

Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives
Yr R		Numbers 10 - 100		Numbers to 1000		numbers to 10,000		decimal fractions		Numbers 10,000,000	
1	Pupils count within 100 in different ways	1	Pupils explain that one ten is equivalent to ten ones	1	Pupils explain that 100 is composed of ten tens and one hundred ones	1	Pupils explain how many tens, hundreds and ones 1,000 is composed of	1	Pupils identify tenths as part of a whole	1	Pupils use representations to identify and explain patterns in powers of 10
		2	Pupils represent multiples of ten using their numerals	2	Pupils explain that 100 is composed of 50s 25s and 20s	2	Pupils use knowledge of 1,000 to explain common measure conversions	2	Pupils describe and represent tenths as a decimal fraction	2	Pupils compose seven or eight-digit numbers using common intervals
Comparisons of quantities		3	Pupils represent multiples of ten using their numerals and names	3	Pupils use known facts to find multiples of ten that compose 100	3	Pupils use knowledge of 1,000 to solve problems	3	Pupils count in tenths in different ways	3	Pupils use their knowledge of the composition of up to eight-digit numbers to solve problems
1	Pupils explain that items can be compared using length and height	4	Pupils represent multiples of ten in an expression or an equation	4	Pupils will use known facts to find a two-digit number and a one- or two-digit number that compose 100	4	Pupils use different strategies to add multiples of 100	4	Pupils describe and write decimal numbers with tenths in different ways	4	Pupils explain how to read numbers with up to seven digits efficiently
2	Pupils explain that items can be compared using weight/mass and volume/capacity	5	Pupils estimate the position of multiples of ten on a 0-100 number line	5	Pupils use known facts to find correct complements to 100	5	Pupils use different strategies to subtract multiples of 100	5	Pupils compare and order decimal numbers with tenths	5	Pupils recognise and create numbers that contain place-holding zeroes
3	Pupils count a set of objects	6	Pupils explain what happens when you add and subtract ten to a multiple of ten	6	Pupils use known facts to find complements to 100 accurately and efficiently	6	Pupils use knowledge of calculation and common measure conversions to solve problems	6	Pupils explain that decimal numbers with tenths can be composed additively	6	Pupils determine the value of digits in numbers up to tens of millions
4	Pupils compare sets of objects	7	Pupils use knowledge of facts and unitising to add and subtract multiples of ten	7	Pupils represent a three-digit number which is a multiple of ten using their numerals and names	7	Pupils compose and decompose four-digit numbers in different ways	7	Pupils explain that decimal numbers with tenths can be composed multiplicatively	7	Pupils explain how to compare up to eight-digit numbers
5	Pupils use equality and inequality symbols to compare sets of objects	8	Pupils add and subtract multiples of ten	8	Pupils use place value knowledge to write addition and subtraction equations	8	Pupils use strategies to make solving calculations more efficient	8	Pupils use their knowledge to calculate with decimal numbers within and across one whole	8	Pupils use their knowledge of the composition of seven-digit numbers to solve problems
6	Pupils use equality and inequality symbols to compare expressions	9	Pupils explore the counting sequence for counting to 100 and beyond	9	Pupils bridge 100 by adding or subtracting in multiples of ten	9	Pupils compare and order four-digit numbers	9	Pupils use their knowledge to calculate with decimal numbers using mental methods	9	Pupils add and subtract mentally without bridging a boundary (only one and more than one digit changes)
7	Pupils explain what a whole is	10	Pupils count a large group of objects by counting groups of tens and the extra ones	10	Pupils use knowledge of addition and subtraction of multiples of ten bridging the hundreds boundary to solve problems	10	Pupils calculate efficiently by using knowledge of place value, addition and subtraction	10	Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction	10	Pupils add numbers whilst crossing the millions boundary
8	Pupils explain that a whole can be split into parts	11	Pupils count a large group of objects by using knowledge of unitising by counting tens and ones	11	Pupils count across and on from 100	11	Pupils explain what rounding is	11	Pupils use representations to round a decimal number with tenths to the nearest whole number	11	Pupils subtract numbers whilst crossing the millions boundary (multiples of 100,000 and different powers of 10)
9	Pupils explain that a whole can represent a group of objects	12	Pupils represent a number from 20-99 in different ways	12	Pupils represent a three-digit number up to 199 in different ways	12	Pupils round a four-digit number to the nearest thousand	12	Pupils identify hundredths as part of a whole	12	Pupils explain how a seven-digit number can be composed and decomposed into parts
10	Pupils identify a part of a whole group	13	Pupils explain and mark the position of numbers 20-99 on a number line	13	Pupils bridge 100 by adding or subtracting a single-digit number	13	Pupils round a four-digit number to the nearest hundred and ten	13	Pupils describe and represent hundredths as a decimal fraction	13	Pupils identify and explain a pattern in a counting sequence
11	Pupils explain what a part-whole model is	14	Pupils explain that numbers 20-99 can be represented as a length	14	Pupils find ten more or ten less than a given number	14	Pupils round a four-digit number to the nearest thousand, hundred and ten	14	Pupils describe and write decimals numbers with hundredths in different ways	14	Pupils identify numbers with up to seven digits on marked number lines
12	Pupils use a part-whole model to represent a whole partitioned into two parts	15	Pupils compare two, two-digit numbers	15	Pupils cross the hundreds boundary when adding and subtracting any two-digit multiple of ten	15	Pupils add up to 3 four-digit numbers using a column addition	15	Pupils compare and order decimal numbers with hundredths	15	Pupils estimate the value and position of numbers on unmarked or partially marked number lines
13	Pupils use a part-whole model to represent a whole partitioned into more than two parts	16	Pupils partition a two-digit number into tens and ones	16	Pupils become familiar with a metre ruler (marked and unmarked intervals, 1 x 1m, 10 x 10cm, 100 x 1cm)	16	Pupils subtract four-digit numbers using a column subtraction	16	Pupils explain that decimal numbers with hundredths can be partitioned in different ways	16	Pupils explain why we round and how to round seven-digit numbers to the nearest million
numbers 0-5		17	Pupils add two, two-digit numbers by partitioning into tens and ones	17	Pupils measure length and height from zero using whole metres and cm	17	Pupils use strategies to make solving calculations more efficient	17	Pupils use their knowledge of decimal place value to convert between and compare metres and centimetres	17	Pupils explain how to round seven-digit numbers to the nearest hundred thousand
1	Pupils explain that numbers can represent how many objects there are in a set			18	Pupils measure length and height from zero using cm	18	Pupils explain how many '100s' and '200s', 1,000 is composed of	18	Pupils explain that different lengths can be composed additively and multiplicatively	18	Pupils explain how to round up to seven-digit numbers to any power of 10 in context
2	Pupils explain that ordinal numbers show a position and not a set of objects			19	Pupils convert between m and cm (include whole m to cm, cm to whole m and cm and vice versa)	19	Pupils explain how many '500s' and '250s', 1,000 is composed of	19	Pupils use their knowledge of decimal place value to solve problems in different contexts	19	Pupils identify and explain the most efficient way to solve a calculation

3	Pupils partition numbers one to five in different ways			20	Pupils become familiar with a ruler in relation to cm and mm (marked and unmarked intervals, knowing 1cm = 10mm)		20	Pupils use their knowledge to calculate with decimal numbers up to and bridging one tenth	20	Pupils add and subtract numbers with up to seven digits using column addition and subtraction
4	Pupils partition the numbers one to five in a systematic way			21	Pupils measure length from zero using mm / whole cm and mm		21	Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction	21	Pupils explore and explain different written and mental strategies to solving addition and subtraction problems
5	Pupils find a missing part when one part and the whole is known			22	Pupils convert between cm and mm (include whole cm to mm, mm to whole cm and mm and vice versa)		22	Pupils round a decimal number with hundredths to the nearest tenth	22	Pupils solve addition and subtraction problems and explain whether a mental or written strategy would be most efficient
6	Pupils show one more and one less than a number using representations. Pupils describe this accurately.			23	Pupils estimate a length/height, measure a length/height and record in a table		23	Pupils round a decimal number with hundredths to the nearest whole number		
7	Pupils show one more and one less than a number using representations. Pupils describe this accurately.			24	Pupils use knowledge of place value to represent a three-digit number in different ways		24	Pupils read and write numbers with up to 3 decimal places		
8	Pupils use a bar model to represent a whole partitioned into two parts			25	Pupils represent a three-digit number up to 1000 in different ways		25	Pupils compare and order numbers with up to 3 decimal places		
				26	Pupils use knowledge of the additive relationship to solve problems					
Numbers 0-10				27	Pupils count in hundreds and tens on a number line		Fractions			
1	Pupils count a set of objects and match the spoken number to the written numeral and number name			28	Pupils identify the previous, next and nearest multiple of 100 on a number line for a three-digit multiples of ten		1	Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (unit fractions)		
2	Pupils represent the numbers 6 to 10 using a five and a bit structure			29	Pupils position three-digit numbers on number lines		2	Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (non-unit fractions)		
3	Pupils identify the whole and parts of the numbers 6 to 10 using the five and a bit structure			30	Pupils estimate the position of three-digit numbers on unmarked number lines		3	Pupils multiply a proper fraction by a whole number (within a whole)		
4	Pupils explore the numbers 6 to 10 using the part whole model and the five and a bit structure			31	Pupils compare one-, two- and three-digit numbers		4	Pupils multiply a proper fraction by a whole number (greater than a whole)		
5	Pupils explain where 6, 7, 8 and 9 lie on a number line			32	Pupils compare two three-digit numbers		5	Pupils multiply an improper fraction by a whole number		
6	Pupils explain what odd and even numbers are and the difference between them			33	Pupils order sets of three-digit numbers		6	Pupils multiply a mixed number by a whole number (product is within a whole)		
7	Pupils explain how even and odd numbers can be partitioned			34	Pupils use known facts to add or subtract multiples of 100 within 1000		7	Pupils multiply a mixed number by a whole number (product is greater than a whole)		
8	Pupils partition numbers 6 to 10 in different ways			35	Pupils write a three-digit multiple of 10 as a multiplication equation		8	Pupils find a unit fraction of a quantity		
9	Pupils partition the numbers 6 to 10 in a systematic way			36	Pupils partition three-digit numbers in different ways		9	Pupils explain the relationship between finding a fraction of a quantity and multiplying a whole number by a unit fraction		
10	Pupils identify a missing part when a whole is partitioned into two parts			37	Pupils use known facts to solve problems involving partitioning numbers		10	Pupils explain the relationship between dividing by a whole number and multiplying a whole number by a unit fraction		
				38	Pupils use known facts to add or subtract to/from multiples of 100 in tens		11	Pupils use their knowledge of multiplying a whole number by a unit fraction to solve problems		
Number 0 - 20				39	Pupils use known facts to add or subtract to/from multiples of 100 in ones		12	Pupils find a non-unit fraction of a quantity (mental calculation)		
1	Pupils explain that the digits in the numbers 11 to 19 express quantity			40	Pupils add/subtract multiples of ten bridging 100		13	Pupils find a non-unit fraction of a quantity (written calculation)		
2	Pupils explain that the digits in the numbers 11 to 19 express position on a number line			41	Pupils add/subtract to/from a three-digit number in ones bridging 100		14	Pupils multiply a whole number by a proper fraction		

