Mathematics Curriculum Progression Map

Year group		Key skills and 'sticky' knowledge	Key vocabulary	Links to curriculum drivers VOCABULARY DIVERSITY ASPIRATION HEALTH AND WELL BEING
Mathematics – Counting and Counting in Multiples				
F1	After 1 term in F1	*Number Words* • I can recite some number names in sequence (not necessarily understand at this stage). • I can use some number language accurately. *Counting Sets* • I can recognise when a group of objects has more than one.	Number Names Order Sequence Group Objects More Recognise Compare A lot Quantities Count Identify Set Forwards Represent Digit Total	
	After 2 terms in F1	*Counting Sets* • I can bring one or two objects when an adult requests. • I can show an understanding of simple comparisons like 'more' and 'a lot'. • I can make comparisons between quantities. • I can use my fingers to show 1 and 2. • I can count up to 2 objects by touching each one.		
	By the end of F1	*Number Words* • I know that numbers identify how many are in a set. • I can count forwards to 5. • I can use number names to 10 and sometimes count accurately. • I can recognise some numbers of personal significance. *Counting Sets* • I can use number names to 10 and sometimes count accurately. • I can use my fingers to show 1/2/3/4. • I can show an awareness of one-to-one correspondence through practical everyday experience. • I can recognise a group of 1 or 2 objects. • I can represent numbers using marks, fingers or digits. • I know that the last number in the count gives the total. • I can count 5 objects, touching each one and saying one number for each item.		
F2	After 1 term in F2	*Number Words* • I can count to 10. • I can select the correct numeral to represent 1 to 5, then 1 to 10 objects. *Counting Sets* • I can count up to three or four objects by saying one number name for each item. • I can count objects to 10 and begin to count beyond 10. • I can count out up to six objects from a larger group. • I can count actions, sounds or objects which cannon be moved – up to 10. • I can count an irregular arrangement of up to ten objects. • I know that the last number in the count gives the total. • I can represent numbers up to 10 using fingers.	Number Names Digit Count Check Zero Touch count Amount Total Teens More	Continuous Provision – Maths area, dough area, sand, water, construction

		• I can use zero. • I understand the empty set of 0. • I can recognise without counting patterns of up to 6.	Less Bigger Smaller Before After Order	
	After 2 terms in F2	Number Words • I can count to 20. • I can begin to use 'teens' to count beyond 10. Counting Sets • I can select the correct numeral to represent 1 to 5, then 1 to 10 objects. Then 1-20. • I can count an irregular arrangement of up to ten objects. • I can find one more or one less from a group of up to five objects, then ten objects. • I know that the number of objects does not change if they are just moved around.		
	By the end of F2	• I can count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number.		
Year 1		• I can count to and across 100 forwards and backwards beginning with 0 or 1 or from any given number • I can count numbers to 100 in numerals • I can count in multiples of twos, five and ten	Ten more/less, digit, , size, value, between, halfway between, above, below, tens, ones	Continuous provision - Maths area role play
Year 2		• I can count on a number line, identifying missing numbers • I can confidently count to 100 and beyond. • I can count in 2, 3, 5 and 10 from any number on and back	Skip counting, new ten, more less, fewer	Continuous provision– Maths Area Challenges. Role play- counting stock in the pet shop and re ordering supplies, counting in lots of eg 10 packets of dog chews etc
Year 3		• I can count from 0 in multiples of 4, 8, 50 and 100; • I can find 10 or 100 more or less than a given number	Multiples, more, less	
Year 4		• I can count backwards through zero to include negative numbers • I can count in multiples of 6, 7, 9, 25 and 1 000 • I can find 1000 more or less than a given number	Positive/negative, multiples, more/less,	
Year 5		• I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero • I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Positive, negative, powers of 10, increase, decrease, minus, consecutive,	
Year 6		• I can use negative numbers in context, and calculate intervals across zero		

Mathematics – Counting on and back

F1	After 1 term in F1		Number Group Objects	

	After 2 terms in F1	• I know that the number in a group of objects changes when something is added or taken away.	Change Add Take away Count Backwards Accurately	
	By the end of F1	• I can count to 5. • I can count back from 5-0. • I can use number names to 10 and sometimes count accurately.		
F2	After 1 term in F2	• I can count back from 10-0. • I can say the number that is one more than a given number. • I can find one more from a group of up to five objects. • I can find one less from a group of up to five objects.	Count Check Zero More Less Bigger Smaller Before After Order Count on Count back Forwards Backwards	Continuous Provision – Maths area, constructions, block play, dough, water, sand,
	After 2 terms in F2	• I can count back from 20-0. • I can find one more from a group of up to five objects, then ten objects. • I can find one less from a group of up to five objects, then ten objects.		
	By the end of F2	• I can say which number is one more than a given number (numbers 1 to 20). • I can say which number is one less than a given number (numbers 1 to 20). • I can count on from a given number 1-20. • I can count back from a given number 1-20.		
Year 1		• Given a number, identify one more (numbers to 100) • Given a number, identify one less (numbers to 100)	Ten more/less, digit, , size, value, between, halfway between, above, below, tens, ones	Continuous provision - Maths area role play
Year 2		• I can count forwards and backwards in 2's, 3's, 5's and 10's from any given number	Skip counting on back forwards backwards pattern digits	Continuous provision -Maths area, challenges – role play application of counting in 2s, 5, and 10s when giving change in shop play
Year 3		• I can count from 0 in multiples of 4, 8, 50 and 100; • I can find 10 or 100 more or less than a given number	Multiples, more, less	
Year 4		• I can count backwards through zero to include negative numbers • I can count in multiples of 6, 7, 9, 25 and 1 000 • I can find 1000 more or less than a given number	Positive/negative, multiples, more/less,	
Year 5		• I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero • I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Positive, negative, powers of 10, increase, decrease, minus	
Year 6		• I can use negative numbers in context, and calculate intervals across zero	Positive, negative, powers of 10, increase, decrease,	

