2 is 4, double 5 is 10 and half of 18 is 9 Secure fluency in addition and subtraction facts within 10, through continued practice.				
Working Mentally	**Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;**	add and subtract one-digit and two-digit numbers to 20, including zero	add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones, tens, another two-digit number and 3 one digit numbers. show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	add and subtract numbers mentally, including: three-digit number and ones, three-digit and tens, three-digit number and hundreds	add and subtract numbers mentally, including: four-digit number and ones, four-digit and tens, four-digit number and hundreds	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	continue to use taught methods to mentally add and subtract within a range of contexts, using rounding and estimation to check
Written Representation	begin to mark make to represent numbers Begin to recognise numerals 0 to 10	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)	add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Add and subtract whole numbers with more than 4 digits, including using formal written methods. Add and subtract numbers mentally with increasingly large numbers.	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.

	Links numerals with amounts up to 5 and maybe beyond	read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs demonstrate an understanding of the commutative law (e.g. 3 + 2 = 5, therefore 2 + 3 = 5) demonstrate an understanding of inverse relationships involving addition and subtraction (e.g. if 3 + 2 = 5, then 5 – 2 = 3)	ones, tens, another two-digit number and 3 one digit numbers. show that addition of two numbers can be done in any order (commutative) 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.				
Problem Solving and Reasoning		solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9.	solve problems with addition and subtraction, using concrete, pictorial and abstract representations use estimation to check that his/her answers to a calculation are reasonable e.g. knowing that 48 + 35 will be less than 100	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	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	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 the meaning of the equals sign.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
Multiplication and Division							

Vocabulary	sharing doubling halving number patterns	multiplication multiply multiplied by multiple division dividing grouping sharing doubling halving array number patterns	multiplication multiply multiplied by multiple groups of times once, twice, three times … ten times repeated addition division dividing, divide, divided by, divided into grouping sharing, share, share equally left, left over one each, two each, three each … ten each group in pairs, threes…, tens equal groups of doubling halving array row, column number patterns multiplication table multiplication fact, division fact	multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times … ten times repeated addition division dividing, divide, divided by, divided into left, left over, remainder grouping sharing, share, share equally one each, two each, three each … ten each group in pairs, threes … tens equal groups of halving array row, column number patterns multiplication table multiplication fact, division fact	multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times … ten times repeated addition division dividing, divide, divided by, divided into left, left over, remainder grouping sharing, share, share equally one each, two each, three each … ten each group in pairs, threes … tens equal groups of doubling halving array row, column multiplication fact, division fact inverse square, squared cube, cubed	multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times … ten times repeated addition division dividing, divide, divided by, share equally one each, two each, three each … ten each group in pairs, threes … tens equal groups of doubling halving array row, column number patterns multiplication table multiplication fact, division fact	multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times … ten times repeated addition division dividing, divide, divided by, divided into left, left over, remainder grouping sharing, share, share equally one each, two each, three each … ten each group in pairs, threes … tens equal groups of doubling halving array row, column number patterns multiplication table multiplication fact,
Number Facts	**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.**	count forwards and backwards in multiples of twos, fives and tens	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers use multiplication and division facts for 2, 5 and 10 to make deductions outside known multiplication facts e.g. know that multiples of 5 have one digit of 0 or 5	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts. Apply place-value knowledge to	recall multiplication and division facts for multiplication tables up to 12 × 12 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. Apply place-value knowledge to known additive and multiplicative number	continue to apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)	continue to apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 11 tenth or 1 hundredth)

			and use this to reason that 18 × 5 cannot be 92 as it is not a multiple of 5	known additive and multiplicative number facts (scaling facts by 10).	facts (scaling facts by 100)		
Working Mentally	**Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.**	count in multiples of twos, fives and tens	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	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 methods and progressing to formal written methods	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 and divide whole numbers by 10, 100 and 1,000	Identify multiples and factors, including finding all the factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19. Recognize and use square numbers and cube numbers, and the notation for squared and cubed.	Identify common factors, common multiples and prime numbers. Use estimation to check answers to calculations and determine, in the context of a problems. An appropriate degree of accuracy. Perform mental calculations, including with mixed operations and large numbers.
Written Representation	begin to mark make to represent numbers	use concrete objects, pictorial representations and arrays with the support of the teacher.	Use arrays, repeated addition and multiplication and division sentences recognise the relationships between addition and subtraction and rewrite addition statements as simplified multiplication statements e.g. 10 + 10 + 10 + 5 + 5 = 3 × 10 + 2 × 5 = 4 × 10	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 methods and progressing to formal written methods	multiply two-digit and three-digit numbers by a one-digit number using formal written layout	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. 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.	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. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division, interpreting reminders according to the context.

