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PLACE VALUE

COUNTING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number			count backwards through zero to include negative numbers	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero	use negative numbers in context, and calculate intervals across zero
count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	count in steps of 2, 3 and 5, from 0 in tens from any number, forward or backward	count from 0 in multiples of 4, 8, 50 and 100	count in multiples of 6, 7, 9, 25, and 1000	count forwards or backwards in steps of powers of 10 for any given number up to 1000000	

COMPARING NUMBERS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
given a number, identify one more and one less		find 10 or 100 more of less than a given number	find 1000 more or less than a given number		
use the language of: equal to, more than, less than (fewer), most and least	compare and order numbers from 0 up to 100 using <, > and = signs	compare and order numbers up to 1000	order and compare numbers beyond 1000	read, write, **order and compare** numbers to at least 1 000 000 and determine the value of each digit *(also appears in Reading and Writing Numbers and Understanding Place Value)*	read, write, **order and compare** number up to 10 000 000 and determine the value of each digit *(also appears in Reading and Writing Numbers and Understanding Place Value)*
			compare numbers with the same number of decimal places up to two decimal places *(copied from Fractions)*		

IDENTIFYING, REPRESENTING (AND ESTIMATING)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
identify and represent numbers using objects and pictorial representations including the number line	identify, represent and estimate numbers using different representations, including the number line	identify, represent and estimate ~~numbers~~ up to 1000 objects using different representations	identify, represent and estimate numbers using different representations		

READING AND WRITING NUMBERS (including Roman Numerals)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
read and write numbers from 1 to 20 in numerals and words	read and write numbers to at least 100 in numerals and words	read and write numbers up to 1000 in numerals and words		**read, write,** order and compare numbers to at least 1 000 000 and determine the value of each digit *(also appears in Comparing*	**read, write,** order and compare number up to 10 000 000 and determine the value of each digit *(also appears in Comparing*

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				Numbers and Understanding Place Value)	*Numbers and Understanding Place Value)*
		*tell and write the time from an analogue clock, including using **Roman Numerals from I to XII**, and 12-hour and 24-hour clocks (copied from Measurement)*	read Roman Numerals to 100 (I to C) and know that over time the numeral system changed to include the concept of zero and place value	read Roman Numerals to 1000 (M) and recognise years written in Roman Numerals	

UNDERSTANDING PLACE VALUE

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	recognise the place value of each digit in a two-digit number (tens and ones)	recognise the place value of each digit in a three-digit number (hundreds, tens and ones)	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones)	read, write, order and compare numbers to at least 1 000 000 and **determine the value of each digit**	read, write, order and compare number up to 10 000 000 and **determine the value of each digit**
				(also appears in Comparing Numbers and Understanding Place Value)	*(also appears in Comparing Numbers and Understanding Place Value)*
			find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths *(copied from Fractions)*	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents *(copied from Fractions)*	identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places *(copied from Fractions)*

ROUNDING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			round any number to the nearest 10, 100 and 1000	round any number up to 1 000 000 to the nearest 10, 100, 1000, 10,000 and 100,000	round any whole number to a required degree of accuracy
			round decimals with one decimal place to the nearest whole number *(copied from Fractions)*	round decimals with two decimal places to the nearest whole number and to one decimal place (*copied from Fractions)*	solve problems which require answers to be rounded to specified degrees of accuracy *(copied from Fractions)*

PROBLEM SOLVING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	use place value and number facts to solve problems	solve number problems and practical problems involving these ideas	solve number and practical problems that involve all of the above and with increasingly large positive numbers	solve number problems and practical problems that involve all of the above	solve number and practical problems that involve all of the above

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ADDITION AND SUBTRACTION

NUMBER BONDS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
represent and use number bonds and related subtraction facts within 20	recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100				

MENTAL CALCULATION

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
add and subtract one-digit and twodigit numbers to 20, including zero	add and subtract numbers using concrete objects, pictorial representations and mentally, including: • a two-digit number and ones • a two-digit number and tens • adding three one-digit numbers	add and subtract numbers mentally, including: • a three-digit number and ones • a three-digit number and tens • a three-digit number and hundreds	add and subtract numbers with up to four digits mentally	add and subtract numbers mentally with increasingly large numbers	perform mental calculations, including with mixed operations and large numbers
					calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation
read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs *(also appears in Written Methods)*	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot				use their knowledge of the order of operations to carry out calculations involving the four operations

WRITTEN METHODS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs *(also appears in Mental Calculation)*		add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	add and subtract numbers with up to 4-digits using the formal written methods of columnar addition and subtraction where appropriate	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	use formal written methods for addition and subtraction (columnar addition and subtraction)
			adjust numbers to subtract efficiently		

INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

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	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	estimate the answer to a calculation and use inverse operations to check answers *(also appears in Multiplication and Division)*	estimate and use inverse operations to check answers to a calculation *(also appears in Multiplication and Division)*	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy

PROBLEM SOLVING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = - 9	solve problems with addition and subtraction: • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	solve addition and subtraction twostep problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why
	solve simple problems in a practical context involving addition and subtraction of money of the same unit including giving change *(copied from Measurement)*				solve problems involving addition, subtraction, multiplication and division

MULTIPLICATION AND DIVISION

MULTIPLICATION AND DIVISION FACTS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count in multiples of twos, fives and tens *(copied from Number and Place Value)*	count in steps of 2, 3 and 5 from 0 and in tens from any number, forward or backward *(copied from Number and Place Value)*	count from 0 in multiples of 4. 8, 50 and 100 *(copied from Number and Place Value)*	count in multiples of 6, 7, 9 25 and 1000 *(copied from Number and Place Value)*	count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 *(copied from Number and Place Value)*	
	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	recall multiplication and division facts for multiplication tables up to 12 x 12	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	multiply and divide whole numbers and decimals by 10, 100 and 1000

MENTAL CALCULATION

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

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		write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit	use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1; dividing by 1; multiplying together three numbers	multiply and divide numbers mentally drawing upon known facts	perform mental calculations, including with mixed operations and large numbers
		numbers, **using mental** and progressing to formal written methods *(also appears in Written Calculation)*			
	show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot				associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)

WRITTEN CALCULATION

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to **formal written methods** *(also appears in Mental Calculation)*	multiply two-digit and three-digit numbers by a one-digit number using formal written layout	multiply numbers up to 4 digits by a one- or two- digit number using a formal written method, including long multiplication for two-digit numbers	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
		multiply a two-digit number by a 1digit number using a formal method			
		divide two- and three-digit numbers by a one-digit number	divide two- and three- digit numbers by a one-digit number using a formal layout	divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context
					divide numbers of up to 4-digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
					use written division methods in cases where the answer has up to two decimal places *(copied from Fractions (including Decimals))*

PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

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			recognise and use factor pairs and commutativity in mental calculations	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	identify common factors, common multiples and prime numbers
				know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	use common factors to simplify fractions; use common multiples to express fractions in the same denomination *(copied from Fractions)*
				establish whether a number up to 100 is prime and recall prime numbers up to 19	
				recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) *(also appears in Measurement - Measuring and Calculating)*	calculate estimate and compare volumes of cube and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3) and extending to other units such as mm^3 and km^3 *(copied from Measures)*

ORDER OF OPERATIONS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					use their knowledge of the order of operations to carry out calculations involving the four operations

INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		estimate the answer to a calculation and use inverse operations to check answers *(also appears in Addition and Subtraction)*	estimate and use inverse operations to check answers to a calculation *(also appears in Addition and Subtraction)*		use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy

PROBLEM SOLVING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve one-step problems involving multiplication and division, by calculation the answer using concrete objects, pictorial representations and arrays with the support of the teacher	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in 'n' which objects are connected to 'm' objects	solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as 'n' objects are connected to 'm' objects	solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	
				solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	solve problems involving addition, subtraction, multiplication and division

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				solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	solve problems involving similar shapes where the scale factor is known or can be found *(copied from Ratio and Proportion)*
FRACTIONS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise, find and name a half as one of two equal parts of an object, shape or quantity	recognise, find, name and write fractions (1/3, 1/3, 2/4, ¾) of a length shape, set of objects or quantity	recognise, find and write fractions of discrete set of objects: unit fractions & non-unit fractions with small denominators	solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number		
recognise, find and name a quarter as one of two equal parts of an object, shape or quantity		recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			
	write simple fractions for example: 1/2 of 6 = 3 and recognise the equivalence of 2/4 and ½	recognise and show, using diagrams, equivalent fractions with small denominators	recognise and show, using diagrams, equivalent fractions with small denominators	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	use common factors to simplify fractions and use common multiples to express fractions in the same denomination
				recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts *(also appears in Decimals and Percentages)*
		compare and order fractions with the same denominator		compare and order fractions whose denominators are all multiples of the same number	compare and order fractions, including fractions > 1
		add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7)	add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7)	add and subtract fractions with the same denominators and denominators that are multiples of the same number	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
				multiply proper fractions and mixed numbers, supported by materials and diagrams	multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. ¼ x ½ = 1/8)
					divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6)
		count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by 10		

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			find the effect of dividing a one- or two- digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths		
			solve simple measures and money problems involving fractions	solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25	