 			minus, overdraft, money, account	

Mathematics – Comparing Numbers

F1	After 1 term in F1	• Begins to make comparisons between quantities	Compare Quantities Sort Objects Group Same Separate Different Total Recognise	
	After 2 terms in F1	• I can show understanding of conservation. • I can sort objects using one simple criteria.		
	By the end of F1	• I can compare two groups of objects, saying when they have the same number. • I can separate a group of three or four objects in different ways, beginning to recognise that the total is still the same. • I can recognise a group of 1 or 2 objects.		
F2	After 1 term in F2	• I can order 1-10. • I can match and compare a number of objects in two sets, recognising when they are the same. • I can compare numbers, talking about if they are bigger or smaller.	Bigger Smaller Before After Order More Fewer Less First Second Last	Continuous Provision – Maths area, construction Health and Wellbeing – problem solving with the fruit shop/snack time
	After 2 terms in F2	• I can use the language of 'more' and 'fewer' to compare two sets of objects. • I can use ordinal language of first/next/second/third in practical contexts. • I can partition and recombine small groups of up to 10 objects. • I know that the number of objects does not change if they are just moved around.		
	By the end of F2	• I can order numbers 0-20. • I can begin to notice odd and even numbers by their shape, pairing up and if they can be shared into two equal groups.		
Year 1		• Use the language of equal to, more than, less than (fewer), most least	Equal more than less than fewer most least	Continuous provision - Maths area role play Autumn 1 - Comparing hand spans and arm length
Year 2		• I can compare and order numbers 0 to 100 using ›, ‹ and =	Greater than Less than Equal to fewer	**Health and well-being** comparing and ordering body part measurements
Year 3		• I can compare and order numbers up to 1 000	Compare, order, greater than, less than, equals to, ascending, descending, ones, tens, hundreds, one thousand, place value	
Year 4		• I can order and compare numbers beyond 1 000 • I can compare numbers with the same number of decimal places up to two decimal places (copied from Fractions)	Compare, order, ascending/descending, place value, hundredths, tenths, ones tens, hundreds,	

			thousands, decimal point, equivalent, digit,	
Year 5		• I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	ten thousand, hundred thousand, million, digit, inequality, greater than or equals to, less than or equals to, ascending/ descending order	
Year 6		• I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	next, consecutive > greater than < less than ten thousand, hundred thousand, million, digit, inequality, equals to, ascending/ descending order	

Mathematics – Estimating, Identifying and Representing

F1	After 1 term in F1		Symbols Represent Number Digit Marks	
	After 2 terms in F1	• I can create and experiment with symbols and marks to represent ideas of numbers.		
	By the end of F1	• I can begin to represent numbers using fingers, marks on paper or pictures. • I can show an interest in representing numbers. • I can represent numbers using marks, fingers or digits.		
F2	After 1 term in F2	• I can begin to represent numbers using fingers, marks on paper or pictures. • I can show an interest in representing numbers.	Estimate Represent Show Check Count Marks/pictures/ numeral/digit	Continuous Provision – Maths area, block play, construction, creative area, dough, sand, water
	After 2 terms in F2	• I can estimate how many objects and check by counting.		
	By the end of F2	• I can estimate a number of objects for 1-20 and check by counting.		
Year 1		• Identify and represent numbers using different representations	Sensible estimate guess	Continuous provision - Maths area role play
Year 2		• I can represent numbers using concrete apparatus including: place value counters and base 10 apparatus	Place value Missing number	Cross curricular link -estimating and

	• I can identify and estimate the missing number on a number line or scale • I can partition two digit numbers in different ways • I understand the values of both digits in a two-digit number	Number line Scale Value digit partition recombine	measuring in DT to make pet homes, lighthouses -estimating the distance rockets and aeroplanes will fly before measuring in experiments.
Year 3	• I can identify, represent and estimate numbers using different representations	Identify, represent, estimate, digits, place value, Base 10	
Year 4	• I can identify, represent and estimate numbers using different representations	Identify, represent, estimate, digits, place value, Base 10, part-whole, bar model, rounding, to the nearest __, visual representation, numerical representation, approximate	
Year 5			
Year 6		guess how many ...? estimate nearly roughly close to approximate, approximately about the same as just over, just under exact, exactly too many, too few enough, not enough round, nearest, round to the nearest ten, hundred, thousand, ten thousand round up, round down	

Mathematics – Reading Numbers

F1	After 1 term in F1	• I can say numbers 1-3 in sequence. • I can show an awareness of some numbers in the environment.	Numbers Sequence Environment Numerals	
	After 2 terms in F1	• I can show an interest in numerals in the environment.		
	By the end of F1	• I can recognise some numerals of personal significance.		
F2	After 1 term in F2	• I can recognise some numerals of personal significance. • I can recognise numbers 1-5 and then 1-10. • I can select the correct numeral to represent 1 to 10 objects. • I can place numbers 1-10 in order.	Number Numeral Digit Order Check Count Number line 100 Square Recognise	Continuous Provision – Maths area, dough, creative area, sand, water
	After 2 terms in F2	• I can recognise numbers 0-20. • I can place numbers 0-20 in order. • I can select the correct numeral to represent 1-20 objects.		
	By the end of F2	• I can begin to recognise numbers beyond 20.		
Year 1		• I can read numbers 1-100 in numerals. • I can read numbers 1-20 and tens numbers in words.	Tens ones	Continuous provision- Maths area role play
Year 2		• I can read numbers to 100 and beyond in numerals • I can read numbers to 100 in words	place value digit hundreds tens ones units place holder	Continuous provision – maths area
Year 3		• I can read and write numbers up to 1 000 in numerals and in words • I can tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (copied from Measurement)	Numerals, digits, ones, tens, hundreds, one thousand, time, analogue, digital, Roman numerals, clock, 12-hour, 24-hour a.m., p.m., o'clock, quarter past, half past, quarter to, minutes past, minutes to, minute, hour, I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII	
Year 4		• I can 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.	Numerals, (Roman numerals I-C), place	

		value, zero, representation.	
Year 5	• I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers) • I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	ten thousand, hundred thousand, million, digit, inequality D = 500 M = 1000	
Year 6	• I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)	ones tens, hundreds digit one-, two- or three-digit number place, place value stands for, represents exchange 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 hundred more, one thousand more one less, ten less, one hundred less, one thousand less equal to compare order size first, second, third … twentieth twenty-first, twenty-second … last, last but one before, after next between	