3	Pupils identify the quantity shown in a representation of numbers 11 to 19			42	Pupils find 10 more or less across any hundreds boundary			15	Pupils explain when a calculation represents scaling down and when it represents repeated addition		
4	Pupils use knowledge of '10 and a bit' to solve problems			43	Pupils use knowledge of adding or subtracting to/from three-digit numbers to solve problems			16	Pupils find the whole when the size of a unit fraction is known		
5	Pupils use knowledge of '10 and a bit' to solve problems			44	Pupils count forwards and backwards in multiples of 2, 20, 5, 50 and 25			17	Pupils find a unit fraction when the size of a non-unit fraction is known		
6	Pupils explore odd and even numbers within 20			45	Pupils use knowledge of counting in multiples of 2, 20, 5, 50 and 25 to solve problems			18	Pupils find the whole when the size of a non-unit fraction is known		
7	Pupils double the numbers 6 to 9 and halve the result, explaining what doubling and halving is			46	Pupils become familiar with different weighing scales up to 1kg (intervals of 100g, 200g, 250g and 500g)			19	Pupils find the unit fraction when the size of a non-unit fraction is known		
8	Pupils use knowledge of addition facts within 10 to add within 20			47	Pupils become familiar with the tools to measure volume and capacity up to 1 litre (intervals of 100ml, 200ml, 250ml and 500ml)			20	Pupils use representations to describe and compare two fractions ($\frac{1}{4}$ and $\frac{3}{12}$)		
9	Pupils use knowledge of subtraction facts within 10 to subtract within 20			48	Pupils measure mass from zero up to 1kg using grams			21	Pupils use representations to describe and compare two fractions ($\frac{1}{5}$ and $\frac{5}{10}$)		
10	Pupils use knowledge of addition and subtraction facts within 10 to add and subtract within 20			49	Pupils measure mass from zero above 1kg using whole kg and grams			22	Pupils use representations to describe and compare two fractions (pouring context)		
11	Pupils measure one object with different non-standard measures and record outcomes			50	Pupils measure volume from zero up to 1 litre using ml			23	Pupils correctly use the language of equivalent fractions		
12	Pupils measure items using individual cm cubes (Dienes)			51	Pupils measure volume from zero above 1 litre using whole litres and ml			24	Pupils explain the vertical relationship between numerators and denominators within equivalent fractions ($\frac{1}{5}$, $\frac{1}{3}$ and equivalent)		
13	Pupils measure length from zero cm using a ruler			52	Pupils estimate mass in grams and volume in ml			25	Pupils use their knowledge of the vertical relationship to solve equivalent fractions problems		
14	Pupils estimate length in cm			53	Pupils estimate a mass/volume, measure a mass/volume and record in a table			26	Pupils explain the horizontal relationship between numerators and denominators across equivalent fractions ($\frac{1}{5}$, $\frac{1}{3}$ and equivalent)		
15	Pupils estimate length, measure length and record these values in a table							27	Pupils explain the relationship within families of equivalent fractions		
								28	Pupils use their knowledge of equivalent fractions to solve problems		
								29	Pupils explain and represent how to divide 1 into different amounts of equal parts		
								30	Pupils identify and describe patterns within the number system		
								31	Pupils use their knowledge of common equivalents to compare fractions with decimals		
								32	Pupils practise recalling common fraction-decimal equivalents		
								33	Pupils use their knowledge of common fraction-decimal equivalents to solve conversion problems in a range of contexts		
								34	Pupils use their knowledge of common equivalents to compare fractions with decimals beyond one		
								35	Pupils use their knowledge of simplifying calculations by substitution to solve problems in a range of contexts		

									Converting units		
									1 Pupils apply memorised unit conversions to convert between units of measure (larger to smaller units - whole number conversions)		
									2 Pupils apply memorised unit conversions to convert between units of measure (smaller to larger units - whole number conversions)		
									3 Pupils convert from and to fraction and decimal fraction quantities of larger units		
									4 Pupils derive common conversions over 1		
									5 Pupils carry out conversions that correspond to 100 parts		
									6 Pupils solve measures problems involving different units		
									7 Pupils understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints		
									8 Pupils convert between miles and kilometres		
									9 Pupils solve problems involving converting between units of time		

Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives
addition and subtraction within 10		fluently add and subtract within 10		adding and subtracting across 10		numbers to 10,000		decimal fractions		N/A	
1	Pupils explain that addition is commutative	1	Pupils demonstrate their fluency of addition and subtraction within ten	1	Pupils add 3 addends	1	Pupils explain how many tens, hundreds and ones 1,000 is composed of	1	Pupils identify tenths as part of a whole		
2	Pupils find pairs of numbers to 10 (1)	2	Pupils practise addition and subtraction strategies as required	2	Pupils use a 'First.. Then... Now' story to add 3 addends	2	Pupils use knowledge of 1,000 to explain common measure conversions	2	Pupils describe and represent tenths as a decimal fraction		
3	Pupils find pairs of numbers to 10 (2)			3	Pupils explain that addends can be added in any order	3	Pupils use knowledge of 1,000 to solve problems	3	Pupils count in tenths in different ways		
4	Pupils add and subtract 1 from any number			4	Pupils add 3 addends efficiently	4	Pupils use different strategies to add multiples of 100	4	Pupils describe and write decimal numbers with tenths in different ways		
5	Pupils explain what the difference is between consecutive numbers			5	Pupils add 3 addends efficiently by finding two addends that total 10	5	Pupils use different strategies to subtract multiples of 100	5	Pupils compare and order decimal numbers with tenths		
6	Pupils explain what happens when 2 is added to or subtracted from odd and even numbers			6	Pupils add two numbers that bridge through 10	6	Pupils use knowledge of calculation and common measure conversions to solve problems	6	Pupils explain that decimal numbers with tenths can be composed additively		
7	Pupils explain what the difference is between consecutive odd and even numbers			7	Pupils subtract two numbers that bridge through 10	7	Pupils compose and decompose four-digit numbers in different ways	7	Pupils explain that decimal numbers with tenths can be composed multiplicatively		
8	Pupils explain what happens when zero is added to or subtracted from a number					8	Pupils use strategies to make solving calculations more efficient	8	Pupils use their knowledge to calculate with decimal numbers within and across one whole		
9	Pupils explain what happens when a number is added to or subtracted from itself			Numbers to 1000		9	Pupils compare and order four-digit numbers	9	Pupils use their knowledge to calculate with decimal numbers using mental methods		
10	Pupils double numbers and explain what doubling means			1	Pupils explain that 100 is composed of ten tens and one hundred ones	10	Pupils calculate efficiently by using knowledge of place value, addition and subtraction	10	Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction		
11	Pupils halve numbers and explain what halving means			2	Pupils explain that 100 is composed of 50s 25s and 20s	11	Pupils explain what rounding is	11	Pupils use representations to round a decimal number with tenths to the nearest whole number		
12	Pupils use knowledge of doubles and halves to calculate near doubles and halves			3	Pupils use known facts to find multiples of ten that compose 100	12	Pupils round a four-digit number to the nearest thousand	12	Pupils identify hundredths as part of a whole		
13	Pupils represent different types of stories with subtraction calculations			4	Pupils will use known facts to find a two-digit number and a one- or two-digit number that compose 100	13	Pupils round a four-digit number to the nearest hundred and ten	13	Pupils describe and represent hundredths as a decimal fraction		
14	Pupils use knowledge and strategies to add 5 and 3 and 6 and 3			5	Pupils use known facts to find correct complements to 100	14	Pupils round a four-digit number to the nearest thousand, hundred and ten	14	Pupils describe and write decimals numbers with hundredths in different ways		
				6	Pupils use known facts to find complements to 100 accurately and efficiently	15	Pupils add up to 3 four-digit numbers using a column addition	15	Pupils compare and order decimal numbers with hundredths		
coin recognition				7	Pupils represent a three-digit number which is a multiple of ten using their numerals and names	16	Pupils subtract four-digit numbers using a column subtraction	16	Pupils explain that decimal numbers with hundredths can be partitioned in different ways		
1	Pupils count efficiently in groups of two			8	Pupils use place value knowledge to write addition and subtraction equations	17	Pupils use strategies to make solving calculations more efficient	17	Pupils use their knowledge of decimal place value to convert between and compare metres and centimetres		
2	Pupils count efficiently in groups of ten			9	Pupils bridge 100 by adding or subtracting in multiples of ten	18	Pupils explain how many '100s' and '200s', 1,000 is composed of	18	Pupils explain that different lengths can be composed additively and multiplicatively		
3	Pupils count efficiently in group of five			10	Pupils use knowledge of addition and subtraction of multiples of ten bridging the hundreds boundary to solve problems	19	Pupils explain how many '500s' and '250s', 1,000 is composed of	19	Pupils use their knowledge of decimal place value to solve problems in different contexts		

