MATHEMATICS CURRICULUM PROGRESSION MAP

Quadring Cowley and Brown's Primary School

QCB Maths Progression Map

EYFS Number: Counting

Number Words

• I can recite some number names in sequence (not necessarily understand at this stage).
• I can use some number language accurately
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.
I can count to 10.
• I can select the correct numeral to represent 1 to 5, then 1 to 10 objects.
• I can count to 20.
• I can begin to use 'teens' to count beyond 10.

Counting Sets

• I can recognise when a group of objects has more than one.
• 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.
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.
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.
I can use zero.
• I understand the empty set of 0.
• I can recognise without counting patterns of up to 6.
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.

Vocabulary

Number
Names
Order
Sequence
Group
Objects
More
Recognise
Compare
A lot
Quantities
Count
Identify
Set
Forwards
Represent
Digit
Total

			• I know that the number of objects does not change if they are just moved around. 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 know that the number in a group of objects changes when something is added or taken away. •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. 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.	
Number and Place Value	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Counting	Count to and across 100; Forwards and backwards, Beginning with 0 and 1, Or from any given number Count, read and write numerals to 100 in numerals Count in multiples of 2, count in multiples of 5, count in multiples of 10	Count in steps of -2, 3 and 5 from 0 -10 from any number -forwards and backwards	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 whole numbers, including through zero	Use negative numbers in context, and calculate intervals across zero

	• 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	• I can count on a number line, identifying missing numbers • I can confidently count to 100 and beyond. • I can count forwards and backwards in 2's, 3's,5's and 10's from any given number	• 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	• 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	• 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	• I can use negative numbers in context, and calculate intervals across zero
Recognition of Place Value	Identify 1 more and 1 less from a given number	Recognise the place value of each digit in a 2-digit number (tens, ones)	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	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 1000	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit Interpret negative numbers in context Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	Round any whole number to a required degree of accuracy
I can/I Know	I can identify one more than any given number (numbers to 100)					

	I can identify one less than any given number (numbers to 100)					
Vocabulary	Ten more/less, digit, , size, value, between, halfway between, above, below, tens, ones	Skip counting, new ten, more less, fewer counting on back forwards backwards pattern digits	Multiples, more, less	Positive/negative, multiples, more/less,	Positive, negative, powers of 10, increase, decrease, minus, consecutive,	Positive, negative, Powers of 10. Increase, decrease
EYFS – Estimating, Identifying and Representing						
I can create and experiment with symbols and marks to represent ideas of numbers. 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. 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.					Symbols Represent Number Digit Marks	
Identification, representation and estimation	Identify and represent numbers using objects and pictorial representations and using a number line	Identify, represent and estimate numbers using different representations, including a number line.	Identify, represent and estimate numbers using different representations	Identify, represent and estimate numbers using different representations		
I can/I know	I can identify and represent numbers using different representations including objects, pictorial and using a number line.	I can represent numbers using concrete apparatus including: place value counters and base 10 apparatus I can identify and estimate the missing number on a number line or scale	I can identify, represent and estimate numbers using different representations.	I can identify, represent and estimate numbers using different representations		

		I can partition two digit numbers in different ways. I understand the values of both digits in a two-digit number				
EYFS – Comparing Numbers						
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. 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.					Compare Quantities Sort Objects Group Same Separate Different Total Recognise Bigger Smaller Before After Order More Fewer Less First Second Last	
Comparing and ordering	Use the language of equal to, more than, less than (fewer), most, least	Compare and order numbers from 0 up to 100 -using < , > and = signs	Compare and order numbers up to 1000	Order and compare numbers beyond 1000	Order and 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 determine the value of each digit
I can/I know	I can use the words equal to, more than, less than (fewer), most least when comparing and ordering numbers.	I can compare and order numbers 0 to 100 using >, < and =	I can compare and order numbers up to 1 000 using my place value knowledge.	I can order and compare numbers beyond 1 000 using my place value knowledge.	I can read, write, order and compare numbers to at least 1 000 000 and	I can read, write, order and compare numbers up to

		and understand what these symbols mean.		I can compare numbers with the same number of decimal places up to two decimal places (copied from Fractions)	determine the value of each digit	10 000 000 and determine the value of each digit
Vocabulary	Equal more than less than fewer most least	Greater than Less than Equal to fewer	Compare, order, greater than, less than, equals to, ascending, descending, ones, tens, hundreds, one thousand, place value	Compare, order, ascending/descending, place value, hundredths, tenths, ones tens, hundreds, thousands, decimal point, equivalent, digit,	ten thousand, hundred thousand, million, digit, inequality, greater than or equals to, less than or equals to, ascending/ descending order	next, consecutive > greater than < less than ten thousand, hundred thousand, million, digit, inequality, equals to, ascending/ descending order

