

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	- count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - Count numbers to 100 in numerals; count in multiples of twos, fives and tens Autumn 1 Autumn 4 Spring 2 Summer 4	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward Autumn 1	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number Autumn 1 Autumn 3	- count in multiples of 6, 7, 9, 25 and 1000 - count backwards through zero to include negative numbers Autumn 1 Autumn 4	- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 - count forwards and backwards with positive and negative whole numbers, including through zero Autumn 1	
Place Value: Represent	- identify and represent numbers using objects and pictorial representations - read and write numbers to 100 in numerals - read and write numbers from 1 to 20 in numerals and words. Autumn 1 Autumn 4 Spring 2 Summer 4	- read and write numbers to at least 100 in numerals and in words - identify, represent and estimate numbers using different representations, including the number line Autumn 1	- identify, represent and estimate numbers using different representations - read and write numbers up to 1000 in numerals and in words Autumn 1	- identify, represent and estimate numbers using different representations - 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 Autumn 1	- read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit - read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Autumn 1	read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit Autumn 1

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Place Value : Use PV and Compare	given a number, identify one more and one less Autumn 1 Autumn 4 Spring 2 Summer 4	- recognise the place value of each digit in a two-digit number (tens, ones) - compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs Autumn 1	- recognise the place value of each digit in a three-digit number (hundreds, tens, ones) - compare and order numbers up to 1000 Autumn 1	- find 1000 more or less than a given number - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) - order and compare numbers beyond 1000 Autumn 1	(read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit Autumn 1	(read, write), order and compare numbers up to 10 000 000 and determine the value of each digit Autumn 1
Place Value: Problems & Rounding		use place value and number facts to solve problems. Autumn 1	solve number problems and practical problems involving these ideas Autumn 1	- round any number to the nearest 10, 100 or 1000 - solve number and practical problems that involve all of the above and with increasingly large positive numbers Autumn 1	- interpret negative numbers in context - round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 - solve number problems and practical problems that involve all of the above Autumn 1	- round any whole number to a required degree of accuracy - use negative numbers in context, and calculate intervals across zero - solve number and practical problems that involve all of the above Autumn 1

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Addition & Subtraction: Recall, Represent, Use	- read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs - 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 - show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	estimate the answer to a calculation and use inverse operations to check answers	estimate and use inverse operations to check answers to a calculation	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	
	Autumn 2 Spring 1	Autumn 2	Autumn 2	Autumn 2	Autumn 2	

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition & Subtraction: Calculations	add and subtract one-digit and two-digit numbers to 20, including zero Autumn 2 Spring 1	- 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 Autumn 2	- 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 three digits, using formal written methods of columnar addition and subtraction Autumn 2	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate Autumn 2	- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) - add and subtract numbers mentally with increasingly large numbers Autumn 2	- perform mental calculations, including with mixed operations and large numbers - use their knowledge of the order of operations to carry out calculations involving the four operations Autumn 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition & Subtraction: Solve Problems	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ Autumn 2 Spring 1	- 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 Autumn 2	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction Autumn 2	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why Autumn 2	- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Autumn 2	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Autumn 2

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Multiplication & Division: Recall, Represent, Use		- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers - show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Autumn 4 Spring 1	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables Autumn 3	- recall multiplication and division facts for multiplication tables up to 12×12 - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers - recognise and use factor pairs and commutativity in mental calculations Autumn 4 Spring 1	- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers - know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers - establish whether a number up to 100 is prime and recall prime numbers up to 19 - recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) Autumn 4	- identify common factors, common multiples and prime numbers - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. Autumn 2

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Multiplication & Division: Calculations		calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals ($=$) signs Autumn 4 Spring 1	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 Autumn 3 Spring 1	multiply two-digit and three-digit numbers by a one-digit number using formal written layout Spring 1	- 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 and divide numbers mentally drawing upon known facts - 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 - multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Autumn 4 Spring 1 Summer 1	- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context - divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context - perform mental calculations, including with mixed operations and large numbers Autumn 2

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Multiplication & Division: Solve Problems	solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher Summer 1	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts Autumn 4 Spring 1	solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects Spring 1	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 Spring 1	- solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes - solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates Autumn 4 Spring 1	solve problems involving addition, subtraction, multiplication and division Autumn 2
Multiplication & Division: Combined Operations					solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Spring 1	use their knowledge of the order of operations to carry out calculations involving the four operations Autumn 2

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Fractions: Calculations		write simple fractions for example, $\frac{1}{2}$ of 6 = 3	add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]	add and subtract fractions with the same denominator	- add and subtract fractions with the same denominator and denominators that are multiples of the same number - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] - divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]
		Spring 4	Summer 1	Spring 3	Spring 3	Autumn 3
Fractions: Solve Problems			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		
			Spring 5 Summer 1	Spring 3		

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Decimals: Recognise and Write				- recognise and write decimal equivalents of any number of tenths or hundredths - recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ Spring 4 Summer 1	- read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Spring 3	identify the value of each digit in numbers given to three decimal places Spring 1
Decimals: Compare				- round decimals with one decimal place to the nearest whole number - compare numbers with the same number of decimal places up to two decimal places Summer 1	- round decimals with two decimal places to the nearest whole number and to one decimal place - read, write, order and compare numbers with up to three decimal places Spring 3	