4	Pupils count efficiently by counting in groups of two, five and ten			11	Pupils count across and on from 100			20	Pupils use their knowledge to calculate with decimal numbers up to and bridging one tenth		
5	Pupils explain the value of a 1p coin in pence			12	Pupils represent a three-digit number up to 199 in different ways	3, 6, 9 times tables		21	Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction		
6	Pupils recognise and explain the value of 2p, 5p and 10p coins			13	Pupils bridge 100 by adding or subtracting a single-digit number		Pupils represent counting in threes as the three times table	22	Pupils round a decimal number with hundredths to the nearest tenth		
7	Pupils explain that a single coin can be worth several pennies			14	Pupils find ten more or ten less than a given number		Pupils explain the relationship between adjacent multiples of three	23	Pupils round a decimal number with hundredths to the nearest whole number		
8	Pupils use knowledge of the value of coins to solve problems			15	Pupils cross the hundreds boundary when adding and subtracting any two-digit multiple of ten		Pupils use knowledge of the three times table to solve problems	24	Pupils read and write numbers with up to 3 decimal places		
9	Pupils calculate the total value of the coins in a set of 2p coins			16	Pupils become familiar with a metre ruler (marked and unmarked intervals, 1 x 1m, 10 x 10cm, 100 x 1cm)		Pupils represent counting in sixes as the six times table	25	Pupils compare and order numbers with up to 3 decimal places		
10	Pupils calculate the total value of the coins in a set of 5p coins			17	Pupils measure length and height from zero using whole metres and cm		Pupils explain the relationship between adjacent multiples of six				
11	Pupils calculate the total value of the coins in a set of 10p coins			18	Pupils measure length and height from zero using cm		Pupils use knowledge of the six times table to solve problems	short multiplication and division			
12	Pupils compare sets of 2p, 5p and 10p coins			19	Pupils convert between m and cm (include whole m to cm, cm to whole m and cm and vice versa)		Pupils use known facts from the five times table to solve problems involving the six times table	1	Pupils multiply a two-digit number by a single-digit number using partitioning and representations (no regroup)		
13	Pupils relate what they have learnt to a real-life context			20	Pupils become familiar with a ruler in relation to cm and mm (marked and unmarked intervals, knowing 1cm = 10mm)		Pupils explain the relationship between multiples of three and multiples of six	2	Pupils multiply a two-digit number by a single-digit number using partitioning and representations (one regroup)		
14	Pupils work out how many coins are needed to make a value of 10p			21	Pupils measure length from zero using mm / whole cm and mm		Pupils use knowledge of the relationships between the three and six times tables to solve problems	3	Pupils multiply a two-digit number by a single-digit number using partitioning and representations (two regroup)		
15	Pupils work out how many coins are needed to make a total value of 20p			22	Pupils convert between cm and mm (include whole cm to mm, mm to whole cm and mm and vice versa)		Pupils represent counting in nines as the nine times table	4	Pupils multiply a two-digit number by a single-digit number using partitioning		
16	Pupils use knowledge of the value of coins to solve problems			23	Pupils estimate a length/height, measure a length/height and record in a table		Pupils explain the relationship between adjacent multiples of nine (1)	5	Pupils multiply a two-digit number by a single-digit number using expanded multiplication (no regroup)		
				24	Pupils use knowledge of place value to represent a three-digit number in different ways		Pupils explain the relationship between adjacent multiples of nine (2)	6	Pupils multiply a two-digit number by a single-digit number using short multiplication (no regroup)		
				25	Pupils represent a three-digit number up to 1000 in different ways		Pupils use known facts from the ten times table to solve problems involving the nine times table	7	Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping ones to tens)		
				26	Pupils use knowledge of the additive relationship to solve problems		Pupils explain the relationship between multiples of three and multiples of nine	8	Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping ones to tens)		
				27	Pupils count in hundreds and tens on a number line		Pupils explain the relationship between pairs of three and nine times table facts that have the same product (1)	9	Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping tens to hundreds)		
				28	Pupils identify the previous, next and nearest multiple of 100 on a number line for a three-digit multiples of ten		Pupils explain the relationship between pairs of three and nine times table facts that have the same product (2)	10	Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping tens to hundreds)		
				29	Pupils position three-digit numbers on number lines		Pupils use the divisibility rules for divisors of three	11	Pupils multiply a two-digit number by a single-digit number using both expanded and short multiplication (two regroup)		
				30	Pupils estimate the position of three-digit numbers on unmarked number lines		Pupils use the divisibility rules for divisors of six (1)	12	Pupils use estimation to support accurate calculation		

				31	Pupils compare one-, two- and three-digit numbers	19	Pupils use the divisibility rules for divisors of six (2)	13	Pupils multiply a three-digit number by a single-digit number using partitioning and representations		
				32	Pupils compare two three-digit numbers			14	Pupils multiply a three-digit number by a single-digit number using partitioning		
				33	Pupils order sets of three-digit numbers	7 times table		15	Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (no regroup)		
				34	Pupils use known facts to add or subtract multiples of 100 within 1000	1	Pupils represent counting in sevens as the 7 times table	16	Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (one regroup)		
				35	Pupils write a three-digit multiple of 10 as a multiplication equation	2	Pupils explain the relationship between adjacent multiples of seven	17	Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (multiple regroup)		
				36	Pupils partition three-digit numbers in different ways	3	Pupils use their knowledge of the 7 times table to solve problems	18	Pupils use estimation to support accurate calculation		
				37	Pupils use known facts to solve problems involving partitioning numbers	4	Pupils identify patterns of odd and even numbers in the times tables	19	Pupils divide a two-digit number by a single-digit number using partitioning and representations (no remainders, no exchanging)		
				38	Pupils use known facts to add or subtract to/from multiples of 100 in tens	5	Pupils represent a square number	20	Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging)		
				39	Pupils use known facts to add or subtract to/from multiples of 100 in ones	6	Pupils use knowledge of divisibility rules to solve problems	21	Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging and remainders)		
				40	Pupils add/subtract multiples of ten bridging 100	Understanding multiplicative relationships		22	Pupils divide a two-digit number by a single-digit number using short division (no exchanging, no remainders)		
				41	Pupils add/subtract to/from a three-digit number in ones bridging 100	1	Pupils explain what each factor represents in a multiplication equation	23	Pupils divide a two-digit number by a single-digit number using short division (with exchanging)		
				42	Pupils find 10 more or less across any hundreds boundary	2	Pupils explain how each part of a multiplication and division equation relates to a story	24	Pupils divide a two-digit number by a single-digit number using short division (with exchanging and remainders)		
				43	Pupils use knowledge of adding or subtracting to/from three-digit numbers to solve problems	3	Pupils explain where zero can be part of a multiplication or division expression and the impact it has	25	Pupils divide a three-digit number by a single-digit number using partitioning and representations (no exchanging, no remainders)		
				44	Pupils count forwards and backwards in multiples of 2, 20, 5, 50 and 25	4	Pupils partition one of the factors in a multiplication equation in different ways using representations (I)	26	Pupils divide a three-digit number by a single-digit number using partitioning and representations (one exchange, no remainders)		
				45	Pupils use knowledge of counting in multiples of 2, 20, 5, 50 and 25 to solve problems	5	Pupils partition one of the factors in a multiplication equation in different ways using representations (II)	27	Pupils divide a three-digit number by a single-digit number using partitioning and representations (with exchanging and remainders)		
				46	Pupils become familiar with different weighing scales up to 1kg (intervals of 100g, 200g, 250g and 500g)	6	Pupils explain which is the most efficient factor to partition to solve a multiplication problem	28	Pupils divide a three-digit number by a single-digit number using short division		
				47	Pupils become familiar with the tools to measure volume and capacity up to 1 litre (intervals of 100ml, 200ml, 250ml and 500ml)	7	Pupils use knowledge of distributive law to solve two part addition and subtraction problems, efficiently	29	Pupils divide a three-digit number by a single-digit number using short division (with exchanging and remainders)		
				48	Pupils measure mass from zero up to 1kg using grams	8	Pupils use knowledge of distributive law to calculate products beyond known times tables facts	30	Pupils solve short division problems accurately when the hundreds digit is smaller than the divisor		
				49	Pupils measure mass from zero above 1kg using whole kg and grams	9	Pupils explain the relationship between multiplying a number by 10 and multiples of 10	31	Pupils will use efficient strategies of division to solve problems		
				50	Pupils measure volume from zero up to 1 litre using ml	10	Pupils explain why a zero can be placed after the final digit of a single-digit number when we multiply it by 10				
				51	Pupils measure volume from zero above 1 litre using whole litres and ml	11	Pupils explain why a zero can be placed after the final digit of a two-digit number when we multiply it by 10				

				52	Pupils estimate mass in grams and volume in ml	12	Pupils explain why the final digit zero can be removed from a two-digit multiple of 10, when we divide by 10				
				53	Pupils estimate a mass/volume, measure a mass/volume and record in a table	13	Pupils explain why the final digit zero can be removed from a three-digit multiple of 10, when we divide by 10				
				2, 4, 8 times tables		14	Pupils explain the relationship between multiplying a number by 100 and multiples of 100				
				1	Pupils represent counting in fours as the 4 times table	15	Pupils explain why two zeros can be placed after the final digit of a single-digit number when we multiply it by 100				
				2	Pupils use knowledge of the 4 times table to solve problems	16	Pupils explain why two zeros can be placed after the final digit of a two-digit number when we multiply it by 100				
				3	Pupils explain the relationship between adjacent multiples of four	17	Pupils explain why the last two zeros can be removed from a three-digit multiple of 100 when we divide it by 100				
				4	Pupils explain the relationship between multiples of 2 and multiples of 4	18	Pupils explain why the last two zeros can be removed from a four-digit multiple of 100 when we divide it by 100				
				5	Pupils use knowledge of the relationships between the 2 and 4 times tables to solve problems	19	Pupils use knowledge of the composition of 100 to multiply by 100 in different ways				
				6	Pupils represent counting in eights as the 8 times table	20	Pupils use knowledge of the composition of 100 to divide by 100 in different ways				
				7	Pupils explain the relationship between adjacent multiples of eight	21	Pupils explain how making a factor 10 times the size affects the product				
				8	Pupils explain the relationship between multiples of 4 and multiples of 8	22	Pupils explain how making the dividend 10 times the size affects the quotient				
				9	Pupils use knowledge of the relationships between the 4 and 8 times tables to solve problems	23	Pupils explain how making a factor 100 times the size affects the product				
				10	Pupils explain the relationship between multiples of 2, 4 and multiples of 8	24	Pupils explain how making the dividend 100 times the size affects the quotient				
				11	Pupils use knowledge of the relationships between the 2, 4 and 8 times tables to solve problems	25	Pupils scale known multiplication facts by 100				
				12	Pupils use knowledge of the divisibility rules for divisors of 2 and 4 to solve problems	26	Pupils scale division derived from multiplication facts by 100				
				13	Pupils use knowledge of the divisibility rules for divisors of 8 to solve problems						
				14	Pupils scale known multiplication facts by 10						
				15	Pupils scale division derived from multiplication facts by 10						

Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives
numbers 0-5		Calculations within 20		adding and subtracting across 10				N/A		Knowing knowledge structures	
1	Pupils explain that numbers can represent how many objects there are in a set	1	Pupils add three addends	1	Pupils add 3 addends	2	Pupils use their knowledge of place value to correctly lay out column addition			1	Pupils explain how a combination of different parts can be equivalent to the same whole and can represent this in an expression
2	Pupils explain that ordinal numbers show a position and not a set of objects	2	Pupils use a 'First... Then... Now' story to add 3 addends	2	Pupils use a 'First.. Then... Now' story to add 3 addends	3	Pupils add a pair of 2-digit numbers using column addition			2	Pupils identify structures within stories and use their knowledge of structures to create stories
3	Pupils partition numbers one to five in different ways	3	Pupils explain that addends can be added in any order	3	Pupils explain that addends can be added in any order	4	Pupils add using column addition			3	Pupils identify the missing part using their knowledge of part whole relationships and structures
4	Pupils partition the numbers one to five in a systematic way	4	Pupils add 3 addends efficiently	4	Pupils add 3 addends efficiently	5	Pupils use their knowledge of column addition to solve problems			4	Pupils interpret and represent a part-whole problem with 3 addends using a model
5	Pupils find a missing part when one part and the whole is known	5	Pupils add 3 addends efficiently by finding two addends that total 10	5	Pupils add 3 addends efficiently by finding two addends that total 10	6	Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column			5	Pupils create stories to correctly match a structure presented in a model
6	Pupils show one more and one less than a number using representations. Pupils describe this accurately.	6	Pupils add two numbers that bridge through 10	6	Pupils add two numbers that bridge through 10	7	Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column			6	Pupils use their knowledge of additive structures to solve problems
7	Pupils show one more and one less than a number using representations. Pupils describe this accurately.	7	Pupils subtract two numbers that bridge through 10	7	Pupils subtract two numbers that bridge through 10	8	Pupils add using column addition with regrouping			7	Pupils calculate the value of a missing part (1)
8	Pupils use a bar model to represent a whole partitioned into two parts	8	Pupils compare numbers and describe how many more or less there are in each set			9	Pupils use known facts and strategies to accurately and efficiently calculate and check column addition			8	Pupils calculate the value of a missing part (2)
		9	Pupils calculate the difference	Numbers to 1000		10	Pupils use their knowledge of column addition to solve problems			9	Pupils correctly represent an equation in a part-whole model
Numbers 0-10		10	Pupils use knowledge of subtraction to solve problems in a range of contexts	1	Pupils explain that 100 is composed of ten tens and one hundred ones	11	Pupils identify the minuend and the subtrahend in column subtraction			10	Pupils explain how adjusting both addends affects the sum (2 digit numbers)
1	Pupils count a set of objects and match the spoken number to the written numeral and number name	11	Pupils explain what the difference is between consecutive numbers	2	Pupils explain that 100 is composed of 50s 25s and 20s	12	Pupils subtract using column subtraction			11	Pupils explain how adjusting both addends affects the sum (decimal fractions)
2	Pupils represent the numbers 6 to 10 using a five and a bit structure	12	Pupils calculate difference when information is presented in a pictogram	3	Pupils use known facts to find multiples of ten that compose 100	13	Pupils subtract from a 2-digit number using column subtraction with exchanging from tens to ones			12	Pupils use the 'same sum' rule to balance equations
3	Pupils identify the whole and parts of the numbers 6 to 10 using the five and a bit structure	13	Pupils calculate difference when information is presented in a bar chart	4	Pupils will use known facts to find a one- or two-digit number that compose 100	14	Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (1)			13	Pupils use the 'same sum' rule to balance equations with an unknown
4	Pupils explore the numbers 6 to 10 using the part whole model and the five and a bit structure			5	Pupils use known facts to find correct complements to 100	15	Pupils subtract from a 3-digit number using a column subtraction with exchanging from hundreds to tens (2)			14	Pupils explain how adjusting one addend affects the sum
5	Pupils explain where 6, 7, 8 and 9 lie on a number line	Addition and subtraction of 2 digit numbers		6	Pupils use known facts to find complements to 100 accurately and efficiently	16	Pupils evaluate the efficiency of strategies for subtraction			15	Pupils solve addition calculations mentally by using known facts
6	Pupils explain what odd and even numbers are and the difference between them	1	Pupils add and subtract one to and from a two-digit number	7	Pupils represent a three-digit number which is a multiple of ten using their numerals and names					16	Pupils solve calculations with missing addends
7	Pupils explain how even and odd numbers can be partitioned	2	Pupils add and subtract one to and from a two-digit number that crosses a tens boundary	8	Pupils use place value knowledge to write addition and subtraction equations					17	Pupils explain how adjusting both the minuend and subtrahend by the same amount affects the difference

8	Pupils partition numbers 6 to 10 in different ways	3	Pupils add and subtract one from any two-digit number	9	Pupils bridge 100 by adding or subtracting in multiples of ten					18	Pupils explain how using the 'same difference' rule can make mental calculation easier (1)
9	Pupils partition the numbers 6 to 10 in a systematic way	4	Pupils use number facts to add a single-digit number to a two-digit number	10	Pupils use knowledge of addition and subtraction of multiples of ten bridging the hundreds boundary to solve problems					19	Pupils explain how using the 'same difference' rule can make written calculation easier (2)
10	Pupils identify a missing part when a whole is partitioned into two parts	5	Pupils use number facts to subtract a single-digit number from a two-digit number	11	Pupils count across and on from 100					20	Pupils use the 'same difference' rule to balance equations
Additive structures		6	Pupils use a part-part-whole model to represent addition and subtraction	12	Pupils represent a three-digit number up to 199 in different ways					21	Pupils explain how increasing or decreasing the minuend affects the difference (1)
		7	Pupils use number bonds to ten to add a single-digit number to a two-digit number	13	Pupils bridge 100 by adding or subtracting a single-digit number					22	Pupils explain how increasing or decreasing the minuend affects the difference (2)
	1	8	Pupils use number bonds to ten to subtract a single-digit number from a two-digit number	14	Pupils find ten more or ten less than a given number					23	Pupils solve subtraction calculations mentally by using known facts
	2	9	Pupils use knowledge of 'make ten' to add a one-digit number to a two-digit number	15	Pupils cross the hundreds boundary when adding and subtracting any two-digit multiple of ten					24	Pupils explain how adjusting the minuend can make mental calculation easier
	3	10	Pupils use knowledge of 'make ten' to subtract a multiple of ten or a single-digit from a two-digit number	16	Pupils become familiar with a metre ruler (marked and unmarked intervals, 1 x 1m, 10 x 10cm, 100 x 1cm)					25	Pupils explain how adjusting the subtrahend affects the difference
4	Pupils explain that the = sign can be used to show that the whole and the sum of the parts are equal (2)	11	Pupils solve problems using knowledge of addition and subtraction	17	Pupils measure length and height from zero using whole metres and cm					26	Pupils explain how increasing or decreasing the subtrahend affects the difference
5	Pupils add parts to find the value of the whole and write the equation	12	Pupils find ten more or ten less than a two-digit number (1)	18	Pupils measure length and height from zero using cm					27	Pupils calculate the difference using their knowledge of an adjusted subtrahend (1)
6	Pupils find the missing addend in an equation	13	Pupils find ten more or ten less than a two-digit number (2)	19	Pupils convert between m and cm (include whole m to cm, cm to whole m and cm and vice versa)					28	Pupils calculate the difference using their knowledge of an adjusted subtrahend (2)
7	Pupils partition a whole into two parts and express this with a subtraction equation	14	Pupils add and subtract ten to/from a two-digit number	20	Pupils become familiar with a ruler in relation to cm and mm (marked and unmarked intervals, knowing 1cm = 10mm)						
8	Pupils make addition and subtraction stories and write equations to match	15	Pupils explain the patterns when adding and subtracting ten	21	Pupils measure length from zero using mm / whole cm and mm					Multiplication and division	
9	Pupils represent 'first, then, now' stories with addition equations (1)	16	Pupils use knowledge of adding and subtracting ten to solve problems	22	Pupils convert between cm and mm (include whole cm to mm, mm to whole cm and mm and vice versa)					1	Pupils explain why the product stays the same when one factor is doubled and the other is halved
10	Pupils represent 'first, then, now' stories with addition equations (2)	17	Pupils use number facts to add a multiple of ten to a two-digit number	23	Pupils estimate a length/height, measure a length/height and record in a table					2	Pupils explain the effect on the product when scaling the factors by the same amount
11	Pupils represent 'first, then, now' stories with subtraction equations (1)	18	Pupils use number facts to subtract a multiple of ten from a two-digit number	24	Pupils use knowledge of place value to represent a three-digit number in different ways					3	Pupils use their knowledge of equivalence when scaling factors to solve problems
12	Pupils represent 'first, then, now' stories with subtraction equations (2)	19	Pupils partition a two-digit number into parts in different ways (two and three parts)	25	Pupils represent a three-digit number up to 1000 in different ways					4	Pupils explain the effect on the quotient when scaling the dividend and divisor by 10

13	Pupils represent different types of stories with subtraction calculations	20	Pupils use knowledge of adding and subtracting multiples of ten to solve problems	26	Pupils use knowledge of the additive relationship to solve problems					5	Pupils explain the effect on the quotient when scaling the dividend and divisor by the same amount
14	Pupils make addition and subtraction stories, writing equations to match			27	Pupils count in hundreds and tens on a number line					6	Pupils explain how to multiply a three-digit by a two-digit number
15	Pupils work out the missing part of an addition story and equation if the other two parts are known	Addition and subtraction of 2 digit numbers 2		28	Pupils identify the previous, next and nearest multiple of 100 on a number line for a three-digit multiples of ten					7	Pupils explain how to accurately use the method of long multiplication to multiply two, two-digit numbers (no regrouping of ones to tens)
16	Pupils work out the missing part of a subtraction story and equation if the other two parts are known		1	Pupils explain strategies used to add	29	Pupils position three-digit numbers on number lines				8	Pupils explain how to accurately use the method of long multiplication (with regrouping of ones to tens)
17	Pupils explain that addition and subtraction are inverse operations (1)	2	Pupils add a two-digit number to a two-digit number	30	Pupils estimate the position of three-digit numbers on unmarked number lines					9	Pupils explain how to accurately use the method of long multiplication (with regrouping of ones to tens & tens to hundreds)
18	Pupils explain that addition and subtraction are inverse operations (2)	3	Pupils add a two-digit number to a two-digit number when not crossing ten (i)	31	Pupils compare one-, two- and three-digit numbers					10	Pupils explain how to accurately use the method of long multiplication to multiply a three-digit by a two-digit number
19	Pupils use additive structures to think about addition and subtraction equations in different ways	4	Pupils add a two-digit number to a two-digit number when not crossing ten (ii)	32	Pupils compare two three-digit numbers					11	Pupils explain how to accurately use the method of long multiplication to multiply a four-digit by a two-digit number
		5	Pupils add a two-digit number to a two-digit number when crossing ten	33	Pupils order sets of three-digit numbers					12	Pupils explain how to use the associative law to multiply efficiently
		6	Pupils explain strategies used to subtract	34	Pupils use known facts to add or subtract multiples of 100 within 1000					13	Pupils explain when it is more efficient to use long multiplication or factorising to multiply by two-digit numbers
		7	Pupils subtract a two-digit number from a two-digit number	35	Pupils write a three-digit multiple of 10 as a multiplication equation					14	Pupils explain how to use accurately the methods of short and long division (two and three-digit number by multiples of 10)
		8	Pupils partition the subtrahend to help with subtraction	36	Pupils partition three-digit numbers in different ways					15	Pupils explain how to use accurately the method of long division with and without remainders (two-digit by two-digit numbers)
		9	Pupils subtract a two-digit number from a two-digit number when not crossing ten (i)	37	Pupils use known facts to solve problems involving partitioning numbers					16	Pupils use knowledge of long division to solve problems in a range of contexts (with and without remainders)
		10	Pupils subtract a two-digit number from a two-digit number when not crossing ten (ii)	38	Pupils use known facts to add or subtract to/from multiples of 100 in tens					17	Pupils explain how to use a ratio chart to solve efficiently: short division
		11	Pupils subtract a two-digit number from a two-digit number when crossing ten	39	Pupils use known facts to add or subtract to/from multiples of 100 in ones					18	Pupils explain how to use a ratio chart to solve efficiently: long division
		12	Pupils subtract efficiently using knowledge of two-digit numbers	40	Pupils add/subtract multiples of ten bridging 100					19	Pupils explain how to use a ratio chart to solve efficiently: long division (II)
				41	Pupils add/subtract to/from a three-digit number in ones bridging 100					20	Pupils explain how to use accurately the method of long division with and without remainders (three-digit by two-digit, four-digit by two-digit numbers)
				42	Pupils find 10 more or less across any hundreds boundary					21	Pupils use long division with decimal remainders (1 decimal place)
				43	Pupils use knowledge of adding or subtracting to/from three-digit numbers to solve problems					22	Pupils use long division with fraction remainders
				44	Pupils count forwards and backwards in multiples of 2, 20, 5, 50 and 25					23	Pupils use long division with decimal remainders (2 decimal places)