EYFS – Reading and writing Numbers

I can say numbers 1-3 in sequence.
I can show an awareness of some numbers in the environment.
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.
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.
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.
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

Numbers
Sequence
Environment
Numerals
Digit
Order
Check
Count
Number line
100 Square
Recognise
Marks
Symbols
Represent
Write
Number line
100 square
Record
tally

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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. 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.						
Reading and writing	Read and write numerals to 100 in numerals Read and write numbers from 1 to 20 in numbers and words	Read and write numbers to at least 100 in numerals and words	Read and write numbers up to 1000 in numerals and in words	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 numbers to at least 1 000 000 and determine the value of each digit Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	Read and write numbers up to 10 000 000 and determine the value of each digit
I can/I know	I can read numbers 1-100 in numerals. I can read numbers 1-20 and in numbers in words. Write numbers from 1 to 100 in numerals Write numbers from 1 to 20 in words and the tens numbers	I can read numbers to 100 and beyond in numerals I can read numbers to 100 in words 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	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) I can read and write numbers up to 1 000	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. 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	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.	I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit

			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)			
Vocabulary	Tens ones digit zero	place value digit hundreds tens ones units place holder	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	Numerals, (Roman numerals I-C), place value, zero, representation	ten thousand, hundred thousand, million, digit, inequality D = 500 M = 1000	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
EYFS – Problem Solving						
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. 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.						Number Problems Answer Question Total Add Take away More Less Amount Solve Amount Odd Even Share Equal Double Halve
Problem Solving		Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all of the above and with increasingly large positive numbers	Solve number problems and practical problems that involve all of the above	Solve number and practical problems that involve all of the above.
	I can solve one-step problems that involve addition and	I can use place value to solve problems	I can recognise the place value of each digit in a three-digit	I can recognise the place value of each digit in a four-digit	I can read, write, order and compare numbers to at least	I can read, write, order and compare numbers up to

	subtraction (using Year 1 number content)	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.	number (hundreds, tens, ones) I can solve number problems and practical problems involving these ideas.	number (thousands, hundreds, tens, and ones) I can round any number to the nearest 10, 100 or 1 000 I can solve number and practical problems that involve all of the above and with increasingly large positive numbers	1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) I can recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (copied from Fractions) I can round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 I can solve number problems and practical problems that involve all of the above	10 000 000 and determine the value of each digit I can 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 I can round any whole number to a required degree of accuracy I can solve problems which require answers to be rounded to specified degrees of accuracy I can solve number and practical problems that involve all of the above
Vocabulary	Number facts, number line, number track, number square how much how many what if	Partition recombine digit inverse operation calculation	Place value, ones, tens, hundreds, digit, partition, problem, solve, calculate	Place value up to thousands. Round to the nearest ___, digit, round up/down, multiple	round, nearest, round to the nearest ten, hundred, thousand, ten thousand round up, round down	

EYFS – Addition and Subtraction

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I know that the number in a group of objects changes when something is added or taken away 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. 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. 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. 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.	Number Group Object Change Add Take away Same Numerals Set 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

Addition and Subtraction	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Calculation	Add and subtract 1-digit and 2-digit numbers to 20, including 0	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a two-digit number and ones - a two-digit number and tens - two two-digit numbers	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction (Mathematics Appendix 1)	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate (Mathematics Appendix 1)	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) (Mathematics Appendix 1)	Use their knowledge of the order of operations to carry out calculations involving the four operations

		- adding three one-digit numbers Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot				
	Read, write and interpret mathematical statements involving mathematical signs -addition + -subtraction - -equals =					Identify common factors, common multiples and prime numbers
	Represent and use number bonds and related subtraction facts within 20	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Estimate the answer to a calculation and use inverse operations to check answers	Estimate and use inverse operations to check answers to a calculation	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
I can/I know	I can find and recall addition facts for totals up to 10. I can represent and use number bonds and related subtraction facts within 20 I know addition doubles for all numbers to at least 10	I can recall and use addition and subtraction facts within 20 I can find and use number facts to 100 I can use concrete objects to add and subtract two digit number and ones. I can use concrete objects to add and	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 I can add and subtract numbers with up to three	I can add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate I can estimate and use inverse operations to check answers to a calculation	I can add and subtract numbers mentally with increasingly large numbers I can add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	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 I can use estimation to check answers to