Problem Solving and Reasoning		solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts solve word problems involving multiplication and division with more than one step e.g. which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet	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.	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	Solve problems involving multiplication and division including using their knowledge 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.
Combined Operations		Begin to develop their understanding of the four operations	continue to develop their understanding of the four operations and begin to link addition and multiplication, subtraction and division	continue to develop their understanding of the four operations and link addition and multiplication, subtraction and division with increasing accuracy	continue to use their understanding of the four operations and link addition and multiplication, subtraction and division with increasing accuracy	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding of the equals sign.	Use their knowledge of the order of operations to carry out calculations involving the four operations.
Fractions							

Vocabulary	parts of a whole half	fraction equal part equal grouping equal sharing parts of a whole half one of two equal parts quarter one of four equal parts	fraction equivalent fraction mixed number numerator, denominator equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts	fraction equivalent fraction mixed number numerator, denominator equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths	fraction equivalent fraction mixed number numerator, denominator equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths … hundredths decimal, decimal fraction, decimal point, decimal place, decimal equivalent proportion	fraction, proper/improper fraction equivalent fraction mixed number numerator, denominator equivalent, reduced to, cancel equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths … hundredths, thousandths decimal, decimal fraction, decimal point, decimal place, decimal equivalent proportion, in every, for every percentage, per cent, %	numerator, denominator equivalent, reduced to, cancel equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths … hundredths, thousandths decimal, decimal fraction, decimal point, decimal place, decimal equivalent proportion, in every, for every ratio percentage, per cent, %
Recognising fractions	**Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.**	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.	recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity	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	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one to the other.	continue to identify, name and write equivalent and mixed number fractions, converting from one to another.
Comparing and ordering fractions	**Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;**	identify and represent numbers using objects and pictorial representations including the number line, & use language of: equal to, more than, less than (fewer), most, least recognise and name halves and quarters	compare and order numbers from 0 up to 100; use <, > and = signs recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity	compare and order unit fractions, and fractions with the same denominators recognise and show, using diagrams, equivalent fractions with small denominators	recognise and show, using diagrams, families of common equivalent fractions	Compare and order fractions whose denominators are all multiples of the same number.	Use common factors to simplify fractions. Use common multiples to express the fractions in the same denomination. Compare and order fractions, including fractions >1.

Finding fractions of shapes and quantities	**Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.**	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.	recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity	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	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	continue to solve problems of increasing difficulty to calculate quantities with increasing accuracy	continue to solve problems of increasing difficulty to calculate quantities with increasing accuracy
Written fractions	begin to mark make to represent numbers **Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.**	read, write and interpret mathematical statements use concrete objects, pictorial representations and arrays with the support of the teacher.	write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.	add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]	add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions by whole numbers, supported by materials and diagrams.	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.
Decimals as fractional amounts				record 1/10 as 0.1, 3/10 as 0.3 etc.	recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to ¼, ½ and ¾ 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	Read and write decimal numbers as fractions. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	continue to use knowledge of fractions and decimals to write them as equivalents

Ordering decimals				compare and order numbers up to 1000	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	Round decimals with two decimal places to the nearest whole number and to one decimal place. Read, write, order and compare numbers with up to three decimal places.	Identify the value of each digit in numbers given to three decimal numbers.
Recognise and Write Decimals				Recognise and write decimal equivalence of any number of tenths or hundredths.	Read and write decimal numbers as fractions. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	Identify the value of each digit in numbers given to three decimal places.	
Compare Decimals				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.	Round decimals with two decimal places to the nearest whole number and to one decimal place. Read, write, order and compare numbers with up to three decimal places.		
Problem solving and reasoning				solve problems using all fraction knowledge	solve simple measure and money problems involving fractions and decimals to two decimal places	Solve problems up 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 or accuracy.

Fractions, Decimals and Percentages		recognise and name halves and quarters	recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators Recognise and write decimal equivalence of any number of tenths or hundredths.	Read and write decimal numbers as fractions.	Recognise the percent symbol and understand that percent relates to 'number of parts per hundred'. Write percentages as a fraction with the denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents.	Associate a fraction with a division and calculate decimal fraction equivalents. Recall equivalences between simple fractions, decimals and percentages.
Ratio and Proportion	**Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;**	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.	recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity	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	solve simple measure and money problems involving fractions and decimals to two decimal places	Solve problems which require knowing percentage and decimal equivalents.	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Solve problems involving the calculation of percentages 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.
Algebra							
Vocabulary							formula, formulae equation unknown variable
Algebraic Thinking		Solve one-step problems that involve addition, using concrete objects and pictorial	Recognise and use the inverse relationship between addition and subtraction and	Solve problems including missing number problems.	continue to solve missing number problems involving a range of operations and complexity	continue to solve missing number problems involving a range of operations and complexity	continue to solve missing number problems involving a range of operations and complexity