				10	Pupils understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (2-digit numbers)						1	Pupils explain how to balance equations with addition expressions
				11	Pupils understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (3-digit numbers)						2	Pupils explain how to balance equations with subtraction expressions
				12	Pupils use knowledge of the additive relationship to rearrange equations						3	Pupils explain how to balance equations with addition or subtraction expressions
				13	Pupils use knowledge of the additive relationship to identify what is known and what is unknown in an equation						4	Pupils explain how to balance equations with addition and subtraction expressions
				14	Pupils use knowledge of the additive relationship to rearrange equations before solving						5	Pupils use their knowledge of balancing equations to solve problems
					Column addition							Solving problems with two unknowns
				1	Pupils identify the addends and the sum in column addition						1	Pupils compare the structure of problems with one or two unknowns
				2	Pupils use their knowledge of place value to correctly lay out column addition						2	Pupils compare the structure of problems with two unknowns
				3	Pupils add a pair of 2-digit numbers using column addition						3	Pupils represent the structure of contextual problems with two unknowns
				4	Pupils add using column addition						4	Pupils represent a problem with two unknowns using a bar model
				5	Pupils use their knowledge of column addition to solve problems						5	Pupils explain why sometimes there is only one solution to a sum and difference problem
				6	Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column						6	Pupils explain why sometimes there is only one solution to a sum and multiple problem
				7	Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column						7	Pupils explain the values a part-whole model could represent
				8	Pupils add using column addition with regrouping						8	Pupils use a bar model to visualise how to solve a problem with two unknowns
				9	Pupils use known facts and strategies to accurately and efficiently calculate and check column addition						9	Pupils use diagrams to explain how to solve a spatial problem
				10	Pupils use their knowledge of column addition to solve problems						10	Pupils explain how to represent an equation with a bar model
											11	Pupils solve problems with two unknowns in a range of contexts
					Column subtraction						12	Pupils systematically solve problems with two unknowns using 'trial and improvement' (one and several solutions)
				1	Pupils identify the minuend and the subtrahend in column subtraction						13	Pupils explain how I know I have found all possible solutions to problems with two unknowns
				2	Pupils explain the column subtraction algorithm						14	Pupils explain how to balance an equation with two unknowns

				Pupils subtract from a 2-digit number using column subtraction with exchanging from tens to ones 3						Pupils systematically solve problems with two unknowns using 'trial and improvement' (one, several and infinite solutions) 15	
				Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (1) 4							
				Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (2) 5							
				Pupils evaluate the efficiency of strategies for subtraction 6							

Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives
N/A		introduction to multiplication		2, 4, 8 times tables		Understanding multiplicative relationships		short multiplication and division		Knowing knowledge structures	
		1 Pupils explain that objects can be grouped in different ways		1 Pupils represent counting in fours as the 4 times table		1 Pupils explain what each factor represents in a multiplication equation		1 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (no regroup)		1 Pupils explain how a combination of different parts can be equivalent to the same whole and can represent this in an expression	
		2 Pupils describe how objects have been grouped		2 Pupils use knowledge of the 4 times table to solve problems		2 Pupils explain how each part of a multiplication and division equation relates to a story		2 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (one regroup)		2 Pupils identify structures within stories and use their knowledge of structures to create stories	
		3 Pupils represent equal groups as repeated addition		3 Pupils explain the relationship between adjacent multiples of four		3 Pupils explain where zero can be part of a multiplication or division expression and the impact it has		3 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (two regroup)		3 Pupils identify the missing part using their knowledge of part whole relationships and structures	
		4 Pupils represent equal groups as repeated addition and multiplication		4 Pupils explain the relationship between multiples of 2 and multiples of 4		4 Pupils partition one of the factors in a multiplication equation in different ways using representations (I)		4 Pupils multiply a two-digit number by a single-digit number using partitioning		4 Pupils interpret and represent a part-whole problem with 3 addends using a model	
		5 Pupils represent equal groups as multiplication		5 Pupils use knowledge of the relationships between the 2 and 4 times tables to solve problems		5 Pupils partition one of the factors in a multiplication equation in different ways using representations (II)		5 Pupils multiply a two-digit number by a single-digit number using expanded multiplication (no regroup)		5 Pupils create stories to correctly match a structure presented in a model	
		6 Pupils explain and represent multiplication when a group contains zero or one items		6 Pupils represent counting in eights as the 8 times table		6 Pupils explain which is the most efficient factor to partition to solve a multiplication problem		6 Pupils multiply a two-digit number by a single-digit number using short multiplication (no regroup)		6 Pupils use their knowledge of additive structures to solve problems	
		7 Pupils identify and explain each part of a multiplication equation		7 Pupils explain the relationship between adjacent multiples of eight		7 Pupils use knowledge of distributive law to solve two part addition and subtraction problems, efficiently		7 Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping ones to tens)		7 Pupils calculate the value of a missing part (1)	
		8 Pupils use knowledge of multiplication to calculate the product		8 Pupils explain the relationship between multiples of 4 and multiples of 8		8 Pupils use knowledge of distributive law to calculate products beyond known times tables facts		8 Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping ones to tens)		8 Pupils calculate the value of a missing part (2)	
		9 Pupils represent the two times table in different ways		9 Pupils use knowledge of the relationships between the 4 and 8 times tables to solve problems		9 Pupils explain the relationship between multiplying a number by 10 and multiples of 10		9 Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping tens to hundreds)		9 Pupils correctly represent an equation in a part-whole model	
		10 Pupils use knowledge of the two times table to solve problems		10 Pupils explain the relationship between multiples of 2, 4 and multiples of 8		10 Pupils explain why a zero can be placed after the final digit of a single-digit number when we multiply it by 10		10 Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping tens to hundreds)		10 Pupils explain how adjusting both addends affects the sum (2 digit numbers)	
		11 Pupils explain the relationship between adjacent multiples of two		11 Pupils use knowledge of the relationships between the 2, 4 and 8 times tables to solve problems		11 Pupils explain why a zero can be placed after the final digit of a two-digit number when we multiply it by 10		11 Pupils multiply a two-digit number by a single-digit number using both expanded and short multiplication (two regroup)		11 Pupils explain how adjusting both addends affects the sum (decimal fractions)	
		12 Pupils explain that factor pairs can be written in any order		12 Pupils use knowledge of the divisibility rules for divisors of 2 and 4 to solve problems		12 Pupils explain why the final digit zero can be removed from a two-digit multiple of 10, when we divide by 10		12 Pupils use estimation to support accurate calculation		12 Pupils use the 'same sum' rule to balance equations	
		13 Pupils represent counting in tens as the ten times table		13 Pupils use knowledge of the divisibility rules for divisors of 8 to solve problems		13 Pupils explain why the final digit zero can be removed from a three-digit multiple of 10, when we divide by 10		13 Pupils multiply a three-digit number by a single-digit number using partitioning and representations		13 Pupils use the 'same sum' rule to balance equations with an unknown	
		14 Pupils represent the ten times table in different ways		14 Pupils scale known multiplication facts by 10		14 Pupils explain the relationship between multiplying a number by 100 and multiples of 100		14 Pupils multiply a three-digit number by a single-digit number using partitioning		14 Pupils explain how adjusting one addend affects the sum	
		15 Pupils explain the relationship between adjacent multiples of ten		15 Pupils scale division derived from multiplication facts by 10		15 Pupils explain why two zeros can be placed after the final digit of a single-digit number when we multiply it by 100		15 Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (no regroup)		15 Pupils solve addition calculations mentally by using known facts	

