Beaconhill Community Primary School

Mathematics at Beaconhill

Curriculum Intent

What Mathematics looks like at Beaconhill:

- At Beaconhill, we have a commitment to improving attainment for all. We follow a 'mastery approach' to the teaching of Mathematics. We believe that children master the curriculum when they can apply their learning to new situations.
- We use concrete manipulatives and a range of representations in each classroom. These help children to see patterns and make connections.
- Whole class teaching enables us to make concepts available to all children and fluid mixed ability groups, triads and pairings are used.
- We develop 'greater depth' by encouraging children to apply their knowledge at pace, to real life situations and to a range of problems presented in different ways.

A mathematician at Beaconhill Primary School should have:

- An understanding of the important concepts and an ability to make connections within mathematics.
- A broad range of skills in using and applying mathematics.
- Fluent knowledge and recall of number facts and the number system.
- The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.
- The ability to think independently and to persevere when faced with challenges, showing a confidence of success.
- The ability to embrace the value of learning from mistakes and false starts.
- The ability to reason, generalise and make sense of solutions.
- Fluency in performing written and mental calculations and mathematical techniques.
- A wide range of mathematical vocabulary.
- A commitment to and passion for mathematics.

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Overview

Overviews for Year One to Year 6 can be found by following this link: [Curriculum Prioritisation in Primary Maths | NCETM]

Skills Progression

Number and 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, and 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 1 000	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	

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given a number, identify one more and one less		find 10 or 100 more or less than a given number	find 1 000 more or less than a given number		
Comparing Numbers					
use the language of: equal to, more than, less than (fewer), most, least	compare and order numbers from 0 up to 100; use <, > and = signs	compare and order numbers up to 1 000	order and compare numbers beyond 1 000	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)
Identifying, Representing and Estimating Numbers					
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 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 in words	read and write numbers up to 1 000 in numerals and in words *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, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers) read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)
Understanding Place Value					
	recognise the place value of each digit in a two-digit number (tens, ones)	recognise the place value of each digit in a three digit number (hundreds, tens, ones)	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) *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)*	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents*	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) *identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1 000 where the answers*

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				(copied from Fractions)	*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 or 1 000	round any number up to 1 000 000 to the nearest 10, 100, 1 000, 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					
	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	solve number problems and practical problems that involve all of the above	solve number and practical problems that involve all of the above

			large positive numbers		
Number 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					
add and subtract one digit and two-digit numbers to 20, including zero	add and subtract numbers using concrete objects, pictorial representations, and mentally, including: * a two-digit number and ones * a two-digit number and tens * two two-digit numbers * 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 mentally with increasingly large numbers	perform mental Calculations, including with mixed operations and large numbers

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read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also 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 (appears also 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)	
Inverse Operations, Estimating and Checking Answers					
	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing	estimate the answer to a calculation and use inverse operations to check answers	estimate and use inverse operations to check answers to a calculation	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

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	number problems.				
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 two-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (copied from				Solve problems involving addition, subtraction, multiplication and division

	Measurement)				
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 1 000 (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 × 12		
Mental Calculation					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	show that multiplication	write and calculate	use place value,	multiply and divide	perform mental

	of two numbers can be done in any order (commutative) and division of one number by another cannot	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 (appears also in Written Methods)	known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	numbers mentally drawing upon known facts	calculations, including with mixed operations and large numbers
			recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$) (copied from Fractions)
Written Calculation					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	calculate mathematical statements for multiplication and	write and calculate mathematical statements for multiplication and	multiply two-digit and three-digit numbers by a one-digit number using	multiply numbers up to 4 digits by a one- or two-digit number using	multiply multi-digit numbers up to 4 digits by a two-digit whole

	division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	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 (appears also in Mental Methods)	formal written layout	a formal written method, including long multiplication for two digit numbers	number using the formal written method of long multiplication
				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 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 Numbers					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			recognise and use factor pairs and commutativity in mental calculations (repeated)	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. know and use the vocabulary of prime numbers, prime factors and composite (non prime) numbers establish whether a number up to 100 is	identify common factors, common multiples and prime numbers *use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)*

				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})	*calculate, estimate and compare volume of cubes 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	*estimate and use inverse*		use estimation to check

		calculation and use inverse operations to check answers (copied from Addition and Subtraction)	*operations to check answers to a calculation (copied from Addition and Subtraction)*		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 calculating the answer using concrete objects, pictorial representations and arrays	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and	solve problems, including missing number problems, involving multiplication and division, including positive integer scaling	solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling	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
with the support of the teacher	division facts, including problems in contexts	problems and correspondence problems in which n objects are connected to m objects	problems and harder correspondence problems such as n objects are connected to m objects	solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	

				solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	*solve problems involving similar shapes where the scale factor is known or can be found* (copied from Ratio and Proportion)

Fractions (including Decimals and Percentages)

Counting in Fractional Steps					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	Pupils should count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)	count up and down in tenths	count up and down in hundredths		
Recognising Fractions					
recognise, find and name a half as one of two equal parts of an object, shape or quantity	recognise, find, name and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a length, shape, set of objects or quantity	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	

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		recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10.		(appears also in Equivalence)	
recognise, find and name a quarter as one of four equal parts of an object, shape or quantity		recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			
Comparing Fractions					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		compare and order unit fractions, and fractions with the same denominators		compare and order fractions whose denominators are all multiples of the same number	compare and order fractions, including fractions >1
Comparing Decimals					
			compare numbers with the same number of decimal places up to two	read, write, order and compare numbers with up to three decimal	identify the value of each digit in numbers given to three decimal places

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			decimal places	places	
Rounding Including Decimals					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			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
Equivalence (including Fractions, Decimals and Percentages)					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	write simple fractions e.g. $^1/_2$ of 6 = 3 and recognise the equivalence of $^2/_4$ and $^1/_2$.	recognise and show, using diagrams, equivalent fractions with small denominators	recognise and show, using diagrams, families of common equivalent fractions	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	use common factors to simplify fractions; use common multiples to express fractions in the same denomination
			recognise and write decimal equivalents of any number of tenths or hundredths	read and write decimal numbers as fractions (e.g. 0.71 = $^{71}/_{100}$)	associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g.

