

Skills	Year R	Year 1	Year 2	Year 3	Year 4
Place Value: counting	Recognizes numerals 1 to 20 and counts reliably from 1 to 20 Can place numbers 1 to 20 in order Counts objects up to 20 Can say one more or one less than a given number	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	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; find 10 or 100 more or less than a given number	count backwards through zero to include negative numbers count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number
Place Value – comparing numbers	Compares 2 groups of objects, saying when they have the same number Uses the language more or less when comparing two sets of objects	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 1000	order and compare numbers beyond 1000 <i>compare numbers with the same number of decimal places up to two decimal places</i> (copied from Fractions)
Place value Identifying, representing and estimating numbers	Identify and represent numbers using objects and pictorial representations including tens frames	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
Place value Reading and writing numbers	Recognize numbers 1 to 20	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 <i>tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</i> (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.
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) <i>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</i> (copied from Fractions)
Place value - Rounding					round any number to the nearest 10, 100 or 1000 <i>round decimals with one decimal place to the nearest whole number</i> (copied from Fractions)

Place value – 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 large positive numbers
Addition and subtraction Number bonds		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		
Addition and subtraction Mental calculation	Add and subtract 2 single numbers from one to twenty by counting on or back	add and subtract one-digit and two-digit numbers to 20, including zero read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods)	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 * show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	add and subtract numbers mentally, including: * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds	
Addition and subtraction written calculation		read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs		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
Addition and subtraction inverse			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
Addition and subtraction problem solving		solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	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

Multiplication and Division	<i>Can solve problems including doubling and halving with numbers up to 20 using objects</i>	<i>count in multiples of twos, fives and tens (copied from Number and Place Value)</i>	<i>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)</i> recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	<i>count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value)</i> recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	<i>count in multiples of 6, 7, 9, 25 and 1000 (copied from Number and Place Value)</i> recall multiplication and division facts for multiplication tables up to 12×12
Multiplication and Division- mental calculations			show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	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 (appears also in Written Methods)	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 (appears also in Properties of Numbers)
Multiplication and Division- written calculations			calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Mental Methods)	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs recognise and use factor pairs and commutativity in mental calculations (repeated)
Fractions, Decimals and Percentages			<i>Pupils should count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line (Non Statutory Guidance)</i>	count up and down in tenths	count up and down in hundredths
Fractions, Decimals and Percentages- recognising and comparing 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 $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ 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 tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. recognise and use fractions as numbers: 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

				compare and order unit fractions, and fractions with the same denominators	
Fractions, Decimals and Percentages – comparing and rounding decimals				compare numbers with the same number of decimal places up to two decimal places round decimals with one decimal place to the nearest whole number	
Fractions, Decimals and Percentages – equivalence			write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	recognise and show, using diagrams, equivalent fractions with small denominators	recognise and show, using diagrams, families of common equivalent fractions recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$
Fractions Calculating with				add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)	add and subtract fractions with the same denominator 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
Fractions, Decimals and Percentages – problem solving				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 simple measure and money problems involving fractions and decimals to two decimal places.

Algebra		solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ (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)	Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit. (Copied from NSG measurement)
Algebra		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)		
Measurement	Orders two or three items by length or height Orders two items by weight or capacity Sequences and orders familiar events	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] sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ 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)	estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)

Measurement – measuring and calculating		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 centimetres and metres
Measurement -		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 counting squares
Measurement – telling the time	Measure short periods of time in Uses everyday language related to time simple ways	tell the time to the hour and half past the hour and draw the hands on a clock face to show recognise and use language relating to dates, including days of the week, weeks, months and years 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. know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)	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, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Comparing and Estimating)	read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting.

			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 Converting) solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)
Geometry – identifying shapes and their properties	Recognize and name common 3D and 2D shapes. Identify characteristics of everyday objects and shapes. Use mathematical language edge, faces and corners	recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]. Use mathematical language – vertices, face and edges	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	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 compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

Geometry – Angles				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
Position and direction	Can describe their relative position such as behind or next to	describe position, direction and movement, including half, quarter and three-quarter turns.	use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)		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
Geometry – pattern	Use familiar problems objects and common shapes to create and recreate patterns and build models. Recognise create and describe patterns		order and arrange combinations of mathematical objects in patterns and sequences		

Statistics			interpret and construct simple pictograms, tally charts, block diagrams and ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity simple tables 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 [e.g. '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.
New Vocabulary		Ten more/less, digit, numeral, figure(s), compare, (in) order/a different order, size, value, between, halfway between, above, below, tens, ones Number bonds, number line, add, more, plus, make, sum, total, altogether, inverse, double, near double, equals, is the same as (including equals sign), difference between, subtract, take away, minus How many more to make ...? How many more is ... than ... ? How much more is ... ? How many fewer is ... than... ? How much less is ... ? Once, twice, three, five times, multiple of times Multiply, multiply by, repeated addition, array, row, column, double, halve, share, share equally, group in pairs, threes, etc., equal groups of, divide, divided by, left over Time, days of the week, seasons, day, week, month, year, weekend, birthday, holiday, morning, afternoon, evening,	Numbers to one hundred, hundreds, partition, recombine, more/less Quarter past/to, metres, kilometers, grams, kilograms, millimeters, liters, temperature, degrees Rotation, clockwise, anticlockwise, straight line, ninety degree turn, right angle Size, bigger, larger, smaller, symmetrical, line of symmetry, fold, match, mirror line, reflection, pattern, repeating pattern Three quarters, one third, a third, equivalence, equivalent Count, tally, sort, vote, graph, block graph, pictogram, represent, group, set, list, table, label, title, most popular, most common, least popular, least common Predict, describe the pattern, describe the rule, find, find all, find different, investigate	Numbers to one thousand Column addition and subtraction Product, multiples of four, eight, fifty and one hundred, scale up Leap year, twelve-hour/twenty-four-hour clock, Roman numerals I to XIII Greater/less than ninety degrees, orientation (same orientation, different orientation) Horizontal, perpendicular and parallel lines Numerator, denominator, unit fraction, non-unit fraction, compare and order, tenths Chart, bar chart, frequency table, Carroll diagram, Venn diagram, axis, axe	Tenths, hundredths, decimal (places), round (to nearest), thousand more/less than, negative integers, count through zero, Roman numerals I to C Multiplication facts (up to 12x12), division facts, inverse, derive Convert Co-ordinate, translate, quadrant, X-axis, Y-axis, perimeter, area Quadrilaterals, triangles, right, acute and obtuse angles Equivalent decimals and fractions Continuous data, line graph

		night, midnight, bedtime, dinnertime, playtime, today, yesterday, tomorrow Before, after, next, last, now, soon, early, late, quick, quicker, quickest, quickly, fast, faster, fastest, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest Takes longer, takes less time, hour, o'clock, half past, clock, watch, hands, how long ago?, How long will it be to ... ?, How long will it take to ... ?, How often?, always, never, often, sometimes, usually, once, twice, first, second, third, etc., estimate, close to, about the same as, just over, just under, too many, too few, not enough, enough Length, width, height, depth, long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest, Low, wide, narrow, deep, shallow, thick, thin, far, near, close, metre, ruler, metre stick How much?, How many?, money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, dear(er), costs more, costs less, cheaper, costs the same as, total Before, after, beside, next to, opposite, apart, between, middle, edge, centre, corner, direction, journey, left, right, up, down, forwards, backwards, sideways, across, close, far, near, along, through, to, from, towards, away from, movement, slide, roll, turn, whole turn, half turn, stretch, bend			
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