DECIMALS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			recognise and write decimal equivalents of any number of tenths or hundredths	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	
			write decimal equivalents to ¼, ½ and 3/4	read and write decimal numbers as fractions	associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375 for a simple fraction = 3/8)
			compare numbers with the same number of decimal places up to two decimal places	read, write, order and compare numbers with up to three decimal places	identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
			round decimals with one decimal place to the nearest whole number	round decimals with two decimal places to the nearest whole number and to one decimal place	solve problems which require answers to be rounded to specified degrees of accuracy
			solve simple measures and money problems involving decimals to two decimal places	solve problems involving number up to three decimal places	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts *(also appears in Fractions and Percentages)*

PERCENTAGES

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				recognise the per cent (%) symbol; understand that per cent relates to 'number of parts per hundred', write percentages as a fraction with denominator 100 and as a decimal	

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				solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25	recall and use equivalences between simple fractions, decimals and percentages including in different contexts *(also appears in Fractions and Decimals)*

MEASUREMENT

COMPARING AND ESTIMATING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
compare, describe and solve practical problems for: - lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) - mass/weight (e.g. heavy/light, heavier than, lighter than) - capacity and volume (e.g. full/empty, more than, less than, half, half full, quarter) - time (e.g. quicker, slower, earlier, later)	compare and order lengths, mass, volume/capacity and record the results using >, < and =		estimate, compare and calculate different measures, including money in pounds and pence *(also appears in Measuring)*	calculate and compare the areas of squares and rectangles including using standard units (e.g. square centimetres (cm^2), square metres (m^2)) and estimate the area of irregular shapes *(also appears in Measuring)*	calculate, estimate and compare volume of cubes and cuboids using standard units, including cm^3, m^3 and extending to other units such as mm^3 and km^3
				estimate volume (cm^3) using 1cm blocks to build cubes and cuboids and estimate capacity using water	
sequence events in chronological order using language (e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)	compare and sequence intervals of time	compare durations of events for examples to calculate the time taken by particular events or tasks			
		estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours, and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight *(also appears in Telling the Time)*			

MEASURING AND ESTIMATING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

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measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume - time (hours, minutes, seconds)	choose and use appropriate standard units to estimate and measure: - length/height in any direction (m/cm) - mass (kg/g) - temperature (°C) - capacity (l/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	measure, compare, add and subtract: - lengths (m/cm/mm) - mass (kg/g) - volume/capacity (l/ml)	estimate, compare and calculate different measures, including money in pounds and pence *(also appears in Comparing)*	use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate *(also appears in Converting)*
		measure the perimeter of simple 2-D shapes	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	recognise that shapes with the same areas can have different perimeters and vice versa

MEASURING AND CALCULATING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise and know the value of different denominations of coins and notes	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	add and subtract amounts of money to give change, using both £ and p in practical contexts			
	find different combinations of coins that equal the same amounts of money				
	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change				
			find the area of rectilinear shapes by counting squares	calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	calculate the area of parallelograms and triangles
					calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units (e.g. mm^3 and km^3)
				recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	recognise when it is possible to use formulae for area and volume of shapes

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				(also appears in Multiplication and Division)	
					read scales with un-numbered divisions accurately

TELLING THE TIME

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times	tell and write the time from an analogue clock, including using Roman Numerals from I to XII, and 12-hour and 24-hour clocks	read, write and convert time between analogue and digital 12 and 24-hour clocks *(also appears in Converting)*		
recognise and use language relating to dates, including days of the week, weeks, months and years	know the number of minutes in an hour and the number of hours in a day *(also appears in Converting)*	estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours, and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight *(also appears in Comparing and Estimating)*			
			solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days *(also appears in Converting)*	solve problems involving converting between units of time	

CONVERTING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	know the number of minutes in an hour and the number of hours in a day *(also appears in Telling the Time)*	know the number of seconds in a minute and the number of days in each month, year and leap year	convert between different units of measure (e.g. kilometre to metre; hour to minute)	convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
			read, write and convert time between analogue and digital 12 and 24-hour clocks *(also appears in Telling the Time)*	solve problems involving converting between units of time	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate *(also appears in Measuring and Calculating)*

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			solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days *(also appears in Telling the Time)*	understand and use equivalences between metric units and common imperials units such as inches, pounds and pints	convert between miles and kilometres