					$^3/_8$)
			recognise and write decimal equivalents to $^1/_4$; $^1/_2$; $^3/_4$	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Addition and Subtraction of Fractions					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		add and subtract fractions with the same denominator within one whole (e.g. $^5/_7 + ^1/_7 = ^6/_7$)	add and subtract fractions with the same denominator	add and subtract fractions with the same denominator and multiples of the same number recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $^2/_5 + ^4/_5 = ^6/_5 = 1^1/_5$)	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
Multiplication and Division of Fractions					

				multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $^1/_4 \times {}^1/_2 = {}^1/_8$) multiply one-digit numbers with up to two decimal places by whole numbers divide proper fractions by whole numbers (e.g. $^1/_3 \div 2 = {}^1/_6$)
Multiplication and Division of Decimals					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			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		multiply one-digit numbers with up to two decimal places by whole numbers multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal

					places identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$) use written division methods in cases where the answer has up to two decimal places
Problem Solving					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

		solve problems that involve all of the above	solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	solve problems involving numbers up to three decimal places	
			solve simple measure and money problems involving fractions and decimals to two decimal places.	solve problems which require knowing percentage and decimal equivalents of $^1/_2$, $^1/_4$, $^1/_5$, $^2/_5$, $^4/_5$ and those with a denominator of a multiple of 10 or 25.	

Ratio and Proportion

Statements only appear in Year 6 but should be connected to previous learning, particularly fractions and multiplication and division

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					solve problems involving the relative sizes of two quantities where missing values can be found by using integer

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

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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) *represent and use number bonds and related subtraction facts within 20 (copied from Addition and Subtraction)*	*recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.* *(copied from Addition and Subtraction)* recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (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)* *solve problems, including missing number problems, involving multiplication and division, including integer scaling (copied from Multiplication and Division)*		*use the properties of rectangles to deduce related facts and find missing lengths and angles (copied from Geometry: Properties of Shapes)*	express missing number problems algebraically find pairs of numbers that satisfy number sentences involving two unknowns enumerate all possibilities of combinations of two variables

Formulae					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

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			Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit. (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					
sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening (copied from Measurement)	*compare and sequence intervals of time* (copied from Measurement) *order and arrange combinations of mathematical objects in patterns* (copied from Geometry: position and direction)				generate and describe linear number sequences
Measurement					
Comparing and Estimating					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

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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 included in Measuring)	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 (also included in measuring) estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water)	calculate, estimate and compare volume of cubes 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.
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 example to calculate the time taken by particular events or tasks estimate and read time with increasing accuracy to the nearest minute;			

		record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)			
Measuring and Calculating					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
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 (litres/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) measure the perimeter of simple 2-D shapes	estimate, compare and calculate different measures, including money in pounds and pence (appears also in Comparing) measure and calculate the perimeter of a rectilinear figure (including squares) in	use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Converting) recognise that shapes with the same areas can have different perimeters

			centimetres and metres		and vice versa
Measuring and Calculating					
recognise and know the value of different denominations of coins and notes	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value find different combinations of coins that equal the same amounts of money solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	add and subtract amounts of money to give change, using both £ and p in practical contexts			
			find the area of rectilinear shapes by	calculate and compare the area of squares and	calculate the area of parallelograms and triangles

			counting squares	rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes *recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})* (copied from Multiplication and Division)	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].
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 (appears also in Converting)		
recognise and use language relating to dates, including days	know the number of minutes in an hour and the number of hours in a	estimate and read time with increasing accuracy to the	solve problems involving converting from hours to minutes; minutes to	solve problems involving converting between units of time	

of the week, weeks, months and years	day. (appears also in Converting)	nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Comparing and Estimating)	seconds; years to months; weeks to days (appears also in Converting)		
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. (appears also 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) read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in	convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) solve problems involving converting between	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

			Converting) solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)	units of time understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	decimal notation to up to three decimal places solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Measuring and Calculating) 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:	identify and describe the properties of 2-D shapes, including the number of		identify lines of symmetry in 2-D shapes presented in different	identify 3-D shapes, including cubes and other cuboids, from 2-D	recognise, describe and build simple 3-D shapes, including making nets

* 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].	sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]		orientations	representations	(appears also in Drawing and Constructing) illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
Drawing and Constructing					
		draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	complete a simple symmetric 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, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes

					and their Properties)
Comparing and Classifying					
	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 the properties of rectangles to deduce related facts and find missing lengths and angles distinguish between regular and irregular polygons based on reasoning about equal sides and angles	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
Angles					
		recognise angles as a property of shape or a description of a turn		know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	
		identify right angles, recognise that two right angles make a half-turn, three make	identify acute and obtuse angles and compare and order angles up to two right	identify: * angles at a point and one whole turn (total 360°)	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and

		three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	angles by size	* angles at a point on a straight line and ½ a turn (total 180°) * other multiples of 90°	find missing angles
		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		describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	describe positions on the full coordinate grid (all four quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes

	and three-quarter turns (clockwise and anti-clockwise)		plot specified points and draw sides to complete a given polygon		
Pattern					
	order and arrange combinations of mathematical objects in patterns and sequences				
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 ask and answer simple questions by counting the number of objects in each category and sorting the categories by	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

	quantity ask and answer questions about totalling and comparing categorical data				
Solving Problems					
		solve one-step and two step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	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