

	Y1	Y2	Y3	Y4	Y5	Y6
Number and Place Value	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens given a number, identify one more and one less identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least read and write numbers from 1 to 20 in numerals and words	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward recognise the place value of each digit in a two-digit number (tens, ones) identify, represent and estimate numbers using different representations, including the number line compare and order numbers from 0 up to 100; use and = signs read and write numbers to at least 100 in numerals and in words use place value and number facts to solve problems.	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words solve number problems and practical problems involving these ideas.	count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number count backwards through zero to include negative numbers recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations 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 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 count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero 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 read Roman numerals to 1000 (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 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
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Y1	Y2	Y3	Y4	Y5	Y6
Number - Addition and subtraction • read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 add and subtract one-digit and two-digit numbers to 20, including zero • 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 recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and tens two two-digit numbers adding three one-digit numbers show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot recognise and use the inverse relationship between addition	add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens at three-digit number and hundreds add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction stimate the answer to a calculation and use inverse operations to check answers solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate estimate and use inverse operations to check answers to a calculation solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	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 use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	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 identify common factors, common multiples and prime numbers use their knowledge of the order of operations to carry out calculations involving the four operations and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving addition, subtraction,



		and subtraction and use this to check calculations and solve missing number problems 4 3	5 7 +8 6 1 3 1 3 0 1 4 3 2d + 2d (crossing 10) 45 101 12 -2 6 7 5 4 0 2 0 0 2 4 5 3d - 3d (exchanging)	7 8 5 6 + 4 2 9 7 1 2, 1 5 3 Up to 4d + 4d (crossing 10) 6 34 10 1 2 - 2 2 8 7 4 1 2 5 4d - 4d (exchanging)	6 8, 9 6 2 +1, 4, 8, 7 5 8 3, 8 3 7 5d + 5d (crossing 10) 8 8 4, 112 101 14 -1 6, 7 3 5 7 2, 4 7 9 5d - 5d (exchanging)	multiplication and division use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. 6 8 2 + 3 5 7 1 0 3 9 Add decimals with 1 or more dp (crossing 10)
	V4	V0	V0	Y4	VE	V.
Nemalage	• solve one-step	Y2 recall and use	Y3 recall and use	recall multiplication	Y5identify multiples and	Y6
Number - Multiplication and division	problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (*), division (†) and equals (=) signs show that multiplication of two numbers can be done in any order	multiplication and division facts for the 3, 4 and 8 multiplication tables 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 solve problems, including multiplication and division, including multiplication and division, including	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 multiply two-digit and three-digit number sby a one-digit number using formal written layout solve problems involving multiplying	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 (nonprime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 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	



(commutative) and division of one number by another	positive integer scaling problems and correspondence	and adding, including using the distributive law to	multiply and di numbers ment drawing upon	ally
cannot solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods,	problems in which n objects are connected to m objects	multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m	facts divide numbers digits by a or number using t formal written method of shoi division and int remainders	e-digit he t
and multiplication and division facts, including problems in contexts		objects.	 appropriately f context multiply and di whole numbers those involving decimals by 10 	vide s and
			and 1000 recognise and square number cube numbers, the notation for squared (2) and	use rs and and r
			cubed (3) solve problems involving multiplication of division including using their	and
			knowledge of the and multiples, squares and cube solve problems involving additional subtraction,	ubes
			multiplication of division and a combination of these, including understanding	f g the
			meaning of the equals sign solve problems involving multiplication of division, including	and
			scaling by simp fractions and problems invol- simple rates.	ole



			35 x 4 20 (4x5) 120 (4x30) 140 (x2, 3, 4, 5 and 8) 21 484 x2, 3, 4, 5 and 8	256 x 7 42 (7x6) 350 (7x50) 1400 (7x200) 1792 2/3d x ld 62 6 372 3d + ld (no remainders)	321 x 27 2247 6420 8667 3/4d x 2d 661r5 63343715 Up to 4d + Id (interpret remainders)	2 5 7 3 x
	Y1	Y2	Y3	Y4	Y5	Y6
Number - Fractions	recognise, find and name a half as one of two equal parts of an object, shape or quantity recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	 recognise, find, name and write fractions 1/3, ¼, 2/4, 3/4 of a length, shape, set of objects or quantity write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½ 	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 recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise and use fractions as numbers: unit fractions with small denominators with small denominators	•	compare and order fractions whose denominators are all multiples of the same number identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a	use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1 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, ½ X ½ = 1/8)