Mathematics – Writing Numbers in Numerals and Words

F1	After 1 term in F1	• I can mark make and ascribe some concept of number to the marks (attempts at digits from the environment, making dots, lines etc). • I can experiment with symbols and marks to represent numbers.	Marks Numbers Digit Symbols Represent	
	After 2 terms in F1	• I can represent numbers 1-2 using my fingers.		
	By the end of F1	• I can begin to represent numbers using fingers, marks on paper and pictures. • I can use my fingers to show 1-5. • I can represent numbers using marks, fingers or digits. • I can recognise some numbers of personal significance.		
F2	After 1 term in F2	• I can write numbers from 0-5. • I can record using marks that I can interpret and explain. • I can use my fingers to show 1-10.	Write Represent Number Digit Number line 100 Square Marks Record Tally	Continuous Provision – Maths area, writing area
	After 2 terms in F2	• I can write numbers from 0-10. • I can use mathematical vocabulary to explain my recordings when using non-standard notations.		
	By the end of F2	• I can write numbers from 0-20. • I can record using a basic tally chart.		
Year 1		• Write numbers from 1 to 100 in numerals • Write numbers from 1 to 20 in words and the tens numbers	Digit tens ones zero	Continuous provision- Maths area role play English
Year 2		• I can write numbers to at least 100 in numerals, understanding how to write 3 digit numbers from 100 to 200 • I can write numbers to 100 in words	place value digit hundreds tens ones units place holder	Continuus provision – maths area
Year 3		• I can read and write numbers up to 1 000 in numerals and in words • I can tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (copied from Measurement)	Numerals, digits, ones, tens, hundreds, one thousand, time, analogue, digital, Roman numerals, clock, 12-hour, 24-hour a.m., p.m., o'clock, quarter past, half past, quarter to, minutes past, minutes to, minute, hour, I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII	
Year 4		• I can 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.	Numerals, (Roman numerals I-C), place	

			value, zero, representation.	
Year 5		• I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers) • I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	ten thousand, hundred thousand, million, digit, inequality D = 500 M = 1000	
Year 6		• I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)	See previous	

Mathematics – Addition and Subtraction

F1	After 1 term in F1		Number Group Object Change Add Take away Same Numerals Set	
	After 2 terms in F1	• I know that the number in a group of objects changes when something is added or taken away.		
	By the end of F1	• I can say when two small groups have the same number of objects. • I can identify numerals in the environment. • I know that numbers identify how many are in a set.		
F2	After 1 term in F2	• I can recognise some numerals of personal significance. • I can use the part-part-whole grid to explore numbers 1-5. • I fully understand 1-5 and all manipulations of the number. • I can move around or partition and recombine small groups of up to four objects and recognise that the total is still the same. • I know some ways to make 5.	Add Plus More Less Subtract Take away Total Answer Combine Find out Part-part-whole Partition Separate Count on Count back Number line 100 Square Double Halve Bonds Equal	Continuous Provision – Maths area, dough, construction, block play, sand, water, creative, role play
	After 2 terms in F2	• I can find the total number of items in two groups by counting all of them and starting to use 'counting on'. • I can begin to use the vocabulary involved in adding and subtracting including counting on and back. • I understand addition up to 5 using all combinations. Then 6, 7, 8, 9, 10. • I can use the part-part-whole grid to explore numbers 1-10. • I fully understand 5, 6, 7, 8, 9, 10 etc and all manipulations of the number. • I can partition and recombine small groups of up to 10 objects. • I know that the number of objects does not change if they are just moved around. • I can remove objects from a small group and count how many are left.		
	By the end of F2	• I can count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. • I can use quantities and objects to add and subtract two single-digit numbers and count on or back to find the answer. • I can solve problems, including doubling, halving and sharing. • I know number bonds to 10.		
Year 1		• Derive and recall addition facts for totals up to 10 • Represent and use number bonds and related subtraction facts within 20 • Addition doubles for all numbers to at least 10	Number bonds, number line, add, more, plus, make, sum, total,	Continuous provision- Maths area role play

	• Add one-digit and two-digit numbers to 20, including zero • Subtract one-digit and two-digit-numbers to 20, including zero • Add a multiple of 10 to a one-digit number • Add near doubles • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	altogether, double, near double, equals, is the same as = difference between, subtract, take away, minus How many more to make ...?, How many more is ... than ... ?, How much more is ... ?, How many -fewer is ... than ... ?, How much Less is ... ?	

Year 2	• Recall and use addition and subtraction facts within 20
	• Derive and use number facts to 100
	• Use concrete objects to
	     Add and subtract two digit number and ones
	     Add and subtract two digit number and tens
	     Add and subtract two two digit numbers
	• Use pictorial representations to:
	     Add and subtract two digit number and ones
	     Add and subtract two digit number and tens
	     Add and subtract two two digit numbers
	• Use mental strategies to
	     Add and subtract two digit number and ones
	     Add and subtract two digit number and tens
	• I can add three one-digit numbers
	• I know that addition can be done in any order (commutative) and subtraction cannot
	• I know that addition and subtraction are inverses
	• I can use the inverse operation to find missing numbers.
	• I can use written methods involving partitioning for addition.
	• I can use formal written methods for addition and subtractions (column method)
		Concrete Pictorial Mental Representation Ones Tens Commutative Inverse operation addition plus subtraction minus less fewer more total altogether jottings calculation	Continuous provision – role play area. Finding totals of amounts, giving change in shop scenarios

Year 3	• I can add and subtract numbers mentally, including: • a three-digit number and ones • a three-digit number and tens • a three-digit number and hundreds • • WRITTEN METHODS • I can add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS • I can estimate the answer to a calculation and use inverse operations to check answers	Add, plus, more, less, Subtract, take away, fewer, find the difference, total, answer, equals, part-whole, partition, count on, count back, number line, commutative, ones, tens, hundreds, column method, place value, exchange, inverse operation, estimate, check	
Year 4	• WRITTEN METHODS • I can add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS	Addition, subtraction, method, operation, more, less, column, place value, exchange, inverse,	

	• I can estimate and use inverse operations to check answers to a calculation	efficient strategy/method, estimate, rounding, check, commutative, sum, difference
Year 5	• I can add and subtract numbers mentally with increasingly large numbers • WRITTEN METHODS • I can add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS • I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	round, nearest, round to the nearest ten, hundred, thousand, ten thousand context, accuracy, accurate,
Year 6	• I can perform mental calculations, including with mixed operations and large numbers • I can use my knowledge of the order of operations to carry out calculations involving the four operations • INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS • I can use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	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 …?