	I can add one-digit and two-digit numbers to 20, including zero I can subtract one-digit and two-digit-numbers to 20, including zero I can add a multiple of 10 to a one-digit number I can add near doubles I can read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	subtract two digit number and tens I can sue concrete objects to add and subtract two two digit numbers I can use pictorial representations to add and subtract two digit number and ones I can use pictorial representations add and subtract two digit number and tens I can use pictorial representations add and subtract two two digit numbers I can use mental strategies to add and subtract two digit number and ones I can use mental strategies to 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	digits, using formal written methods of columnar addition and subtraction I can estimate the answer to a calculation and use inverse operations to check answers		I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	calculations and determine, in the context of a problem, levels of accuracy.

		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)				
Vocabulary	Number bonds, number line, add, more, plus, make, sum, total, 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 …	Concrete Pictorial Mental Representation Ones Tens Commutative Inverse operation addition plus subtraction minus less fewer more total altogether jottings calculation	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	Addition, subtraction, method, operation, more, less, column, place value, exchange, inverse, efficient strategy/method, estimate, rounding, check, commutative, sum, difference	round, nearest, round to the nearest ten, hundred, thousand, ten thousand context, accuracy, accurate,	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 …?
Mental Recall		Recall and use addition and subtraction facts to 20 fluently Derive and use related facts up to 100	Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds		Add and subtract numbers mentally with increasingly large numbers	Perform mental calculations, including with mixed operations and large numbers
Problem Solving	Solve one step problems involving addition and subtraction -using concrete objects and pictorial representation -using missing number problems e.g. 7 = □ - 9	Solve problems with addition and subtraction -using concrete objects and pictorial representations -including those involving numbers, quantities and measures	Solve problems including -missing number problems -using number facts -place value -more complex addition and subtraction.	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 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 Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

EYFS – Multiplication and Division

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 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.
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.

Separate
Group
Number
Objects
Different
Total
Same
Count in
Patterns
Count on
Count back
Separate
Total
Amount
Equal Same Different
Share Group Combine
Odd Even Fair

Multiplication and Division	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Calculation		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using signs -multiplication x - division ÷ - equals = Show that multiplication of two numbers can be done	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know including -two-digit numbers times one-digit Numbers - using mental and progressing to formal written methods	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout Use place value, known and derived facts to multiply and divide mentally, including: -multiplying by 0 and 1 -dividing by 1 - multiplying together three numbers	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers (Mathematics Appendix 1) Divide numbers up to 4 digits by a one-digit number using the formal written method of short	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication (Mathematics Appendix 1) Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and

		in any order (commutative) and division of one number by another cannot		Recognise and use factor pairs and commutativity in mental calculations	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 Multiply and divide numbers mentally drawing upon known facts Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Recognise and use square numbers and cube numbers, and the notation for squared and cubed Know and use the vocabulary of prime numbers, prime factors and	interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context (Mathematics Appendix 1) Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context (Mathematics Appendix 1) Perform mental calculations, including with mixed operations and large numbers Identify common factors, common multiples and prime numbers

					composite (non-prime) numbers Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	Use their knowledge of the order of operations to carry out calculations involving the four operations
I can/I know	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 I can use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	I can recall and use multiplication and division facts for the 2 times tables I can recall and use multiplication and division facts for the 5 times tables I can 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	I can count from 0 in multiples of 4, 8, 50 and 100 I can recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables I can 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 I can write and calculate mathematical statements for multiplication and	I can count in multiples of 6, 7, 9, 25 and 1000 I can recall multiplication and division facts for multiplication tables up to 12 × 12 I can 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 I can recognise and use factor pairs and commutativity in mental calculations I can multiply two-digit and three-digit numbers by a one-digit number using formal written layout	I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 I can multiply and divide numbers mentally drawing upon known facts I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 I can 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 I can divide numbers up to 4 digits by a one-digit number	I can perform mental calculations, including with mixed operations and large numbers I am able to associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) I can multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication I can divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where

		multiplication and division problems I know that multiplication is the same as repeated addition	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 I can estimate the answer to a calculation and use inverse operations to check answers I can 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	I can 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	using the formal written method of short division and interpret remainders appropriately for the context I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. I know and can use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers I can establish whether a number up to 100 is prime and recall prime numbers up to 19 I can recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) I can solve problems involving multiplication and division including using their knowledge of factors and	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 I can use written division methods in cases where the answer has up to two decimal places I can identify common factors, common multiples and prime numbers I can use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions) I can calculate, estimate and compare volume of cubes and cuboids using standard units,