			16	Pupils represent counting in fives as the five times table				16	Pupils explain why two zeros can be placed after the final digit of a two-digit number when we multiply it by 100		16	Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (one regroup)		16	Pupils solve calculations with missing addends
			17	Pupils represent the five times table in different ways				17	Pupils explain why the last two zeros can be removed from a three-digit multiple of 100 when we divide it by 100		17	Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (multiple regroupings)		17	Pupils explain how adjusting both the minuend and subtrahend by the same amount affects the difference
			18	Pupils explain the relationship between adjacent multiples of five				18	Pupils explain why the last two zeros can be removed from a four-digit multiple of 100 when we divide it by 100		18	Pupils use estimation to support accurate calculation		18	Pupils explain how using the 'same difference' rule can make mental calculation easier (1)
			19	Pupils explain how groups of five and ten are related				19	Pupils use knowledge of the composition of 100 to multiply by 100 in different ways		19	Pupils divide a two-digit number by a single-digit number using partitioning and representations (no remainders, no exchanging)		19	Pupils explain how using the 'same difference' rule can make written calculation easier (2)
			20	Pupils explain the relationship between multiples of five and ten				20	Pupils use knowledge of the composition of 100 to divide by 100 in different ways		20	Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging)		20	Pupils use the 'same difference' rule to balance equations
			21	Pupils use knowledge of the relationships between the five and ten times tables to solve problems				21	Pupils explain how making a factor 10 times the size affects the product		21	Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging and remainders)		21	Pupils explain how increasing or decreasing the minuend affects the difference (1)
			22	Pupils explain how a factor of zero or one affect the product				22	Pupils explain how making the dividend 10 times the size affects the quotient		22	Pupils divide a two-digit number by a single-digit number using short division (no exchanging, no remainders)		22	Pupils explain how increasing or decreasing the minuend affects the difference (2)
			23	Pupils represent multiplication equations in different ways				23	Pupils explain how making a factor 100 times the size affects the product		23	Pupils divide a two-digit number by a single-digit number using short division (with exchanging)		23	Pupils solve subtraction calculations mentally by using known facts
			24	Pupils use knowledge of the two, five and ten times tables to solve problems (1)				24	Pupils explain how making the dividend 100 times the size affects the quotient		24	Pupils divide a two-digit number by a single-digit number using short division (with exchanging and remainders)		24	Pupils explain how adjusting the minuend can make mental calculation easier
			25	Pupils use knowledge of the two, five and ten times tables to solve problems (2)				25	Pupils scale known multiplication facts by 100		25	Pupils divide a three-digit number by a single-digit number using partitioning and representations (no exchanging, no remainders)		25	Pupils explain how adjusting the subtrahend affects the difference
			26	Pupils explain what each factor represents in a multiplication story				26	Pupils scale division derived from multiplication facts by 100		26	Pupils divide a three-digit number by a single-digit number using partitioning and representations (one exchange, no remainders)		26	Pupils explain how increasing or decreasing the subtrahend affects the difference
			27	Pupils explain what each factor represents in a multiplication story when one of the factors is one							27	Pupils divide a three-digit number by a single-digit number using partitioning and representations (with exchanging and remainders)		27	Pupils calculate the difference using their knowledge of an adjusted subtrahend (1)
			28	Pupils explain how a multiplication equation with two as a factor is related to doubling							28	Pupils divide a three-digit number by a single-digit number using short division		28	Pupils calculate the difference using their knowledge of an adjusted subtrahend (2)
			29	Pupils double two-digit numbers							29	Pupils divide a three-digit number by a single-digit number using short division (with exchanging and remainders)			
			30	Pupils multiply efficiently when one of the factors is two							30	Pupils solve short division problems accurately when the hundreds digit is smaller than the divisor		Multiplication and division	
			31	Pupils explain how halving and doubling are related							31	Pupils will use efficient strategies of division to solve problems		1	Pupils explain why the product stays the same when one factor is doubled and the other is halved
			32	Pupils explain the relationship between factors and products										2	Pupils explain the effect on the product when scaling the factors by the same amount
			33	Pupils halve two-digit numbers							calculating with decimal fractions			3	Pupils use their knowledge of equivalence when scaling factors to solve problems
			34	Pupils use knowledge of doubling, halving and the two times table to solve problems							1	Pupils explain the effect of multiplying and dividing a number by 10, 100 and 1,000 (1)		4	Pupils explain the effect on the quotient when scaling the dividend and divisor by 10
											2	Pupils explain the effect of multiplying and dividing a number by 10, 100 and 1,000 (2)		5	Pupils explain the effect on the quotient when scaling the dividend and divisor by the same amount

		Introduction to division structures					Pupils explain how to multiply and divide a number by 10, 100 and 1,000 (first 'number' two or more non-zero digits)	6	Pupils explain how to multiply a three-digit by a two-digit number
		1 Pupils explain that objects can be grouped equally					Pupils use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (length)	7	Pupils explain how to accurately use the method of long multiplication to multiply two, two-digit numbers (no regrouping of ones to tens)
		2 Pupils identify and explain when objects cannot be grouped equally					Pupils use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (mass and capacity)	8	Pupils explain how to accurately use the method of long multiplication (with regrouping of ones to tens)
		3 Pupils explain the relationship between division expressions and division stories					Pupils explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (tenths)	9	Pupils explain how to accurately use the method of long multiplication (with regrouping of ones to tens & tens to hundreds)
		4 Pupils calculate the number of equal groups in a division story					Pupils explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (hundredths)	10	Pupils explain how to accurately use the method of long multiplication to multiply a three-digit by a two-digit number
		5 Pupils use their knowledge of skip counting and division to solve problems relating to measure					Pupils use their knowledge of multiplying decimal fractions by whole numbers to solve measures problems	11	Pupils explain how to accurately use the method of long multiplication to multiply a four-digit by a two-digit number
		6 Pupils skip count using the divisor to find the quotient					Pupils explain the relationship between multiplying by 0.1 dividing by 10	12	Pupils explain how to use the associative law to multiply efficiently
		7 Pupils use their knowledge of division to solve problems					Pupils explain the relationship between multiplying by 0.01 dividing by 100	13	Pupils explain when it is more efficient to use long multiplication or factorising to multiply by two-digit numbers
		8 Pupils explain that objects can be shared equally					Pupils explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions (1)	14	Pupils explain how to use accurately the methods of short and long division (two and three-digit number by multiples of 10)
		9 Pupils use skip counting to solve a sharing problem					Pupils explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions (2)	15	Pupils explain how to use accurately the method of long division with and without remainders (two-digit by two-digit numbers)
		10 Pupils skip count using the divisor to find the quotient					Pupils explain how to use the size of the multiplier to predict the size of the product compared to the multiplicand	16	Pupils use knowledge of long division to solve problems in a range of contexts (with and without remainders)
		11 Pupils solve a variety of division problems, explaining their understanding					Pupils explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers (1)	17	Pupils explain how to use a ratio chart to solve efficiently: short division
							Pupils explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers (2)	18	Pupils explain how to use a ratio chart to solve efficiently: long division
								19	Pupils explain how to use a ratio chart to solve efficiently: long division (II)
							Factors multiples and primes	20	Pupils explain how to use accurately the method of long division with and without remainders (three-digit by two-digit, four-digit by two-digit numbers)
							1 Pupils explain what 'volume' is using a range of context	21	Pupils use long division with decimal remainders (1 decimal place)
							2 Pupils describe the units used to measure volume	22	Pupils use long division with fraction remainders
							3 Pupils explain how to calculate the volume of a cuboid	23	Pupils use long division with decimal remainders (2 decimal places)
							4 Pupils explain what a cube number is	24	Pupils use knowledge of the best way to interpret and represent remainders from a range of division contexts
							5 Pupils use their knowledge of calculating volume to solve problems in a range of contexts	25	Pupils explain how and why a product changes when a factor changes multiplicatively
							6 Pupils explain how to calculate the volume of compound shapes	26	Pupils use their knowledge of multiplicative change to solve problems efficiently (multiplication)

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Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives
N/A		N/A		unit fractions		Review of fractions		Fractions		Fractions and percentages	
				1 Pupils identify a whole and the parts that make it up		1 Pupils identify a whole and the parts that make it up		1 Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (unit fractions)		1 Pupils explain how to write a fraction in its simplest form	
				2 Pupils explain why a part can only be defined when in relation to a whole		2 Pupils explain why a part can only be defined when in relation to a whole		2 Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (non-unit fractions)		2 Pupils reason and apply their knowledge of how to write a fraction in its simplest form	
				3 Pupils identify the number of equal or unequal parts in a whole		3 Pupils identify the number of equal or unequal parts in a whole		3 Pupils multiply a proper fraction by a whole number (within a whole)		3 Pupils use their knowledge of how to write a fraction in its simplest form when solving addition and subtraction problems (1)	
				4 Pupils identify equal parts when they do not look the same (i)		4 Pupils identify equal parts when they do not look the same		4 Pupils multiply a proper fraction by a whole number (greater than a whole)		4 Pupils use their knowledge of how to write a fraction in its simplest form when solving addition and subtraction problems (2)	
				5 Pupils explain the size of the part in relation to the whole		5 Pupils explain the size of the part in relation to the whole		5 Pupils multiply an improper fraction by a whole number		5 Pupils use their knowledge of how to write a fraction in its simplest form when solving multiplication problems	
				6 Pupils construct a whole when given a part and the number of parts		6 Pupils construct a whole when given a part and the number of parts		6 Pupils multiply a mixed number by a whole number (product is within a whole)		6 Pupils explain, using an image, how to add related fractions (unit fractions)	
				7 Pupils identify how many equal parts a whole has been divided into				7 Pupils multiply a mixed number by a whole number (product is greater than a whole)		7 Pupils explain what is meant by 'related fractions'	
				8 Pupils use fraction notation to describe an equal part of the whole		Fractions greater than one		8 Pupils find a unit fraction of a quantity		8 Pupils explain, without using an image, how to add related fractions	
				9 Pupils represent a unit fractions in different ways		1 Pupils explain how to express quantities made up of both whole numbers and a fractional part		9 Pupils explain the relationship between finding a fraction of a quantity and multiplying a whole number by a unit fraction		9 Pupils use their knowledge of adding related fractions to solve problems in a range of contexts	
				10 Pupils identify parts and wholes in different contexts (i)		2 Pupils explain how a quantity made up of whole numbers and a fractional part is composed		10 Pupils explain the relationship between dividing by a whole number and multiplying a whole number by a unit fraction		10 Pupils explain, with and without using an image, how to subtract related fractions (unit fractions)	
				11 Pupils identify parts and wholes in different contexts (ii)		3 Pupils compose and decompose quantities made of whole numbers and fractional parts		11 Pupils use their knowledge of multiplying a whole number by a unit fraction to solve problems		11 Pupils use their knowledge of adding and subtracting related fractions to solve problems in a range of contexts	
				12 Pupils identify equal parts when they do not look the same (ii)		4 Pupils accurately label a range of number lines and explain the meaning of each part		12 Pupils find a non-unit fraction of a quantity (mental calculation)		12 Pupils explain, with and without using an image, how to add and subtract related fractions (non-unit fractions)	
				13 Pupils compare and order unit fractions by looking at the denominator		5 Pupils identify numbers on marked but unlabelled number lines		13 Pupils find a non-unit fraction of a quantity (written calculation)		13 Pupils explain, with and without using an image, how to add and subtract related fractions (non-unit fractions that bridge the whole)	
				14 Pupils identify when unit fractions cannot be compared		6 Pupils estimate the position of numbers on a number line using fraction sense		14 Pupils multiply a whole number by a proper fraction		14 Pupils use their fraction sense to fraction addition, subtraction and comparison	
				15 Pupils construct a whole when given one part and the fraction that it represents		7 Pupils compare and order mixed numbers using fraction sense		15 Pupils explain when a calculation represents scaling down and when it represents repeated addition		15 Pupils explain how to add or subtract non-related fractions with different denominators	
				16 Pupils use knowledge of the relationship between parts and wholes in unit fractions to solve problems		8 Pupils compare and order mixed numbers when the whole number is the same		16 Pupils find the whole when the size of a unit fraction is known		16 Pupils use their knowledge of adding or subtracting non-related fractions with different denominators to solve problems in a range of contexts (non related fractions)	