Mathematics – Multiplication and Division

F1	After 1 term in F1		Separate Group Number Objects Different Total Same	
	After 2 terms in F1			
	By the end of F1	• I can separate a group of three or four objects in different ways, beginning to recognise that the total is still the same.		
F2	After 1 term in F2	• I can separate a group of three or four objects in different ways, beginning to recognise that the total is still the same.	Count in Patterns Count on Count back Separate Total Amount Equal Same Different Share Group Combine Odd Even Fair	Continuous Provision – Maths area, dough, construction, block play, sand, water, creative, role play
	After 2 terms in F2	• I can use the part-part-whole grid to explore numbers 1-10 and sharing into two equal groups. • I can share into equal groups. • I can come up with solutions to problems of not being able to share into equal groups. • I can count in 10s to 100. • I can partition and recombine small groups of up to 10 objects.		
	By the end of F2	• I can solve problems, including doubling, halving and sharing. • I can begin to halve an object. • I can count in 2s to 20. • I can begin to notice odd and even numbers by their shape, pairing up and if they can be shared into two equal groups.		
Year 1		• Solve one-step problems involving multiplication and division using concrete objects, pictorial representations and arrays with the support of the teacher	Share group arrange array lots of how many how much	Continuous provision- Maths area Spring 2 kitchen role play – cakes and baking trays
Year 2		• Recall and use multiplication and division facts for the 2 times tables • Recall and use multiplication and division facts for the 5 times tables • Recall and use multiplication and division facts for the 10 times tables • I can recognise if a number is odd or even and explain how I know. • I recognise and can use the symbols x, ÷ and = • I know that multiplication is commutative and division is not • I can use an array to represent and support me to solve multiplication and division problems • I know that multiplication is the same as repeated addition	Multiplication Divide Times tables Multiply Multiple Commutative Repeated addition Lots of	Continuous provision – counting lots of items in the pet shop, bakery, space stall
Year 3		• count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value) • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • estimate the answer to a calculation and use inverse operations to check answers	Multiple, multiplication, multiply, times, divide, division, lots of, groups of, equal groups, times table, commutative, column method, inverse, scaling	

	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		
Year 4	• count in multiples of 6, 7, 9, 25 and 1000 • recall multiplication and division facts for multiplication tables up to 12 × 12 • use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • 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 • estimate and use inverse operations to check answers to a calculation 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	Multiple, multiplication, times table, division facts, place value, column, expanded/short, multiplication/division, inverse, check, estimate, remainder, factors, factor pairs, t-model/chart, scaling, correspondence, product, quotient	
Year 5	• count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • multiply and divide numbers mentally drawing upon known facts • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context • identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Bust stop method, prime, composite, common factors, highest common factor, lowest common factor, prime factor, multiple, common multiples, decimal point, tenth, hundredth, thousandth, remainder, squared, cubed, equals	
Year 6	• perform mental calculations, including with mixed operations and large numbers • associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) • (copied from Fractions) • 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 short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • use written division methods in cases where the answer has up to two decimal places • identify common factors, common multiples and prime numbers	multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times … ten times repeated addition division	

| | | • use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)
• calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3 (copied from Measures)
• use their knowledge of the order of operations to carry out calculations involving the four operations
• use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
• solve problems involving addition, subtraction, multiplication and division
solve problems involving similar shapes where the scale factor is known or can be found (copied from Ratio and Proportion) | dividing, divide, divided by, divided into
left, left over, remainder
grouping
sharing, share, share equally equal groups of
doubling
halving
array
row, column
number patterns
multiplication table
multiplication fact, division fact
inverse
square, squared
cube, cubed | |

Mathematics – Problem Solving with Number and Place Value

F1	After 1 term in F1		Number Problems Answer Question Total Add Take away More Less Amount	
	After 2 terms in F1	• I can ask some questions about numbers and show curiosity.		
	By the end of F1	• I can show an interest in number problems.		
F2	After 1 term in F2	• I can show an interest in number problems. • I fully understand 1-5 and all manipulations of the number.	Problem Solve Answer Total Amount Odd Even Share Equal Double Halve	Continuous Provision – Maths area, dough, construction, block play, sand, water, creative, role play
	After 2 terms in F2	• I can begin to identify own mathematical problems based on own interests and fascinations. • I fully understand 5, 6, 7, 8, 9, 10 etc and all manipulations of the number.		
	By the end of F2	• I can solve problems, including doubling, halving and sharing. • I can begin to notice odd and even numbers by their shape, pairing up and if they can be shared into two equal groups.		
Year 1		• Solve one-step problems that involve addition and subtraction (using Year 1 number content)	Number facts, number line, number track, number square how much how many what if	Continuous provision- Maths area role play

Year 2	- I can use place value to solve problems - I can use addition and subtraction to solve problems. These problems could involve quantities, measures and numbers. - I can use my knowledge of number facts and the inverse to solve missing number problems - I can use my multiplication and division knowledge to solve problems in context.	Partition recombine digit inverse operation calculation	Continuous provision- Roleplay area- Solving problems related to money and quantities of objects. Cross-Curricular links- solving problems and finding differences between rockets and aeroplanes distances in experiments.
Year 3	- recognise the place value of each digit in a three-digit number (hundreds, tens, ones) - solve number problems and practical problems involving these ideas.	Place value, ones, tens, hundreds, digit, partition, problem, solve, calculate	
Year 4	- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) - 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	Place value up to thousands. Round to the nearest __, digit, round up/down, multiple	
Year 5	- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (copied from Fractions) - round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 - solve number problems and practical problems that involve all of the above	round, nearest, round to the nearest ten, hundred, thousand, ten thousand round up, round down	
Year 6	- read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) - identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1 000 where the answers are up to three decimal places (copied from Fractions) - round any whole number to a required degree of accuracy - solve problems which require answers to be rounded to specified degrees of accuracy (copied from Fractions) - solve number and practical problems that involve all of the above		