					multiples, squares and cubes I can 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	including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3 (copied from Measures) I can use my knowledge of the order of operations to carry out calculations involving the four operations I can use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy I can solve problems involving addition, subtraction, multiplication and division solve problems involving similar shapes where the scale factor is known or can be found
Vocabulary	Share group arrange array lots of how many how much	Multiplication Divide Times tables Multiply Multiple Commutative Repeated addition	Multiple, multiplication, multiply, times, divide, division, lots of, groups of, equal groups, times table, commutative, column	Multiple, multiplication, times table, division facts, place value, column, expanded/short, multiplication/division, inverse, check,	Bus stop method, prime, composite, common factors, highest common factor, lowest common factor, prime factor,	multiplication multiply multiplied by multiple, factor groups of times product

		Lots of	method, inverse, scaling	estimate, remainder, factors, factor pairs, t-model/chart, scaling, correspondence, product, quotient	multiple, common multiples, decimal point, tenth, hundredth, thousandth, remainder, squared, cubed, equals	once, twice, three times … ten times repeated addition division 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
Mental Recall		Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables -including recognising odd and even numbers	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Recall multiplication and division facts for multiplication tables up to 12 × 12	Establish whether a number up to 100 is prime and recall prime numbers up to 19	
Problem Solving	Solve one step problems involving multiplication and	Solve problems involving multiplication and division using	Solve problems including -missing number problems	Solve problems involving multiplying and adding, including:	Solve problems involving multiplication and division including	Solve problems involving addition, subtraction,

	division, calculating the answer using -concrete objects -pictorial representations -arrays With the support of the teacher	-materials -arrays -repeated addition -mental methods -multiplication and division facts, including problems in contexts.	-involving multiplication and Division - positive integer scaling problems - correspondence problems in which n objects are connected to m objects.	- using the distributive law to multiply two digit numbers by one digit - integer scaling problems - harder correspondence problems such as n objects are connected to m objects	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	multiplication and division Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

EYFS - Fractions	
I can say when two small groups have the same number of objects. F2 After 1 term in F2	Add
I can say when two small groups have the same number of objects.	Take
I can show some understanding of doubling and halving in familiar contexts.	Away
I know the number doubles 1-5.	Same
I can use the part-part-whole grid to double and halve. By the end of F2	Different
I can use quantities and objects to add two single-digit numbers and count on to find the answer.	Equal
I can solve problems, including doubling, halving and sharing.	Share
I know the number doubles 1-10.	Combine

					Double Halve Part-part-whole Count on Count back	
Fractions, Decimals and Percentages	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Fractions	Recognise, find and name a half as one of two equal parts of an -object -shape -quantity	Recognise, find, name and write fractions 1/3 , ¼, 2/4, ¾ of a length, shape, set of objects or quantity Write simple fractions for example, ½ of 6 = 3	Recognise, find and write fractions of a discrete set of objects; unit fractions and non-unit fractions with small denominators Recognise and use fractions as numbers; unit fractions and non-unit fractions with small denominators		Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number e.g. 2/5 + 4/5 = 6/5 = **1** 1/5	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
			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.		
		Recognise the equivalence of 2/4 and ½	Recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and show, using diagrams, families of common equivalent fractions	Identify, name and write equivalent fractions of a given fraction, represented visually,	

					including tenths and hundredths	
			Add and subtract fractions with the same denominator within one whole e.g. 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	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
					Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = 1/8$ Divide proper fractions by whole numbers e.g. $1/3 \div 2 = 1/6$
			Compare and order unit fractions, and fractions with the same denominators		Compare and order fractions whose denominators are all multiples of the same number	Compare and order fractions, including fractions > 1
Decimals/Fractions				Recognise and write decimal equivalents of any number of tenths or hundredths	Recognise and use thousandths and relate them to	Associate a fraction with division and calculate decimal fraction equivalent

				Recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$	tenths, hundredths and decimal equivalents Read and write decimal numbers as fractions e.g. 0.71 = 71/100	e.g. 0.375 for a simple fraction 3/8
Decimals				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 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	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 the value of each digit in numbers given to three decimal places and 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
Percentages, Fractions and Decimals					Recognise the per cent symbol (%) and understand that per cent relates to 'number of	Recall and use equivalences between simple fractions, decimals and percentages,

					parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal	including in different contexts.
I can/I know	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.	I can recognise and find $\frac{1}{2}$, $\frac{1}{4}$, 2/4 and 1/3 of a shape I can recognise and find $\frac{1}{2}$, $\frac{1}{4}$, 2/4 and 1/3 of a number or set of objects I can write simple fractions $\frac{1}{2}$ of 6=3 I know that 2/4 is equivalent to $\frac{1}{2}$ I know $\frac{1}{2}$ is called half I know 1/3 is called third I know $\frac{1}{4}$ is called quarter, 2/4 is two quarters, $\frac{3}{4}$ is three quarters I know that these fractions $\frac{1}{2}$, $\frac{1}{4}$, 1/3 are unit fractions I know that these fractions 2/4, $\frac{3}{4}$, 2/3 are non-unit fractions I know that 2/2, 3/3 and 4/4 are a whole	I can count up and down in tenths I can recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators I can recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. I can recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators I can compare and order unit fractions, and fractions with the same denominators I can recognise and show, using diagrams, equivalent fractions	I can count up and down in hundredths I recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten I can compare numbers with the same number of decimal places up to two decimal places I can round decimals with one decimal place to the nearest whole number I recognise and show, using diagrams, families of common equivalent fractions I recognise and write decimal equivalents of any number of tenths or hundredths I can recognise and write decimal equivalents to 1/4; 1/2; $\frac{3}{4}$	I can recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence) I can compare and order fractions whose denominators are all multiples of the same number I can read, write, order and compare numbers with up to three decimal places I know how to round decimals with two decimal places to the nearest whole number and to one decimal place I can identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	I can compare and order fractions, including fractions >1 I can identify the value of each digit in numbers given to the decimal places I know how to solve problems which require answers to be rounded to specified degrees of accuracy I can use common factors to simplify fractions; use common multiples to express fractions in the same denomination I can associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) I can recall and use equivalences between simple fractions, decimals and

			with small denominators I can add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7) I can solve problems that involve all of the above	I can add and subtract fractions with the same denominator I can 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 I can 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 I can solve simple measure and money problems involving fractions and decimals to two decimal places.	I can read and write decimal numbers as fractions (e.g. 0.71 = 71/100) I can recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents I can 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 I can add and subtract fractions with the same denominator and multiples of the same number I can 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)	percentages, including in different contexts. I can add and subtract fractions with different denominators and mixed numbers, using the I understand the concept of equivalent fractions I can multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 × 1/2 = 1/8) I can multiply one-digit numbers with up to two decimal places by whole numbers I can divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6) I can multiply one-digit numbers with up to two decimal places by whole numbers I can multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places I can identify the value of each digit to

					I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams I can solve problems involving numbers up to three decimal places I can 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.	three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places I associate a fraction with division and know how to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) I can use written division methods in cases where the answer has up to two decimal places
Vocabulary	half quarter equal the same share out Whole, equal parts, four equal parts, one half, two halves, a quarter, two quarters	Fraction Half whole Quarter Third Equivalent Unit fraction Non-unit fraction Three quarters, one third, a third, equivalence, equivalent two quarters	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	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	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	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

				fractions, unit/non unit fractions, mixed fractions.		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, %
Problem Solving			Solve problems that involve all of the above.	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. Solve problems involving number up to three decimal places Solve problems which require knowing percentage and decimal equivalents	Solve problems which require answers to be rounded to specified degrees of accuracy

					of ½ ¼ 1/5 2/5 4/5 and those fractions with a denominator of a multiple of 10 or 25.	

Ratio and Proportion	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						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 e.g. of measures, and such as 15% of 360 and the use of percentages for comparison Solve problems involving similar shapes where the scale factor is known or can be found Solve problems involving unequal sharing and grouping

						using knowledge of fractions and multiples.
						I can solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts I can solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison I can solve problems involving similar shapes where the scale factor is known or can be found I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
Algebra						Use simple formulae Generate and describe linear number sequences