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Decimals: Calculations & Problems				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 Spring 4	solve problems involving number up to three decimal places Summer 1	- multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places - multiply one-digit numbers with up to two decimal places by whole numbers - use written division methods in cases where the answer has up to two decimal places - solve problems which require answers to be rounded to specified degrees of accuracy Spring 1

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Fractions, Decimals and Percentages				solve simple measure and money problems involving fractions and decimals to two decimal places Spring 3 Spring 4 Summer 1	- recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal - solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 Spring 3	- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts Spring 1 Spring 2

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Ratio and Proportion						• 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 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. Spring 6

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Algebra	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	solve problems, including missing number problems			- use simple formulae - generate and describe linear number sequences - express missing number problems algebraically - find pairs of numbers that satisfy an equation with two unknowns - enumerate possibilities of combinations of two variables. Spring 3

Note – although algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the ‘missing number’ objectives from Y1/2/3

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Measurement: Using Measures	- compare, describe and solve practical problems for: ➤ lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] ➤ mass/weight [for example, heavy/light, heavier than, lighter than] ➤ capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] ➤ time [for example, quicker, slower, earlier, later] - measure and begin to record the following: ➤ lengths and heights ➤ mass/weight ➤ capacity and volume ➤ time (hours, minutes, seconds) Spring 3 Spring 4 Summer 6	- 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 - compare and order lengths, mass, volume/capacity and record the results using >, < and = Spring 5 Summer 4	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Spring 4 Summer 4	- Convert between different units of measure [for example, kilometre to metre; hour to minute] - estimate, compare and calculate different measures Autumn 3 Spring 2 Summer 3	- convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) - understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints - use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling Summer 1 Summer 4 Summer 5	- solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places - convert between miles and kilometres Spring 4

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Measurement: Money	recognise and know the value of different denominations of coins and notes Summer 5	- 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 Autumn 3	add and subtract amounts of money to give change, using both £ and p in practical contexts Spring 2	estimate, compare and calculate different measures, including money in pounds and pence Summer 2	use all four operations to solve problems involving measure [for example, money] Summer 1	

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Measurement: Time	- sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] - recognise and use language relating to dates, including days of the week, weeks, months and years - tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	- compare and sequence intervals of time - tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times - know the number of minutes in an hour and the number of hours in a day	- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks - estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight - know the number of seconds in a minute and the number of days in each month, year and leap year - compare durations of events [for example to calculate the time taken by particular events or tasks]	- read, write and convert time between analogue and digital 12- and 24-hour clocks - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	solve problems involving converting between units of time	use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa
	Summer 6	Summer 3	Summer 2	Summer 3	Summer 4	Year 5 Summer 4

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Perimeter, Area, Volume			measure the perimeter of simple 2-D shapes Spring 4	- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres - find the area of rectilinear shapes by counting squares Autumn 3 Spring 2	- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres - calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes - estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water] Autumn 5 Summer 5	- recognise that shapes with the same areas can have different perimeters and vice versa - recognise when it is possible to use formulae for area and volume of shapes - calculate the area of parallelograms and triangles - calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³] Spring 5

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Geometry: 2-D Shapes	recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles] Autumn 3	- identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line - identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] - compare and sort common 2-D shapes and everyday objects Spring 3	draw 2-D shapes Summer 3	- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes - identify lines of symmetry in 2-D shapes presented in different orientations Summer 5	- distinguish between regular and irregular polygons based on reasoning about equal sides and angles. - use the properties of rectangles to deduce related facts and find missing lengths and angles Summer 2	- draw 2-D shapes using given dimensions and angles - compare and classify geometric shapes based on their properties and sizes - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius Summer 1
Geometry: 3-D Shapes	recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] Autumn 3	- recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. - compare and sort common 3-D shapes and everyday objects Spring 3	make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them Summer 3		identify 3-D shapes, including cubes and other cuboids, from 2-D representations Summer 2	recognise, describe and build simple 3-D shapes, including making nets Summer 1

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Geometry: Angles & Lines			- recognise angles as a property of shape or a description of a turn - identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle - identify horizontal and vertical lines and pairs of perpendicular and parallel lines	- identify acute and obtuse angles and compare and order angles up to two right angles by size - identify lines of symmetry in 2-D shapes presented in different orientations - complete a simple symmetric figure with respect to a specific line of symmetry	- know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles - draw given angles, and measure them in degrees - identify: - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) - other multiples of 90°	- find unknown angles in any triangles, quadrilaterals, and regular polygons - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
			Summer 3	Summer 5	Summer 2	Summer 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: Position & Direction	describe position, direction and movement, including whole, half, quarter and three-quarter turns Summer 3	- order and arrange combinations of mathematical objects in patterns and sequences - use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) Spring 3 Summer 1		- describe positions on a 2-D grid as coordinates in the first quadrant - describe movements between positions as translations of a given unit to the left/right and up/down - plot specified points and draw sides to complete a given polygon Summer 6	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 Summer 3	- 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 Autumn 4

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Statistics: Present and Interpret		interpret and construct simple pictograms, tally charts, block diagrams and simple tables Spring 2	interpret and present data using bar charts, pictograms and tables Spring 3	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs Summer 4	complete, read and interpret information in tables, including timetables Autumn 3	interpret and construct pie charts and line graphs and use these to solve problems Summer 3
Statistics: Solve Problems		- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity - ask and answer questions about totalling and comparing categorical data Spring 2	solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables Spring 3	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs Summer 4	solve comparison, sum and difference problems using information presented in a line graph Autumn 3	calculate and interpret the mean as an average Summer 3