Mathematics – Fractions including decimals and percentages

F1	After 1 term in F1		Groups Number Objects More Less	
	After 2			

	terms in F1		Add Take Away	
	By the end of F1	• I can say when two small groups have the same number of objects.		
F2	After 1 term in F2	• I can say when two small groups have the same number of objects.	Same Different Equal Share Combine Double Halve Part-part-whole Count on Count back	Continuous Provision – Maths area, dough, construction, block play, sand, water, creative, role play Diversity – sharing Easter eggs Health and Wellbeing – chopping fruit in half making milkshakes
	After 2 terms in F2	• I can show some understanding of doubling and halving in familiar contexts. • I know the number doubles 1-5. • I can use the part-part-whole grid to double and halve.		
	By the end of F2	• I can use quantities and objects to add two single-digit numbers and count on to find the answer. • I can solve problems, including doubling, halving and sharing. • I know the number doubles 1-10.		
Year 1		• I can recognise and name a half as one of two equal parts of an object or small quantity. • I can recognise and name a quarter as one of four equal parts of an object, shape or quantity.	half quarter equal the same share out Whole, equal parts, four equal parts, one half, two halves, a quarter, two quarters	Continuous provision-Maths area role play Autumn 1 – Cutting up fruit for health fruit salad for 'the tiger who came to tea'.
Year 2		• I can recognise and find ½, ¼, 2/4 and 1/3 of a shape • I can recognise and find ½, ¼, 2/4 and 1/3 of a number or set of objects • I can write simple fractions ½ of 6=3 • I know that 2/4 is equivalent to ½ • I know ½ is called half • I know 1/3 is called third • I know ¼ is called quarter, 2/4 is two quarters, ¾ is three quarters • I know that these fractions ½, ¼, 1/3 are unit fractions • I know that these fractions 2/4, ¾, 2/3 are non-unit fractions • I know that 2/2, 3/3 and 4/4 are a whole	Fraction Half whole Quarter Third Equivalent Unit fraction Non-unit fraction Three quarters, one third, a third, equivalence, equivalent two quarters	**Health and well-being** Summer 2 design and make a health lunch for Mr Grinling. Prepare salad vegetables, consider portion size
Year 3		• count up and down in tenths • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • recognise that tenths arise from dividing an object into 10 equal parts and in dividing one –digit numbers or quantities by 10. • recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • compare and order unit fractions, and fractions with the same denominators • recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7) • solve problems that involve all of the above	Fraction, half, whole, Quarter, third, Equivalent, unit fraction, non-unit fraction, three quarters, one third, a third, equivalence, equivalent, two quarters, numerator, denominator, tenths, equal parts, compare, order, greater than, less than, equal to	

Year 4	- count up and down in hundredths - recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten - 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 show, using diagrams, families of common equivalent fractions - recognise and write decimal equivalents of any number of tenths or hundredths - recognise and write decimal equivalents to 1/4; 1/2; ¾ - add and subtract fractions with the same denominator - find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths - solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number - solve simple measure and money problems involving fractions and decimals to two decimal places.	Hundredths, tenths, count up/down, divide, greater/less than, digit, equivalent, decimal, decimal place, decimal point, round up/down, round to the nearest whole number/integer, diagram, decimal equivalent, equivalent fraction, halves, quarters, numerator, denominator, column, money, pounds, pence, proper/improper fractions, unit/non unit fractions, mixed fractions.	
Year 5	- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence) - compare and order fractions whose denominators are all multiples of the same number - read, write, order and compare numbers with up to three decimal places - round decimals with two decimal places to the nearest whole number and to one decimal place - identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - read and write decimal numbers as fractions (e.g. 0.71 = 71/100) - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents - recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator 100 as a decimal fraction - add and subtract fractions with the same denominator and multiples of the same number - recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5) - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams - solve problems involving numbers up to three decimal places - solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25.	proper/improper fraction, equivalent, reduced to, simplify, convert, cancel, thousandths, in every, for every percentage, per cent, %, decimal, decimal fraction, decimal point, decimal place, decimal equivalent	
Year 6	- compare and order fractions, including fractions >1 - identify the value of each digit in numbers given to three decimal places - solve problems which require answers to be rounded to specified degrees of accuracy - use common factors to simplify fractions; use common multiples to express fractions in the same denomination - associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)	fraction, proper/improper fraction equivalent fraction mixed number numerator, denominator	

	• recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. • 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 (e.g. 1/4 × 1/2 = 1/8) • multiply one-digit numbers with up to two decimal places by whole numbers • divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6) • multiply one-digit numbers with up to two decimal places by whole numbers • multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places • identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 • and 1000 where the answers are up to three decimal places • associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction • (e.g. 3/8) • use written division methods in cases where the answer has up to two decimal places	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, %	

Mathematics – Measurement

F1	After 1 term in F1	**Length and Height** • I can begin to build using simple blocks. **Time** • I can understand the term later. **Money** • I can play in a shop. **Capacity and Volume** • I can fill and empty a container.	Build Blocks Later Money Time Add Take away Change Fill Empty Container Size Shape Same different Big Small Scales	
	After 2 terms in F1	**Length and Height** • I can use small world play to experiment with size, shape, differences and similarities. • I can correctly use big and small. **Weight** • I can explore using scales and watch what happens. **Time** • I can show some understanding of 'now' and 'next'. • I can ask questions about the routine and what is happening next.	Heavy Light Balance Pounds Pence Taller Shorter Routine	