						Express missing number problems algebraically Find pairs of numbers that satisfy an equation with two unknowns Enumerate possibilities of combinations of two variables.
	I can solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = * - 9	I can recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. I can order and arrange combinations of mathematical objects in patterns	I can solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. I can solve problems, including missing number problems, involving multiplication and division, including integer scaling	I know that perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit.	I can use the properties of rectangles to deduce related facts and find missing lengths and angles	I can express missing number problems algebraically I can find pairs of numbers that satisfy number sentences involving two unknowns I know how to enumerate all possibilities of combinations of two variables I can use simple formulae I can recognise when it is possible to use formulae for area and volume of shapes I can generate and describe linear number sequences
Vocabulary						formula, formulae

						equation unknown variable

EYFS – Measurement	
Length and Height I can begin to build using simple blocks I can use small world play to experiment with size, shape, differences and similarities. I can correctly use big and small. I can use comparative language like 'taller', 'shorter', 'the same'. I can use comparative language like taller, shorter, the same. I can order three items by length 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 I can begin to use non-standard measurements to measure length/ height/ width/ circumference **Weight** I can explore using scales and watch what happens. I can use heavy to describe an item. I can use scales when baking or cooking with guidance. 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 understand the term later. I can show some understanding of 'now' and 'next'.	Taller Shorter Longer Wider Thinner Same Different Measure Scales Balance Equal Heavier Lighter Time O clock First/next/second After/Before Sequence Order Money

I can ask questions about the routine and what is happening next. I can talk about the routine of the day and use language like 'before' and 'after'. I can talk about the routine of the day and use language like before, after. I can talk about a past event. 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. 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 play in a shop. I can talk about the routine of the day and use language like 'before' and 'after'. I know to pay for items in a shop with coins 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 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. **Capacity and Volume** I can fill and empty a container. I can begin to use some language related to shop role play. I can empty a container and make it full on request. I can explore volume and capacity through play and using jugs/cylinders/beakers to measure. 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. 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.	Cheap Expensive Penny Coin Pound 1p/2p/5p/10p etc Combine Total Amount Capacity Volume Full Empty Half full Fill Level Cylinder Beaker Ruler

Measurement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measure	Compare, describe and solve practical problems for:	Compare and order lengths, mass, volume/capacity and	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g);	Estimate, compare and calculate different measures	Convert between different units of metric measure e.g. kilometre and metre;	Solve problems involving the calculation and conversion of units of

	-lengths and heights e.g. long/short, longer/shorter, tall/short, double/half -mass/weight e.g. heavy/light, heavier than, lighter than -capacity and volume e.g. full/empty, more than, less than, half, half full, quarter Measure and begin to record the following: -lengths and heights -mass/weight -capacity and volume	record the results using >, < and = Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	volume/capacity (l/ml) Measure the perimeter of simple 2-D shapes	Convert between different units of measure e.g. kilometre to metre Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Find the area of rectilinear shapes by counting squares	centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes Estimate volume e.g. using 1 cm3	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 notation to up to three decimal places Convert between miles and kilometres Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it is possible to use formulae for area and volume of shapes

					blocks to build cuboids (including cubes) 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.	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. mm3and km3
	Length and Height I can measure and begin to record lengths and heights I can compare, describe and solve practical problems, moving from non-standard to standard units of length and height **Weight** I can measure and begin to record mass / weight I can compare, describe and solve practical problems, moving from non-standard to standard units of mass and weight **Capacity and Volume**	**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	I can measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) I can measure the perimeter of simple 2-D shapes	I can measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres I can find the area of rectilinear shapes by counting squares I can convert between different units of measure (e.g. kilometre to metre; hour to minute)	I can 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 estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water) I can use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	I can 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. I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate I can recognise that shapes with the same areas can have

	I can measure and begin to record capacity and volume I can compare, describe and solve practical problems moving from non-standard to standard units of capacity and volume	**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 **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			I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres I can 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 I can recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) I know how to convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) understand and use equivalences between metric units and common imperial	different perimeters and vice versa I can calculate the area of parallelograms and triangles I can 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]. I recognise when it is possible to use formulae for area and volume of shapes I can 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 I can solve problems involving the calculation and

		I can measure the temperature using a thermometer. I can read the scale on the thermometer. I can compare and order temperature using <, > and =			units such as inches, pounds and pints	conversion of units of measure, using decimal notation up to three decimal places where appropriate I can convert between miles and kilometres
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	Convert between different units of measure e.g. pounds to pence Estimate, compare and calculate different measures, including money in pounds and pence	Solve problems involving money Use all four operations to solve problems involving measure e.g money using decimal notation Use all four operations to solve problems involving measure e.g. length, mass, volume, money using decimal notation, including scaling.	
	I can recognise and know the value of different denominations of coins and notes 1p, 2p, 5p, 10p, 20p, 50p, £1, £2, £5, £10, £20, £50	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 add and subtract amounts of money to give change, using both £ and p in practical contexts	I can estimate, compare and calculate different measures, including money in pounds and pence	I can use my knowledge of money to solve problems and use the correct notation.	