					17	Pupils identify the whole, the number of equal parts and the size of each part as a unit fraction		9	Pupils compare and order mixed numbers when the whole number and the numerator of the fractional part is the same		17	Pupils find a unit fraction when the size of a non-unit fraction is known		17	Pupils explain how to compare pairs of non-related fractions (converting to common denominators)
					18	Pupils quantify the number of items in each part and connect to the unit fraction operator		10	Pupils make efficient choices about the order they solve an addition problem in		18	Pupils find the whole when the size of a non-unit fraction is known		18	Pupils explain how to compare pairs of non-related fractions (using fraction sense)
					19	Pupils calculate the value of a part by using knowledge of division and division facts		11	Pupils make efficient choices about the order they solve a subtraction problem in		19	Pupils find the unit fraction when the size of a non-unit fraction is known		19	Pupils explain how to compare pairs of non-related fractions (using common numerators)
					20	Pupils calculate the value of a part by connecting knowledge of division and division facts with finding a fraction of a quantity		12	Pupils express a quantity as a mixed number and an improper fraction (quarters)		20	Pupils use representations to describe and compare two fractions ($\frac{1}{4}$ and $\frac{3}{12}$)		20	Pupils explain which method for comparing non-related fractions is most efficient
					21	Pupils find fractions of quantities using knowledge of division facts with increasing fluency		13	Pupils convert a quantity from an improper fraction to a mixed number (quarters)		21	Pupils use representations to describe and compare two fractions ($\frac{1}{5}$ and $\frac{5}{10}$)		21	Pupils explain how to multiply two unit fractions
								14	Pupils express and convert a quantity from an improper fraction to a mixed number (fifths)		22	Pupils use representations to describe and compare two fractions (pouring context)		22	Pupils explain how to multiply two non-unit fractions
					Non unit fractions			15	Pupils explain how an improper fraction is converted into a mixed number (any unit)		23	Pupils correctly use the language of equivalent fractions		23	Pupils explain how to divide a unit fraction by a whole number
					1	Pupils explain that non-unit fractions are composed of more than one unit fraction		16	Pupils explain how a mixed number is converted into an improper fraction		24	Pupils explain the vertical relationship between numerators and denominators within equivalent fractions ($\frac{1}{5}$, $\frac{1}{3}$ and equivalent)		24	Pupils explain how to divide a non-unit fraction by a whole number
					2	Pupils identify non-unit fractions		17	Pupils add mixed numbers		25	Pupils use their knowledge of the vertical relationship to solve equivalent fractions problems		25	Pupils explain when and how to divide efficiently a fraction by a whole number
					3	Pupils identify the number of equal or unequal parts in a whole		18	Pupils subtract a proper fraction from a mixed number (converting to an improper fraction first)		26	Pupils explain the horizontal relationship between numerators and denominators across equivalent fractions ($\frac{1}{5}$, $\frac{1}{3}$ and equivalent)		26	Pupils explain what percent means
					4	Pupils use knowledge of non-unit fractions to solve problems		19	Pupils subtract a mixed number from a mixed number and explain which strategy is most efficient		27	Pupils explain the relationship within families of equivalent fractions		27	Pupils explain how to represent a percentage in different ways
					5	Pupils use knowledge of unit fractions to find one whole		20	Pupils use knowledge of subtraction to choose correct and efficient approaches when subtracting mixed numbers		28	Pupils use their knowledge of equivalent fractions to solve problems		28	Pupils explain how to convert percentages to decimals and fractions (with a denominator of 100)
					6	Pupils place fractions between 0 and 1 on a numberline					29	Pupils explain and represent how to divide 1 into different amounts of equal parts		29	Pupils explain how to convert a percentage to a fraction (without denominator of 100)
					7	Pupils use repeated addition of a unit fraction to form a non-unit fraction					30	Pupils identify and describe patterns within the number system		30	Pupils use their knowledge of fraction-decimal-percentage conversions to solve conversion problems in a range of contexts
					8	Pupils use repeated addition of a unit fraction to form 1					31	Pupils use their knowledge of common equivalents to compare fractions with decimals		31	Pupils use their knowledge of calculating 50%, 10% and 1% of a number to solve problems in a range of contexts
					9	Pupils compare using knowledge of non-unit fractions equivalent to one					32	Pupils practise recalling common fraction-decimal equivalents		32	Pupils use their knowledge of calculating common percentages of a number to solve problems in a range of contexts

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Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives
RECOGNISE, COMPOSE, DECOMPOSE AND		Shape		Right angles		Perimeter		Area and scaling		DRAW, COMPOSE AND DECOMPOSE SHAPES	
1	Pupils compose pattern block images	1	Pupils learn that a polygon is a 2D shape with straight sides that meet at vertices	1	Pupils rotate two lines around a fixed point to make different sized angles	1	A regular polygon has sides that are all the same length and interior angles that are all equal in size	1	Pupils explain what area is and can measure using counting as a strategy (1)	1	Use knowledge of shape properties to draw, sketch and identify shapes
2	Pupils copy, extend and develop repeating and radiating pattern block patterns	2	Pupils describe polygons and find different ways to sort them	2	Pupils draw triangles and quadrilaterals and identify vertices	2	Perimeter is the distance around the edge of a two-dimensional shape	2	Pupils explain what area is and can measure using counting as a strategy (2)	2	The same 3D shape can be composed from different 2D nets
3	Pupils compose tangram images	3	Pupils learn that polygons can be sorted and named according to the number of sides and vertices	3	Pupils learn that a right angle is a 'square corner' and identify them in the environment	3	Different shapes can have the same perimeter	3	Pupils explain how to make different shapes with the same area	3	When a 2D shape is decomposed and the parts rearranged, the area remains the same. The area of a compound shape is therefore equal to the total of the areas of the constituent parts
4	Pupils investigate tetromino and pentomino arrangements	4	Pupils discuss, and compare by direct comparison, the shape and size of polygons	4	Pupils learn that a rectangle is a 4-sided polygon with four right angles	4	Perimeter is measured in units of length and can be found by counting units	4	Pupils explain how to compare the area of different shapes	4	Any parallelogram can be decomposed and the parts rearranged to form a rectangular parallelogram
5	Pupils investigate ways that four cubes can be composed into different 3D models	5	Pupils discuss, and compare by direct comparison, the vertices of polygons	5	Pupils learn that a square is a rectangle in which the four sides are equal length	5	Perimeter can be calculated by adding together the side lengths of a 2D shape	5	Pupils measure the area of flat shapes area using square centimetres	5	Two congruent triangles can be composed to form a parallelogram
6	Pupils explore, discuss and compare 3D shapes	6	Pupils investigate how polygons can be joined and folded to form 3-dimensional shapes	6	Pupils cut rectangles and squares on the diagonal and investigate the shapes they make	6	The perimeter of a rectangle can be calculated by addition and multiplication	6	Pupils measure the area of flat shapes area using square metres	6	Shapes with the same area can have different perimeters. Shapes with the same perimeters can have different areas
7	Pupils identify 2D shapes within 3D shapes	7	Pupils describe 3-dimensional shapes and find different ways to sort them	7	Pupils join four right angles at a point using different right-angled polygons	7	Unknown side lengths can be calculated from perimeter and known side lengths	7	Pupils calculate the area of a rectangle using multiplication	7	We can use the relationship between area and side length, and perimeter and side length, to reason about measurements of shapes, including compound shapes
8	Pupils explore, discuss and compare 2D shapes	8	Pupils discuss, and compare by direct comparison, the shape and size of 3-dimensional shapes	8	Pupils investigate and draw other polygons with right angles	8	The perimeter of a regular polygon can be calculated by multiplication	8	Pupils calculate the area of rectilinear shapes		

9	Pupils explore, discuss and identify circles and shapes that are not circles from shape cut-outs							9	The side length of a regular polygon can be calculated by division where the perimeter is known	9	Pupils use their knowledge of area to solve problems		
10	Pupils explore, discuss and identify triangles and shapes that are not triangles from shape cut-outs					PARALLEL AND PERPENDICULAR SIDES IN POLYGONS				10	Pupils compare and describe lengths by using their knowledge of multiplication		
11	Pupils explore, discuss and identify rectangles (including squares) from shape cut-outs					1	Pupils make compound shapes by joining two polygons in different ways (same parts, different whole)	Coordinates		11	Pupils use their knowledge of multiplication to solve comparison and change problems		
						2	Pupils investigate different ways of composing and decomposing a polygon (same whole, different parts)			12	Pupils compare and describe lengths by using their knowledge of division		
						3	Pupils draw polygons on isometric paper			13	Pupils use their knowledge of division to solve comparison and change problems		
						4	Pupils use geostrips to investigate quadrilaterals with and without parallel and perpendicular sides			14	Pupils compare and describe measurements by using their knowledge of multiplication and division (mass/capacity/time) (1)		
						5	Pupils make and draw compound shapes with and without parallel and perpendicular sides			15	Pupils compare and describe measurements by using their knowledge of multiplication and division (mass/capacity/time) (2)		
						6	Pupils learn to extend lines and sides to identify parallel and perpendicular lines			16	Pupils describe the changes in measurements using their knowledge of multiplication and division		
						7	Pupils make and draw triangles on circular geoboards			17	Pupils use their knowledge of multiplication and division to solve comparison and change problems		