GEOMETRY: PROPERTIES OF SHAPE

IDENTIFYING SHAPES AND THEIR PROPERTIES

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise and name common 2-D and 3-D shapes, including: - 2-D shapes (e.g. rectangles [including squares], circles and triangles) - 3-D shapes (e.g. cuboids {including cubes}, pyramids and spheres)	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line		identify lines of symmetry in 2-D shapes presented in different orientations	identify 3-D shapes, including cubes and other cuboids, from 2-D representations	recognise, describe and build simple 3-D shapes, including making nets *(also appears in Drawing and Constructing)*
	identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces				illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
	identify 2-D shapes on the surface of 3-D shapes, (for example, a circle on a cylinder and a triangle on a pyramid)				

DRAWING AND CONSTRUCTING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		draw 2-D shapes and make 3-D shapes using modelling materials	complete a simple symmetrical figure with respect to a specific line of symmetry	draw given angles, and measure them in degrees (°)	draw 2-D shapes using given dimensions and angles
		recognise 3-D shapes in different orientations and describe them			recognise, describe and build simple 3-D shapes, including making nets *(also appears in Identifying Shapes and Their Properties)*

COMPARING AND CLASSIFYING

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	compare and sort common 2-D and 3-D shapes and everyday objects		compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	use properties of rectangles to deduce related facts and find missing lengths and angles	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons

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				distinguish between regular and irregular polygons based on reasoning about equal sides and angles	
ANGLES					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		recognise angles as a property of shape or as a description of a turn		know angles are measured in degrees (°): estimate and compare acute, obtuse and reflex angles	find unknown angles in 2-D shapes
		identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four make a complete turn		identify: - angles at a point and one whole turn equal 360° - angles at a point on a straight line and a half turn equal 180° - other multiples of 90°	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
		identify whether angles are greater than or less than a right angle	identify acute and obtuse angles and compare and order angles up to two right angles by size		
		identify horizontal and vertical lines and pairs of perpendicular and parallel lines			
GEOMETRY: POSITION AND DIRECTION					
POSITION, DIRECTION and MOVEMENT					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
describe position, direction and movement, including half, quarter and three-quarter turns	use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)	show I understand compass directions and use grids to describe direction	describe positions on a 2-D grid as coordinates in the first quadrant	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	describe positions on the full coordinate grid (all four quadrants)
			describe movements between positions as translations of a given unit to the left, right, up and down		draw and translate simple shapes on the coordinate plane, and reflect them in the axes
			plot specified points and draw sides to complete a given polygon		translate, reflect and rotate shapes in all four quadrants
PATTERN					

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	order and arrange combinations of mathematical objects in patterns and sequences	find and describe a pattern or relationship			

STATISTICS

INTERPRETING, CONSTRUCTING AND PRESENTING DATA

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	interpret and construct simple pictograms, tally charts, block diagrams and simple tables	interpret and present data using bar charts, pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	complete, read and interpret information in tables, including timetables	interpret and construct pie charts and line graphs and use these to solve problems
ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity					follow a statistical line of enquiry
ask and answer questions about totalling and comparing categorical data					

SOLVING PROBLEMS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		solve one-step and two-step questions (e.g. How many more? and How many fewer?) using information presented in scaled bar charts, pictograms and tables	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	solve comparison, sum and difference problems using information presented in a line graph	calculate and interpret the mean as an average

ALGEBRA

EQUATIONS

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = - 9 *(copied from Addition and Subtraction)*	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems *(copied from Addition and Subtraction)*	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction *(copied from Addition and Subtraction)*		use properties of rectangles to deduce related facts and find missing lengths and angles *(copied from Geometry: Properties of Shape)*	express missing number problems algebraically

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		solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in 'n' which objects are connected to 'm' objects *(copied from Multiplication and Division)*			
	recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100 *(copied from Addition and Subtraction)*				find pairs of numbers that satisfy number sentences involving two unknowns
represent and use number bonds and related subtraction facts within 20 *(copied from Addition and Subtraction)*					enumerate all possibilities of combinations of two variables

FORMULAE

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit *(not NC LO but something to aware of - copied from NSG measurement)*		use simple formulae
					recognise when it is possible to use formulae for area and volume of shapes *(copied from Measurement)*

SEQUENCES

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
sequence events in chronological order using language (e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) *(copied from Measurement)*	compare and sequence intervals of time *(copied from Measurement)*				generate and describe linear number sequences
	order and arrange combinations of mathematical objects in patterns *(copied from Geometry: Position and Direction)*				

RATIO AND PROPORTION

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					solve problems involving the relative sizes of two quantities

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					where missing values can be found by using integer multiplication and division facts
					solve problems involving the calculation of percentages (e.g. 15% of 360) and the use of percentages for comparison
					solve problems involving similar shapes where the scale factor is known or can be found
					solve problems involving unequal sharing and grouping using knowledge of fractions and multiples