		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				
Time	Compare, describe and solve practical problems for: -time e.g. quicker, slower, earlier, later Measure and begin to record the following: -time (hours, minutes, seconds) Sequence events in chronological order using language e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening Recognise and use language relating to dates, including days of the week, weeks, months and years	Compare and sequence intervals of time Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times Know the number of minutes in an hour and the number of hours in a day.	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year	Convert between different units of measure e.g. hours to minutes Estimate, compare and calculate different measures e.g. hours and minutes 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	Solve problems involving converting between units of time Use all four operations to solve problems involving measure	

	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.		Compare durations of events e.g. to calculate the time taken by particular events or tasks			
	I can recognise and use language relating to dates, days of the week, weeks, months and years. I can name the days of the week and I know the order of the days of the week I can compare, describe and solve practical problems, using standard units of 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 can compare durations of events, for example to calculate the time taken by particular events or tasks I can 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 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 I know the number of seconds in a minute and the number of days in each month, year and leap year	I can read, write and convert time between analogue and digital 12 and 24-hour clocks I can solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	I can solve problems involving converting between units of time	

		I know that there are 24 hours in 1 day				
Vocabulary	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,	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	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	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,	metric unit, imperial unit, approximately, square centimetre (cm2), square metre (m2), square millimetre (mm2), millimetre, centimetre, metre, kilometre, mile length, height, width, depth, breadth, pint, gallon	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),

	metre, ruler, metre stick How much?, How many?, money, coin, penny, pence, pound, price, cost, buy, sell, costs more, costs less, cheaper, costs the same as, total	millilitre litre Celsius Thermometer Degrees				square millimetre (mm2) Ruler 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

EYFS – Properties of Shapes

I can start to fit shapes into board puzzles or shape sorters.	Shapes
I can begin to build using simple blocks.	Puzzle
I can start to create picture using shapes appropriately.	Sort
I can see some shapes in pictures and can start to make pictures using shapes.	Experiment
I can use small world play to experiment with size, shape, differences and similarities.	Size
I can sort objects into different categories.	Shape
I can start to identify shapes in the environment.	same different
I can identify and name a circle/triangle/square/star/rectangle/oval.	Objects
I can start to find appropriate shapes for certain tasks.	Categories
I can ask questions about my observations of differences and similarities.	find
I can point out patterns in pictures.	Circle, triangle, square, star, rectangle,
I can start to identify shapes in the environment.	oval,
I can start to find appropriate shapes for certain tasks.	Pattern
I can recognise and name square/oblong/circle/triangle/star/diamond.	Continue
I can use familiar objects and common shapes to create and recreate patterns and build models.	Parts
I can create and continue a 2 part repeating pattern.	Repeat
I can ask questions about their observations of differences and similarities.	2D
I can recall names for 2D and 3D shapes and I can use some of the terms to describe their properties.	3D
I can order and sort according to simple properties.	Circle, triangle, square, oblong, pentagon,
I can recognise and name oval/semi-circle/cube/cuboid/cone/sphere/pyramid/cylinder.	hexagon, octagon, sphere, cone, cylinder,
I can describe a shape using round/flat/solid etc.	cube, cuboid, triangular based pyramid,
I can create some 2D shapes.	square based pyramid, triangular prism
I can create and continue a 3 part pattern.	Corner
I can explore non linear patterns.	Edge Face
I can explore characteristics of everyday objects and shapes and use mathematical language to describe them.	Side Describe
I can recognise and name pentagon/hexagon/octagon/square based pyramid/triangular based pyramid/triangular prism.	Round Straight
I can describe shapes using corners/edges/faces/sides.	Flat Solid
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.	

Geometry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Properties of Shapes	Recognise and name common 2-D and 3-D shapes, including:	Identify and describe the properties of 2-D shapes, including the	Draw 2-D shapes and make 3-D shapes using modelling materials	Compare and classify geometric shapes, including quadrilaterals and	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Draw 2-D shapes using given dimensions and angles