		Money • I can begin to use some language related to shop role play. Capacity and Volume • I can empty a container and make it full on request.	Before After Pay Coins	
	By the end of F1	Length and Height • I can use comparative language like 'taller', 'shorter', 'the same'. Weight • I can use heavy to describe an item. • I can use scales when baking or cooking with guidance. Time • I can talk about the routine of the day and use language like 'before' and 'after'. Money • I know to pay for items in a shop with coins. Capacity and Volume • I can explore volume and capacity through play and using jugs/cylinders/beakers to measure.	Volume Capacity Measure Nearly First/next/now	
F2	After 1 term in F2	Length and Height • I can use comparative language like taller, shorter, the same. • I can order three items by length. Weight • I can use scales when baking or cooking with guidance. • I can order three items by weight. • I can explore balance scales and compare using heavier and lighter. Time • I can talk about the routine of the day and use language like before, after. • I can talk about a past event. Money • I know to pay for items in a shop with coins. Capacity and Volume • I can explore volume and capacity through play and using jugs/cylinders/beakers to measure.	Taller Shorter Longer Wider Thinner Same Different Measure Scales Balance Equal Heavier Lighter Time	Continuous Provision – Maths area, dough, construction, block play, sand, water, creative, role play Daily fruit time shop and using money Health and Wellbeing – using scales and equipment when cooking and baking
	After 2 terms in F2	Length and Height • I can experiment with length, height and use my findings to order and group items. • I can compare length and height using longer/taller/shorter/smaller/wider/thinner. Time • I can recall routines and start to relate them to the time on the clock. • I can use first/second/third/last correctly to compare. • I can sequence an event. Money • I can identify money and I can start to use money in my play. • I can identify a 1p coin and a 2p coin. • I can use 1p coins to match an amount up to 10. Capacity and Volume • I can experiment with capacity and use my findings to order and group items. • I can talk about capacity and volume using full/empty/half full. • I can order three containers according to their capacity.	O clock First/next/second After/Before Sequence Order Money Cheap Expensive Penny Coin Pound 1p/2p/5p/10p etc Combine Total Amount	
	By the end of F2	• I can use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. Length and Height • I can begin to use non-standard measurements to measure length/ height/ width/ circumference.	Capacity Volume Full Empty	

		Time • I can use past tense vocabulary when talking about an event. • I can use future tense vocabulary when talking about something that will happen. • I can tell the time for o clock. Money • I can compare value using cheap and expensive. • I can use 1p/2p/5p/10p coins to match an amount. • I can combine coins to make a total.	Half full Fill Level Cylinder Beaker Ruler	
Year 1		Length and Height • Measure and begin to record lengths and heights • Compare, describe and solve practical problems, moving from non-standard to standard units of length and height Weight • Measure and begin to record mass / weight • Compare, describe and solve practical problems, moving from non-standard to standard units of mass and weight Time • Recognise and use language relating to dates days of the week, weeks, months and years • Compare, describe and solve practical problems, using standard units of time Money • Recognise and know the value of different denominations of coins and notes • 1p, 2p, 5p, 10p, 20p, 50p, £1, £2, £5, £10, £20, £50 Capacity and Volume • Measure and begin to record capacity and volume • Compare, describe and solve practical problems moving from non-standard to standard units of capacity and volume	Time, seasons, day, week, month, year, weekend, birthday, holiday, morning, afternoon, evening, night, bedtime, dinnertime, playtime, today, yesterday, tomorrow Before, after, next, last, now, soon, Takes longer, takes less time, hour, o'clock, half past, clock, watch, hands, how long ago?, How long will it be to … ?, estimate, close to, about the same as, Length, width, height, depth, long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest, Low, wide, narrow, deep, shallow, thick, thin, far, near, close, metre, ruler, metre stick How much?, How many?, money,	Continuous provision- Maths area role play Autumn 1 – Measuring hand spans and arm length Autumn 2 – weighing parcels in the post office Spring 1 –Train times Summer 1 – Measure length and height of seeds/plants being grown Money in roleplay area all through the year Finding totals of amounts, giving change in shop scenarios Sand tray out all year with containers of various sizes and capacities

		coin, penny, pence, pound, price, cost, buy, sell, costs more, costs less, cheaper, costs the same as, total	
Year 2	**Length and Height** • I know that meter (m), centimetre (cm) and millimetre(mm) are units for measuring length and height • I can measure the length or height in any direction using a ruler, tape measure or meter stick. • I can read the scale on the ruler, tape measure or meter stick. • I can compare and order length and height using ‹, › and = • I know that 10mm= 1cm • I know that 100cm= 1m **Weight/mass** • I know that gram (g), kilogram(kg) are units for measuring weight and mass • I can measure the weight or mass using scales. • I can read the scale on the scales. • I can compare and order weight and mass using ‹, › and = • 1000g=1kg **Time** • I can compare events saying which one is longer or shorter • I can sequence events that happen over a period of time identifying which came first, second, last • I can read the time in 15 minute intervals, o'clock, half past, quarter past and quarter to. • I can write the time in words to match a clock that shows o'clock, half past, quarter past and quarter to • I can draw the hands on a clock to show o'clock, half past, quarter past and quarter to. • I can tell and write the time to 5 minutes. • I know that there are 60 minutes in 1 hour • I know that there are 24 hours in 1 day **Money** • I know that £ is used for pounds • I know that p is used for pence • I can use a range of coins to make an amount • I can find different combinations of coins to make the same amount • I can add and subtract money in the same unit to solve problems • I can give change in one unit **Capacity and Volume** • I know that millilitres (ml), litres (l) are units for measuring capacity and volume • I can measure the capacity or volume using measuring jugs and cylinders. • I can read the scale on the measuring jug and cylinder. • I can compare and order capacity and volume using ‹, › and = • I know that 1000ml=1l **Temperature** • I know that degrees Celsius (°C) is the unit for measuring temperature	Unit Centimetre Meter Millimetre Ruler Tape measure Compare Order Greater than Less than Equal to Equivalent Grams Kilograms Scales Sequence Period Quarter past Quarter to Interval Minute hand Hour hand Clock face Minutes Hours pounds pence combination change millilitre litre Celsius Thermometer Degrees	**Aspiration** – Autumn 1 work with STEM ambassador to explore flight and gravity in science. Measure how far aeroplanes fly **Health and well-being** –Summer 2 weigh ingredients for food technology. Design and make a health meal for Mr Grinling. Cross curricular maths – measure out lengths to make a per home for a hamster Continuous provision – daily time keeper, thermometer to read, watch and clock to tell the time Continuous provision- giving change and finding totals in shop related role play