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Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives	Unit	Objectives
Position direction		Money		Time		Time		decimal fractions		Multiples of 1000	
								1 Pupils identify tenths as part of a whole		1 Pupils explain how ten thousand can be composed	
Time		Fractions						2 Pupils describe and represent tenths as a decimal fraction		2 Pupils explain how one hundred thousand can be composed	
		1 Pupils identify whether something has or has not been split into equal parts						3 Pupils count in tenths in different ways		3 Pupils read and write numbers up to one million (1)	
		2 Pupils name the fraction 'one-half' in relation to a fraction of a length, shape or set of objects						4 Pupils describe and write decimal numbers with tenths in different ways		4 Pupils read and write numbers up to one million (2)	
		3 Pupils name the fraction 'one-quarter' in relation to a fraction of a length, shape or set of objects						5 Pupils compare and order decimal numbers with tenths		5 Pupils identify and place the position of five-digit multiple of one thousand numbers, on a marked, but unlabelled number line	
		4 Pupils name the fraction 'one-third' in relation to a fraction of a length, shape or set of objects						6 Pupils explain that decimal numbers with tenths can be composed additively		6 Pupils identify and place the position of six-digit multiple of one thousand numbers, on a marked, but unlabelled number line	
		5 Pupils read and write the fraction notation $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ and relate this to a fraction of a length, shape or set of objects						7 Pupils explain that decimal numbers with tenths can be composed multiplicatively		7 Pupils count forwards and backwards in steps of powers of 10, from any multiple of 1,000	
		6 Pupils find half of numbers						8 Pupils use their knowledge to calculate with decimal numbers within and across one whole		8 Pupils explain that 10,000 is composed of 5,000s 2,500s and 2,000s	
		7 Pupils find $\frac{1}{4}$ or $\frac{3}{4}$ of a number						9 Pupils use their knowledge to calculate with decimal numbers using mental methods		9 Pupils explain that 100,000 is composed of 50,000s 25,000s and 20,000s	
		8 Pupils find $\frac{1}{4}$ and $\frac{3}{4}$ of an object, shape, set of objects, length or quantity						10 Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction		10 Pupils read scales in graphing and measures contexts, by using their knowledge of the composition of 10,000 and 100,000	
		9 Pupils recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$						11 Pupils use representations to round a decimal number with tenths to the nearest whole number			
								12 Pupils identify hundredths as part of a whole		Multiplication and division	
		Time						13 Pupils describe and represent hundredths as a decimal fraction		1 Pupils explain why the product stays the same when one factor is doubled and the other is halved	
								14 Pupils describe and write decimals numbers with hundredths in different ways		2 Pupils explain the effect on the product when scaling the factors by the same amount	
		Position and direction						15 Pupils compare and order decimal numbers with hundredths		3 Pupils use their knowledge of equivalence when scaling factors to solve problems	
								16 Pupils explain that decimal numbers with hundredths can be partitioned in different ways		4 Pupils explain the effect on the quotient when scaling the dividend and divisor by 10	
		Multiplication and division						17 Pupils use their knowledge of decimal place value to convert between and compare metres and centimetres		5 Pupils explain the effect on the quotient when scaling the dividend and divisor by the same amount	
		1 Pupils identify the patterns and relationships between the 5 and 10 times tables						18 Pupils explain that different lengths can be composed additively and multiplicatively		6 Pupils explain how to multiply a three-digit by a two-digit number	
		2 Pupils explain the patterns and relationships between the 5 and 10 times tables						19 Pupils use their knowledge of decimal place value to solve problems in different contexts		7 Pupils explain how to accurately use the method of long multiplication to multiply two, two-digit numbers (no regrouping of ones to tens)	
		3 Pupils use their knowledge of the 5 and 10 times tables to solve problems						20 Pupils use their knowledge to calculate with decimal numbers up to and bridging one tenth		8 Pupils explain how to accurately use the method of long multiplication (with regrouping of ones to tens)	
		4 Pupils identify and explain relationships between the 5 and the 10 times tables						21 Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction		9 Pupils explain how to accurately use the method of long multiplication (with regrouping of ones to tens & tens to hundreds)	
		5 Pupils use their knowledge of the 5 and 10 times tables to solve problems						22 Pupils round a decimal number with hundredths to the nearest tenth		10 Pupils explain how to accurately use the method of long multiplication to multiply a three-digit by a two-digit number	
		6 Pupils explain how times table facts can help to find the quotient (10 times table)						23 Pupils round a decimal number with hundredths to the nearest whole number		11 Pupils explain how to accurately use the method of long multiplication to multiply a four-digit by a two-digit number	
		7 Pupils explain how times table facts can help to find the quotient (5 times table)						24 Pupils read and write numbers with up to 3 decimal places		12 Pupils explain how to use the associative law to multiply efficiently	
		8 Pupils explain how times table facts can help to find the quotient (2 times table)						25 Pupils compare and order numbers with up to 3 decimal places		13 Pupils explain when it is more efficient to use long multiplication or factorising to multiply by two-digit numbers	
		9 Pupils explain how a division equation with 2 as a divisor is related to halving								14 Pupils explain how to use accurately the methods of short and long division (two and three-digit number by multiples of 10)	
		10 Pupils explain each part of a division equation and know how they can be interchanged						Negative numbers		15 Pupils explain how to use accurately the method of long division with and without remainders (two-digit by two-digit numbers)	

		11	Pupils use knowledge of divisibility rules when the divisor is 2 to solve problems							1	Pupils represent a change story using addition and subtraction symbols	16	Pupils use knowledge of long division to solve problems in a range of contexts (with and without remainders)
		12	Pupils use knowledge of divisibility rules when then divisor is 10 to solve problems							2	Pupils interpret numbers greater than and less than zero in different contexts	17	Pupils explain how to use a ratio chart to solve efficiently: short division
		13	Pupils use knowledge of divisibility rules when the divisor is 5 to solve problems							3	Pupils read and write negative numbers	18	Pupils explain how to use a ratio chart to solve efficiently: long division
		14	Pupils explain how a dividend of zero affects the quotient							4	Pupils explain how the value of a number relates to its position from zero	19	Pupils explain how to use a ratio chart to solve efficiently: long division (II)
		15	Pupils explain how the quotient is affected when the divisor is equal to the dividend							5	Pupils identify and place negative numbers on a number line	20	Pupils explain how to use accurately the method of long division with and without remainders (three-digit by two-digit, four-digit by two-digit numbers)
		16	Pupils explain how a divisor of one affects the quotient							6	Pupils interpret sets of negative and positive numbers in a range of contexts	21	Pupils use long division with decimal remainders (1 decimal place)
										7	Pupils use their knowledge of positive and negative numbers to calculate intervals	22	Pupils use long division with fraction remainders
										8	Pupils explain how negative numbers are used on a coordinate grid	23	Pupils use long division with decimal remainders (2 decimal places)
		sense of measure								9	Pupils use their knowledge of positive and negative numbers to interpret graphs	24	Pupils use knowledge of the best way to interpret and represent remainders from a range of division contexts
												25	Pupils explain how and why a product changes when a factor changes multiplicatively
										Converting units		26	Pupils use their knowledge of multiplicative change to solve problems efficiently (multiplication)
										1	Pupils apply memorised unit conversions to convert between units of measure (larger to smaller units - whole number conversions)	27	Pupils explain how and why a quotient changes when a dividend changes multiplicatively (increase or decrease)
										2	Pupils apply memorised unit conversions to convert between units of measure (smaller to larger units - whole number conversions)	28	Pupils explain how and why a quotient changes when a divisor changes multiplicatively
										3	Pupils convert from and to fraction and decimal fraction quantities of larger units	29	Pupils identify and explain the relationship between divisors and quotients
										4	Pupils derive common conversions over 1		
										5	Pupils carry out conversions that correspond to 100 parts	Area perimeter position and direction	
										6	Pupils solve measures problems involving different units	1	Pupils explain how to calculate the area of a parallelogram
										7	Pupils understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	2	Pupils explain how to calculate the area of a triangle
										8	Pupils convert between miles and kilometres	3	Pupils explain why shapes can have the same perimeters but different areas
										9	Pupils solve problems involving converting between units of time	4	Pupils explain why shapes can have the same areas but different perimeters
												5	Pupils describe the relationship between scale factors and side lengths of two shapes
										Angles		6	Pupils describe the relationship between scale factors and perimeters of two shapes
										1	Pupils compare the size of angles where there is a clear visual difference	7	Pupils describe positions on the full coordinate grid (all four quadrants)
										2	Pupils use the terms acute, obtuse and reflex when describing the size of angles or amount of rotation with relation to right angles	8	Pupils draw and translate simple shapes on the coordinate plane and reflect them in the axes
										3	Pupils use a unit called degrees (°) as a standard unit to measure angles		
										4	Pupils estimate the size of angles in degrees using angle sets	Fractions and percentages	
										5	Pupils measure the size of angles accurately using a protractor	1	Pupils explain how to write a fraction in its simplest form
												2	Pupils reason and apply their knowledge of how to write a fraction in its simplest form
												3	Pupils use their knowledge of how to write a fraction in its simplest form when solving addition and subtraction problems (1)
												4	Pupils use their knowledge of how to write a fraction in its simplest form when solving addition and subtraction problems (2)

											5	Pupils use their knowledge of how to write a fraction in its simplest form when solving multiplication problems
											6	Pupils explain, using an image, how to add related fractions (unit fractions)
											7	Pupils explain what is meant by 'related fractions'
											8	Pupils explain, without using an image, how to add related fractions
											9	Pupils use their knowledge of adding related fractions to solve problems in a range of contexts
											10	Pupils explain, with and without using an image, how to subtract related fractions (unit fractions)
											11	Pupils use their knowledge of adding and subtracting related fractions to solve problems in a range of contexts
											12	Pupils explain, with and without using an image, how to add and subtract related fractions (non-unit fractions)
											13	Pupils explain, with and without using an image, how to add and subtract related fractions (non-unit fractions that bridge the whole)
											14	Pupils use their fraction sense to fraction addition, subtraction and comparison
											15	Pupils explain how to add or subtract non-related fractions with different denominators
											16	Pupils use their knowledge of adding or subtracting non-related fractions with different denominators to solve problems in a range of contexts (non related fractions)
											17	Pupils explain how to compare pairs of non-related fractions (converting to common denominators)
											18	Pupils explain how to compare pairs of non-related fractions (using fraction sense)
											19	Pupils explain how to compare pairs of non-related fractions (using common numerators)
											20	Pupils explain which method for comparing non-related fractions is most efficient
											21	Pupils explain how to multiply two unit fractions
											22	Pupils explain how to multiply two non-unit fractions
											23	Pupils explain how to divide a unit fraction by a whole number
											24	Pupils explain how to divide a non-unit fraction by a whole number
											25	Pupils explain when and how to divide efficiently a fraction by a whole number
											26	Pupils explain what percent means
											27	Pupils explain how to represent a percentage in different ways
											28	Pupils explain how to convert percentages to decimals and fractions (with a denominator of 100)
											29	Pupils explain how to convert a percentage to a fraction (without denominator of 100)
											30	Pupils use their knowledge of fraction-decimal-percentage conversions to solve conversion problems in a range of contexts
											31	Pupils use their knowledge of calculating 50%, 10% and 1% of a number to solve problems in a range of contexts
											32	Pupils use their knowledge of calculating common percentages of a number to solve problems in a range of contexts
											33	Pupils use their knowledge of calculating any percentage of a number to solve problems in a range of contexts
											34	Pupils explain how to solve problems where the percentage part and the size of the part is known and the whole is unknown
											35	Pupils explain how to solve problems where the known percentage part and the size of the part changes the whole
												Statistics
												Order of operations
											1	Pupils explain how addition and subtraction can help to solve multiplication problems efficiently (I)

											2	Pupils explain how addition and subtraction can help to solve multiplication problems efficiently (II)
											3	Pupils explain how the distributive law applies to multiplication expressions with a common factor (addition)
											4	Pupils use their knowledge of the distributive law to solve equations including multiplication, addition and subtraction
											5	Pupils explain how addition and subtraction can help to solve division problems efficiently
											6	Pupils explain how the distributive law applies to division expressions with a common divisor (addition)
											7	Pupils explain how the distributive law applies to division expressions with a common divisor (subtraction)
											8	Pupils use their knowledge of the distributive law to solve equations including division, addition and subtraction
											Mean	
											1	Pupils explain the relationship between the mean and sharing equally
											2	Pupils explain how to calculate the mean of a set of data
											3	Pupils explain how the mean changes when the total quantity or number of values changes
											4	Pupils explain how to calculate the mean when one of the values in the data set is zero or missing
											5	Pupils explain how to use the mean to make comparisons between two sets of information
											6	Pupils explain when the mean is not an appropriate representation of a set of data