		representations and missing number problems.	use this to check calculations and solve missing number problems.				
Algebraic Notation							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.
Measurement							
Vocabulary	measure size compare guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as just over, just under, metre length, height, width, depth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher … and so on longest, shortest, tallest, highest … and so on far, near, close, weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales, full	measure measurement size compare guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as roughly just over, just under, centimetre, metre length, height, width, depth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher … and so on, kilogram, half kilogram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales, litre, half litre, capacity volume, time days of the week, Monday, Tuesday … months of the year	measurement size compare measuring scale guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as roughly just over, just under, centimetre, metre length, height, width, depth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher … and so on longest, shortest, tallest, highest … and so on far, further, furthest, near, close ruler metre stick, tape measure, kilogram, half	measure measurement size compare measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as, approximately roughly just over, just under measure measurement size compare unit, standard unit metric unit measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as, approximately		measure measurement size compare unit, standard unit metric unit, imperial unit measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as, approximately roughly just over, just under	

	empty half full holds container, time days of the week, Monday, Tuesday … day, week birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after next, last now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time hour, o'clock clock, watch, hands, money coin penny, pence, pound price, cost buy, sell spend, spent pay	(January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, month, year birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after earlier, later next, first, last midnight date now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to …? how long will it take to …? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to clock, clock face, watch, hands hour, money coin penny, pence, pound price, cost buy, sell spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much …? how many …? total	kilogram, gram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales, litre, half litre, millilitre capacity volume, time days of the week, Monday, Tuesday … months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year birthday, holiday morning, afternoon, evening, night bedtime, dinnertime, playtime today, yesterday, tomorrow before, after earlier, later next, first, last midnight date now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to …? how long will it take to …? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past,	roughly just over, just under			

			quarter past, quarter to 5, 10, 15 … minutes past				
Measures	compare length, size, weight and capacity	compare, describe and solve practical problems for: length/height, weight/mass, capacity/volume & time measure and begin to record length/height, weight/mass, capacity/volume & time	choose and use appropriate standard units to estimate and measure length/height (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) 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 = read scales in divisions of ones, twos, fives and tens read scales where not all numbers on the scale are given and estimate points in between Solve problems with addition and subtraction using concrete objects and pictorial	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes	convert between different units of measure [for example, kilometre to metre; hour to minute} estimate, compare and calculate different measures, including money in pounds and pence measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares	Convert between different units of metric measure. 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 measures using decimal notation, including scaling.	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 standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal places. Convert between miles and kilometers.

			representations, including those involving numbers, quantities and measures Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts				
Money		recognise and know the value of different denominations of coins and notes	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	add and subtract amounts of money to give change, using both £ and p in practical contexts	estimate, compare and calculate different measures, including money in pounds and pence	Use all four operation to solve problems involving measure (for example, money).	continue to solve a variety of different problems that include measure/money
Time	Begin to describe a sequence of events, real or fictional, using	compare, describe and solve practical problems for time e.g. quicker, slower, earlier, later	compare and sequence intervals of time tell and write the time to five minutes, including	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and	convert between different units of measure (e.g. Hours to minutes)	Solve problems involving converting between units of time	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

	words such as 'first', 'then...'	sequence events in chronological order using language (for example, 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 Measure and begin to record time (hours, minutes, seconds) tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	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 read the time on a clock to the nearest 15 minutes	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 year compare durations of events	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							
Vocabulary	shape, pattern flat curved, straight round hollow, solid sort make, build, draw size, corner, side rectangle (including square) circle triangle, position over, under above,	shape, pattern flat, curved, straight round hollow, solid sort make, build, draw size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern pattern, repeating pattern match, corner, side point, pointed rectangle (including square) circle triangle,	shape, pattern outside, inside flat around curved, straight in front, behind round front, back hollow, solid beside, next to sort opposite make, build, draw apart surface between	above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge centre corner direction journey, route left, right up, down higher, lower forwards,	shape, pattern flat, line curved, straight round hollow, solid sort make, build, construct, draw, sketch perimeter centre surface	curved, straight round hollow, solid sort make, build, construct, draw, sketch perimeter centre, radius, diameter surface angle, right-angled congruent base, square-based size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern line symmetry reflect, reflection axis of symmetry, reflective	hollow, solid sort make, build, construct, draw, sketch perimeter centre, radius, diameter circumference, concentric, arc net, open, closed surface angle, right-angled congruent intersecting, intersection plane base, square-based size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern line symmetry