			recognise and show, using diagrams, equivalent fractions with small denominators add and subtract fractions with the same denominator within one whole (for example, 5/7 + 1/7 = 6/7) compare and order unit fractions, and fractions with the same denominators solve problems that involve all of the above		mixed number (for example, 2/5 + 4/5 = 6/5 = 1 1/5 add and subtract fractions with the same denominators and denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	divide proper fractions by whole numbers (for example, (1/3 ÷ 2 = 1/6) associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, 3/8)
Decimals	Y1	Y2	Y3	Y4recognise and show,	Y5 read and write	identify the value of
				using diagrams, families of common equivalent fractions count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. 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 add and subtract fractions with the same denominator recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to 1/4, 1/2 31/4	decimal numbers as fractions (for example, 0.71 = 71/100) • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • 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 • solve problems involving number up to three decimal places	each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • multiply one-digit numbers with up to two decimal places by whole numbers • use written division methods in cases where the answer has up to two decimal places • solve problems which require answers to be rounded to specified degrees of accuracy



				find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths round decimals with one decimal place to the nearest whole number compare numbers with the same number of decimal places up to two decimal places solve simple measure and money problems involving fractions and decimal places.		
Percent	Y1	Y2	Y3	Y4	recognise the per cent symbol (%) and understand that per cent relates to	recall and use equivalences between simple fractions, decimals and
					'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 ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	percentages, including in different contexts.



	Y1	Y2	Y3	Y4	Y5	Y6
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.
	Y1	Y2	Y3	Y4	Y5	Y6
Algebra						use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with two unknowns enumerate possibilities of combinations of two variables.
	Y1	Y2	Y3	Y4	Y5	Y6
Measurement	compare, describe and solve practical problems for lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) mass/weight (for example,	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	measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes add and subtract amounts of money to give change, using	Convert between different units of measure (for example, kilometre to metre; hour to minute) measure and calculate the perimeter of a rectilinear figure (including squares) in	Convert between different units of metric measure (for example, kilometre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) understand and use approximate	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



- heavy/light, heavier than, lighter than)

 capacity and volume (for example, full/empty, more than, less than, half, half full, auarter)
- 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)
 - recognise and know the value of different denominations of coins and notes
 - 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

- unit, using rulers, scales, thermometers and
- measuring vessels compare and order lengths, mass, volume/capacity and record the results using >, < and =
- 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
- 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

hours in a day.

and the number of

both £ and p in practical contexts

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
- days in each month, year and leap year compare durations of events (for example to calculate the time taken by particular events or tasks).

seconds in a minute

and the number of

- centimetres and metres find the area of
- rectilinear shapes by counting squares
 estimate, compare and calculate different measures, including money in pounds and pence
- 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.

- equivalences between metric units and common imperial units such as inches, pounds and
- pints
 measure and
 calculate the
 perimeter of
 composite rectilinear
 shapes in centimetres
 and metres
- calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes
- estimate volume (for example, using 1 cm³ blocks to build cuboids (including cubes)) and capacity (for example, using water)
- solve problems involving converting between units of time

 use all four.
- use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling

- length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
- convert between miles and kilometres
- recognise that shapes with the same areas can have different perimeters and vice versa
- recognise when it is possible to use formulae for area and volume of shapes
- 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).



	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times Y1 Tengania and	Y2	Y3	Y4	Y5	Y6
Geometry – properties of shapes	recognise and name common 2-D and 3-D shapes, including: 2-D shapes (for example, rectangles (including squares), circles and triangles) 3-D shapes (for example, 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 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) compare and sort common 2-D and 3-D shapes and everyday objects.	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them recognise angles as a property of shape or a description of a turn identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order angles up to two right angles by size identify lines of symmetry in 2-D shapes presented in different orientations complete a simple symmetric figure with respect to a specific line of symmetry.	identify 3-D shapes, including cubes and other cuboids, from 2-D representations 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 ½ a turn (total 180°) other multiples of 90° 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.	draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.



	Y1	Y2	Y3	Y4	Y5	Y6
Geometry – position and direction	describe position, direction and movement, including whole, half, quarter and three-quarter turns.	order and arrange combinations of mathematical objects in patterns and sequences use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)		describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon.	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	describe positions on the full coordinate grid (all four quadrants) draw and translate simple shapes on the coordinate plane and reflect them in the axes.
	Y1	Y2	Y3	Y4	Y5	Y6
Statistics		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 quantity ask and answer questions about totalling and comparing categorical data	 interpret and present data using bar charts, pictograms, and tables 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. 	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. 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 complete, read and interpret information in tables, including timetables.	interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average.