	• I can measure the temperature using a thermometer. • I can read the scale on the thermometer. • I can compare and order temperature using ‹, › and =		
Year 3	• compare durations of events, for example to calculate the time taken by particular events or tasks • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time) • measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • measure the perimeter of simple 2-D shapes • add and subtract amounts of money to give change, using both £ and p in practical contexts • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • estimate and read • time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as 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, duration, estimate, second, morning, afternoon, noon, midnight, time, analogue, digital, Roman numerals, clock, 12-hour, 24-hour a.m., p.m., o'clock, quarter past, half past, quarter to, minutes past, minutes to, minute, hour, I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, measure, metre, centimetre, millimetre, length, gram, kilogram, mass, litre, millilitre, volume, capacity, perimeter, money, pound, pence, change, coin, note, month, year, leap year	
Year 4	• 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 • read, write and convert time between analogue and digital 12 and 24-hour clocks • (appears also in Converting) • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days • convert between different units of measure (e.g. kilometre to metre; hour to minute) • read, write and convert time between analogue and digital 12 and 24-hour clocks	Estimate, compare, round, greater/less than, money, pounds, pence, litres, millilitres, grams, kilograms, perimeter, measure, centimetres, metres (squared), rectilinear, area, scale/not to scale, time, minutes, hours, seconds, days, weeks, months, years, analogue, digital, 12 hour, 24 hour, units of measure,	
Year 5	• calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	metric unit, imperial unit, approximately, square centimetre	

	- estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water) - use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. - measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres - calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes - recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) - solve problems involving converting between units of time - convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) - solve problems involving converting between units of time - understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	(cm2), square metre (m2), square millimetre (mm2), millimetre, centimetre, metre, kilometre, mile length, height, width, depth, breadth, pint, gallon	
Year 6	- calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3. - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - recognise that shapes with the same areas can have different perimeters and vice versa - calculate the area of parallelograms and triangles - calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [e.g. mm3 and km3]. - recognise when it is possible to use formulae for area and volume of shapes - 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 notation to up to three decimal places - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - convert between miles and kilometres	Length centimetre, metre, millimetre, kilometre, mile, yard, foot, feet, inch, inches length, height, width, depth, breadth 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 distance apart … between … to … from edge, perimeter, circumference area, covers square centimetre (cm2), square metre (m2), square millimetre (mm2) ruler	

			metre stick, tape measure

| | | | metre stick, tape measure Weight mass: big, bigger, small, smaller weight: heavy/light, heavier/lighter, heaviest/ lightest tonne, kilogram, half kilogram, gram, pound, ounce weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales Capacity and volume litre, half litre, millilitre, centilitre cubic centimetres(cm3), cubic metres (m3), cubic millimetres (mm3), cubic kilometres (km3) capacity volume | |

Mathematics – Properties of Shapes, Geometry

F1	After 1 term in F1	• I can start to fit shapes into board puzzles or shape sorters. • I can begin to build using simple blocks. • I can start to create picture using shapes appropriately.	Shapes Puzzle Sort Experiment Size	
	After 2 terms in F1	• I can see some shapes in pictures and can start to make pictures using shapes. • I can use small world play to experiment with size, shape, differences and similarities. • I can sort objects into different categories.	Shape same different Objects Categories find	
	By the end of F1	• I can start to identify shapes in the environment. • I can identify and name a circle/triangle/square/star/rectangle/oval. • I can start to find appropriate shapes for certain tasks. • I can ask questions about my observations of differences and similarities. • I can point out patterns in pictures.	Circle, triangle, square, star, rectangle, oval, patterns	

F2	After 1 term in F2	• I can start to identify shapes in the environment. • I can start to find appropriate shapes for certain tasks. • I can recognise and name square/oblong/circle/triangle/star/diamond. • I can use familiar objects and common shapes to create and recreate patterns and build models. • I can create and continue a 2 part repeating pattern.	Shape Pattern Continue Parts Repeat 2D 3D Circle, triangle, square, oblong, pentagon, hexagon, octagon, sphere, cone, cylinder, cube, cuboid, triangular based pyramid, square based pyramid, triangular prism Corner Edge Face Side Describe Round Straight Flat Solid	Continuous Provision – Maths area, dough, construction, block play, sand, water, creative, role play
	After 2 terms in F2	• I can ask questions about their observations of differences and similarities. • I can recall names for 2D and 3D shapes and I can use some of the terms to describe their properties. • I can order and sort according to simple properties. • I can recognise and name oval/semi-circle/cube/cuboid/cone/sphere/pyramid/cylinder. • I can describe a shape using round/flat/solid etc. • I can create some 2D shapes. • I can create and continue a 3 part pattern. • I can explore non linear patterns.		
	By the end of F2	• I can explore characteristics of everyday objects and shapes and use mathematical language to describe them. • I can recognise and name pentagon/hexagon/octagon/square based pyramid/triangular based pyramid/triangular prism. • I can describe shapes using corners/edges/faces/sides. • I can create some 3D shapes. • I can recognise, create and describe patterns. • I can create and continue a 4 part pattern. • I can create a basic symmetrical pattern.		
Year 1		• I can recognise and name common 2-D shapes. • I can recognise and name common 3-D shapes.	Corner (point, pointed), face, side, edge, make, build, draw	Continuous provision- Maths area role play – shape hunt
Year 2		• I can recognise and name 2D shapes- i.e. circle, semi-circle, triangle, square, rectangle, kite, pentagon, hexagon, heptagon, octagon • I can recognise and name 3D shapes- sphere, cylinder, cone, cube, cuboid. triangular prism, square based pyramid, triangular based pyramid • I can identify shapes with a right angle • I can identify the properties of 2D shapes (number of sides and corners) • I can identify the properties of 3D shapes (number of faces, vertices, edges) • I can identify the faces on a 3D shapes with 2D shapes (e.g. circle on a cylinder, triangle on a pyramid) • I can identify lines of symmetry on 2D shapes • I can compare and sort 2 and 3D shapes • I can name the shapes of some everyday objects (e.g. can is a cylinder)	Vertices Line of symmetry Right angle symmetrical	Cross curricular maths – design and make pet homes from 2D nets.
Year 3		• draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them • recognise angles as a property of shape or a description of a turn • identify right angles, • recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines	2-D, 3-D, face, edge, vertices, angles, right angle, turn, quarter turn, half turn, three quarter turn, completer turn, clockwise, anti-clockwise, greater than, less than, horizontal, vertical,	

		perpendicular, parallel	
Year 4	• 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 • compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify acute and obtuse angles and compare and order angles up to two right angles by size	2D/3D, line of symmetry, symmetrical/non-symmetrical, grid, quadrilaterals, triangles, properties, size, parallel, horizontal, vertical, diagonal, acute, obtuse, degrees, greater than/less than, regular, irregular,	
Year 5	• identify 3-D shapes, including cubes and other cuboids, from 2-D representations • draw given angles, and measure them in degrees (σ) • use the properties of rectangles to deduce related facts and find missing lengths and angles • distinguish between regular and irregular polygons based on reasoning about equal sides and angles • know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • identify: • angles at a point and one whole turn (total 360σ) • angles at a point on a straight line and ½ a turn (total 180σ) • other multiples of 90σ	radius, diameter, congruent, axis of symmetry, reflective symmetry, x-axis, y-axis, quadrant, octahedron, regular, irregular,	
Year 6	• recognise, describe and build simple 3-D shapes, including making nets • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • draw 2-D shapes using given dimensions and angles • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	curved, straight round 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 reflect, reflection axis of symmetry, reflective symmetry pattern, repeating pattern match regular, irregular	