	below top, bottom, side on, in outside, inside around, in front, behind front, back beside, next to opposite apart between middle, edge corner direction left, right up, down forwards, backwards, sideways across, next to, close, near, far along through to, from, towards, away from movement, slide roll turn stretch, bend whole turn, half turn	face, edge, vertex, vertices cube, cuboid pyramid sphere cone cylinder position over, under, underneath above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge centre corner direction journey left, right up, down forwards, backwards, sideways across next to, close, near, far along through to, from, towards, away from movement slide roll turn stretch, bend whole turn, half turn, quarter turn, three-quarter turn	size middle, edge bigger, larger, smaller centre symmetry, symmetrical, symmetrical pattern corner line symmetry direction pattern, repeating pattern journey, route match left, right	backwards, sideways across next to, close, near, far along through to, from, towards, away from clockwise, anticlockwise compass point north, south, east, west, N, S, E, W horizontal, vertical, diagonal movement slide roll turn stretch, bend whole turn, half turn, quarter turn, three-quarter turn angle … is a greater/smaller angle than right angle acute angle obtuse angle straight line		symmetry pattern, repeating pattern match regular, irregular	reflect, reflection axis of symmetry, reflective symmetry pattern, repeating pattern match regular, irregular
Shape vocabulary	Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'	recognise and name common 2-D shapes (e.g. Square, circle, triangle) recognise and name common 3-D shapes (e.g. Cubes, cuboids, pyramids & spheres)	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including the number of	identify horizontal and vertical lines and pairs of perpendicular and parallel lines	continue to use the correct vocabulary when describing shapes	continue to use the correct vocabulary when describing shapes	continue to use the correct vocabulary when describing shapes

			edges, vertices and faces				
Properties of 2-d shape	select, rotate and manipulate shapes to develop spatial reasoning skills compose and decompose shapes so that children recognise a shape can have other shapes *within it*, just as numbers can	recognise and name common 2-D shapes (e.g. Square, circle, triangle)	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. compare and sort common 2-D and 3-D shapes and everyday objects.	draw 2-D 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	compare and classify geometric shapes, including quadrilaterals and triangles, based on 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. begin to recognise where angles are greater than two right angles. Know the term straight angle referring to two right angles together	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.	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 a circle, including radius, diameter and circumference and know that the diameter is twice the radius.
Properties of 3-d shape	select, rotate and manipulate shapes to develop spatial reasoning skills compose and decompose shapes so that children recognise a shape can have other shapes *within it*, just as numbers can	recognise and name common 3-D shapes (e.g. Cubes, cuboids, pyramids & spheres)	identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces identify 2-D shapes on the surface of 3-D shapes.	make 3-D shapes using modelling materials recognise 3-D shapes in different orientations and describe them	identify acute and obtuse angles and compare and order angles up to two right angles by size begin to recognise where angles are greater than two right angles. Know the term straight angle referring to two right angles together	Identify 3-D shapes, including cubes and other cuboids from 2-D representations.	Recognise, describe and build simple 3-D shapes, including making nets.

			compare and sort common 2-D and 3-D shapes and everyday objects.				
Position and direction	continue, copy and create repeating patterns Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'.	describe position, direction and movement, including whole, half, quarter and three-quarter turns Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance) Practise counting (1, 2, 3…), ordering (for example, 1st, 2nd, 3rd …) (non-statutory guidance)	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 (clockwise and anti-clockwise)	identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn	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	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, angles at a point on a straight line and half a turn, 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.	Find unknown angles in any triangles, quadrilaterals, and regular polygons. Recognize 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. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Statistics							
Vocabulary	count, sort group, set list	count, sort, vote group, set list, table	graph, block graph, pictogram represent group, set list, table label, title most popular, most common least popular, least common		count, tally, sort, vote survey, questionnaire, data graph, block graph, pictogram represent group, set list, table, chart, bar chart, frequency table Carroll diagram, Venn diagram label, title, axis, axes diagram most popular, most common least popular, least common	count, tally, sort, vote survey, questionnaire, data, database graph, block graph, pictogram represent group, set list, table, chart, bar chart, frequency table, bar line chart Carroll diagram, Venn diagram line graph label, title, axis, axes diagram most popular, most common least popular, least common maximum/minimum value outcome	count, tally, sort, vote survey, questionnaire, data, database graph, block graph, pictogram represent group, set list, table, chart, bar chart, frequency table, bar line chart Carroll diagram, Venn diagram line graph pie chart label, title, axis, axes diagram most popular, most common least popular, least common maximum/minimum

Interpreting data			interpret and construct simple pictograms, tally charts, block diagrams and simple tables	interpret and present data using bar charts, pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Complete, read and interpret information in tables, including timetables.	Interpret and construct pie charts and line graphs and use these to solve problems.
Using data			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 totalling and comparing categorical data	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	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Solve comparison, sum and difference problems using information presented in a line graph.	Calculate and interpret the mean as an average.