	-2-D shapes e.g. rectangles (including squares), circles and triangles -3-D shapes e.g. cuboids (including cubes), pyramids and spheres.	number of sides and line symmetry in a vertical line 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, e.g. a circle on a cylinder and a triangle on a pyramid Compare and sort common 2-D and 3-D shapes and everyday objects.	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.	triangles, based on their properties and sizes Identify acute and obtuse angles and compare and order angles up to two right angles by size Identify lines of symmetry in 2-D shapes presented in different orientations Complete a simple symmetric figure with respect to a specific line of symmetry	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees (o) Identify: -angles at a point and one whole turn (total 360o) - angles at a point on a straight line and 2 1 a turn (total 180o) -other multiples of 90o 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.	Recognise, describe and build simple 3-D shapes, including making nets Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
I can/I know	I can recognise and name common 2-D shapes.	I can recognise and name 2D shapes- i.e. circle, semi-circle,	I can draw 2-D shapes and make 3-D	I can identify lines of symmetry in 2-D shapes presented in	I can identify 3-D shapes, including cubes and other	I can recognise, describe and build

	I can recognise and name common 3-D shapes.	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 know the properties of 2D shapes (number of sides and corners) I know 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	shapes using modelling materials; I recognise 3-D shapes in different orientations and I can describe them I can recognise angles as a property of shape or a description of a turn I can identify right angles, I can recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; I can identify whether angles are greater than or less than a right angle I can identify horizontal and vertical lines and pairs of perpendicular and parallel lines	different orientations I can complete a simple symmetric figure with respect to a specific line of symmetry I can compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes I can identify acute and obtuse angles and compare and order angles up to two right angles by size	cuboids, from 2-D representations UI can use my knowledge to draw given angles, and measure them in degrees (o) I can use the properties of rectangles to deduce related facts and find missing lengths and angles I know how to distinguish between regular and irregular polygons based on reasoning about equal sides and angles I know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles I can identify angles at a point and one whole turn (total 360o) I can identify angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180o) I know the other multiples of 90o	simple 3-D shapes, including making nets I know how to illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius I can draw 2-D shapes using given dimensions and angles I can compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons I can recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

		everyday objects (e.g. can is a cylinder)				
Vocabulary	Corner (point, pointed), face, side, edge, make, build, draw	Vertices Line of symmetry Right angle symmetrical	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	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,	radius, diameter, congruent, axis of symmetry, reflective symmetry, x-axis, y-axis, quadrant, octahedron, regular, irregular,	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
EYFS – Position and Direction						
I can use positional language in/on/out/under/next to/over/inside/in between/ behind/around					Positional	

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I can start to make more meaningful pictures, patterns and arrangements with shapes. 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. I can use everyday language to talk about position and distance to compare objects and to solve problems.					In, on, out, under, next to, over, inside, in between, behind, around Direction Forwards Backwards Turn Between, through, above, below, on, under, in, top, bottom, around, next to, beside, over, inside, outside	
Position and Direction	Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	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).		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.	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.	Describe positions on the full coordinate grid (all four quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
I can/I know	I can describe position and direction e.g. left and right; top, middle and bottom; on top of, below; in front of,	I can create and continue patterns using mathematical objects		I can describe positions on a 2-D grid by using my knowledge of coordinates.	I know how to reflect and translate shapes. I can use the correct vocabulary to explain what has happened to a shape when	I know how to describe positions on grids using my knowledge of all four quadrants.

	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.	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.		I can describe movements between positions as translations of a given unit to the left/right and up/down I know how to plot specific points on a grid and use these points to draw a given polygon.	reflected or translated.	I know how to use the axis on a grid to translate or reflect simple shapes. I can use the correct vocabulary to describe what has happened to a shape when reflected or translated.
Vocabulary	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,	Rotation left right quarter turn half turn three quarter turn clock wise ant clockwise				

Statistics	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Interpret and construct simple pictograms, tally charts, block	Interpret and present data using bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including	Solve comparison, sum and difference problems using information	Interpret and construct pie charts and line graphs and use these to solve problems

		diagrams and simple tables Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data	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.	bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	presented in a line graph Complete, read and interpret information in tables, including timetables	Calculate and interpret the mean as an average
I can/I know	I can create a tally chart to record my observations I can draw a pictogram to record my observations.	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	I can interpret and present data using bar charts, pictograms and tables I can 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.	I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs I know how to solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	I can complete, read and interpret information in tables, including timetables I can solve comparison, sum and difference problems using information presented in a line graph	I can interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average I can explain what the mean is.

		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.				
Vocabulary	Tally Table graph Record Observe pictogram	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	Interpret, represent, data, bar chart, pictogram, table, key, axis, label, most, least, find the difference, how many more, how many less	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	Database, frequency table, bar line chart, line graph, axis, 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 value outcome