Mathematics – Position and Direction

F1	After 1 term in F1		Positional In, on, out, under, next to, over, inside, in between, behind, around	
	After 2 terms in F1	•		
	By the end of F1	• I can use positional language in/on/out/under/next to/over/inside/in between/ behind/around		
F2	After 1 term in F2	• I can start to make more meaningful pictures, patterns and arrangements with shapes.	Position Direction Forwards Backwards Turn Between, through, above, below, on, under, in, top, bottom, around, next to, beside, over, inside, outside,	Continuous Provision – Maths area, dough, construction, block play, sand, water, creative, role play Computing – BeeBots Health and Wellbeing – use of outdoor area, PE sessions, hall time games
	After 2 terms in F2	• I can notice similarities, differences, patterns and changes. • I can use the language of direction when programming toys. • I can use and understand between/through/above/below/on/under/in/top/bottom/ around/next to/beside/over/inside/outside/forwards/backwards.		
	By the end of F2	• I can use everyday language to talk about position and distance to compare objects and to solve problems.		
Year 1		• I can describe position and direction e.g. left and right; top, middle and bottom; on top of, below; in front of, behind; above, below; between, around, near, close and far, up and down, forwards and backwards, inside and outside. • I can describe and make movements e.g. half, quarter, three-quarter and whole turns. • I can link turning clockwise and anti-clockwise with movement on a clock face.	Before, after, beside, next to, opposite, apart, between, middle, left, right, up, down, forwards, backwards, sideways, across, close, far, near, along, through, to, from, towards, away from, whole turn, half turn,	Continuous provision- Maths area role play Summer 2 – Describe position of toys. Cross curricular maths – Computing programming

			bee-bot (algorythms)
Year 2	• I can create and continue patterns using mathematical objects • I can use language to describe the position of an object • I can explain how a shape has been rotated • I can use terms like right angle, clock wise and anti-clockwise to describe a turn.	Rotation left right quarter turn half turn three quarter turn clock wise ant clockwise	Cross curricular maths – Computing plan a route for a bee-bot (algorythms)

Mathematics – Statistics

F1			
F2	• I can talk about which stack of cubes has the most/least when using them as a voting system. • I can record using marks/pictures/numbers and talk about what they mean. • I can create a number poster, showing different ways of representing numbers.	Record, pictures, marks, numbers, digits, count, more, less	Continuous Provision – book choices for voting
Year 1	• With guidance from their teacher children can create a tally chart to record their observations • With guidance from their teacher children can create pictograms	Tally Table graph Record Observe pictogram	Autumn 1 – Pictogram of favourite fruit (in preparation for creating a fruit salad for 'the tiger who came to tea'). Spring 1 – Tally of types of transport that goes past our school Summer 1 – Tally of birds found in 8A garden.
Year 2	• I can create and use tally charts to gather data • I can create a pictogram or block diagram to show the data I have collated • I can ask and answer questions about the categories of data. i.e. a graph about pets. How many children had a dog? • I can ask and answer questions that include totalling data. i.e. 4 children ate pizza, 3 children ate pasta- 7 children ate pizza or pasta • I can ask and answer questions that include comparing the categories in my data. 9 children had a dog 2 had a fish. 7 more children had a dog.	Data Compare Total Block diagram categories Graph Bar chart Intersection Carroll diagram vote, block graph, represent, group, set, list, table, label, title, most popular, most common, least popular, least common	Cross curricular maths – computing and science. Collect data to find out favourite pet. Represent as a bar graph using IT package **Health and well-being –** salad vegetable food tasting and collect data to then inform

			quantities to buy in DT
Year 3	• interpret and present data using bar charts, pictograms and tables • solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	Interpret, represent, data, bar chart, pictogram, table, key, axis, label, most, least, find the difference, how many more, how many less	
Year 4	• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Interpret, present, discrete, continuous, data, bar chart, time graph, line graph, difference, greater than/less than, compare, sum, pictogram, multiple, table, x axis, y axis, scale, origin, multiple	
Year 5	• complete, read and interpret information in tables, including timetables • solve comparison, sum and difference problems using information presented in a line graph	Database, frequency table, bar line chart, line graph, axis, least common maximum/minimum value, outcome	
Year 6	• interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average	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 value outcome	

			mean	

Algebra

Year 1	• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = * – 9 • represent and use number bonds and related subtraction facts within 20 • sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening	Concrete, pictorial, representation, missing number, number bonds, fact families, sequence, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening	Continuous provision– Maths area role play
Year 2	• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • compare and sequence intervals of time • order and arrange combinations of mathematical objects in patterns		Continuous provision– Challenges in maths area
Year 3	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. • solve problems, including missing number problems, involving multiplication and division, including integer scaling	Problem, missing number, number fact, number bonds, digit, place value, add, plus, more, less, Subtract, take away, fewer, find the difference, total, answer, equals multiplication, multiply, times, divide, division, lots of, groups of, equal groups, inverse operation	
Year 4	• Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit.	Algebra, represent, equivalent, length, perimeter.	
Year 5	• use the properties of rectangles to deduce related facts and find missing lengths and angles		
Year 6	• express missing number problems algebraically • find pairs of numbers that satisfy number sentences involving two unknowns • enumerate all possibilities of combinations of two variables • use simple formulae • recognise when it is possible to use formulae for area and volume of shapes • generate and describe linear number sequences	formula, formulae equation unknown variable	

Ratio and Proportion

Year 6	• solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	Scale, Scale factor	

	• solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	