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	<u>EYFS</u>	Year 1	Year 2	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
Place Value and the Number System	3-4 Year Olds: Fast recognition of up to 3 objects, without having to count them individually ('subitising'). Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). Show 'finger numbers' up to 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as Numerals. Solve real world mathematical problems with numbers up to 5 Compare quantities using language: 'more than', 'fewer than Children in Reception: Count objects, actions and sounds Subitise Link the number symbol (numeral) with its cardinal number value Count beyond ten Compare numbers Understand the 'one more than/one less than' relationship between consecutive numbers Explore the	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 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. recognise the place value of each digit in a two-digit number (tens, ones) use place value and number facts to solve problems	recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number 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 read Roman numerals to 12	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 find 1000 more or less than a given number round any number to the nearest 10, 100 or 1000 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 identify, represent and estimate numbers using different representations 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	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers identify common factors, common multiples and prime numbers 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 solve number problems and practical problems that involve all of the above know and use the vocabulary of prime numbers, prime factors and composite establish whether a number up to 100 is prime and recall prime numbers up to 19 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 round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 round any whole number to a required degree of accuracy solve number and practical problems that involve all of the

^{*}please note that in 2020/2021 the DFE guidance will supplement our 'normal' teaching https://www.gov.uk/government/publications/teaching-mathematics-in-primary-schools

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	composition of						
	numbers to 10.						
	ELG: Number						
	Children at the						
	expected level of						
	development will:						
	- Have a deep understanding of						
	number to 10,						
	including the						
	composition of						
	each number;						
	- Subitise (recognise						
	quantities without						
	counting) up to 5;						
	- Automatically recall						
	(without reference to						
	rhymes, counting or						
	other aids)						
	number bonds up to						
	5 (including						
1	subtraction facts)						
1	and some number bonds to						
1	10, including double						
	facts.						
	ELG: Numerical						
	<u>Patterns</u>						
	Children at the						
	expected level of						
	development will:						
	- Verbally count						
	beyond 20,						
	recognising the						
	pattern of the counting system;						
	- Compare quantities						
	up to 10 in different						
	contexts,						
	recognising when						
	one quantity is						
	greater than, less						
	than or the same as						
	the other quantity;						
	- Explore and						
	represent patterns						
	within numbers up						
	to 10, including						
	evens and odds,						
	double facts and						
	how quantities can be distributed						
	equally.						
 							
Addition	Children in	read, write and	recall and use addition	add and subtract	add and subtract	add and subtract	perform mental
and	Reception:	interpret	and subtraction facts to	numbers with up	numbers with up	whole numbers	calculations, including
Subtracti		mathematical	20 fluently, and derive	to three digits,	to 4 digits using	with more than 4	with mixed
on	Automatically recall	statements	and use related facts up	using formal	the formal written	digits, including	operations and large
]	number	involving addition	to 100	written methods	methods of	using formal written	numbers
	bonds for numbers 0–10	(+), subtraction (-) and equals (=)	add and subtract	of columnar addition and	columnar addition and subtraction	methods add and subtract	use their knowledge
	0-10	signs	numbers using concrete	subtraction	where	numbers mentally	of the order of
1		2,9,12	objects, pictorial	Janua action	appropriate	with increasingly	operations to carry
		represent and	representations, and	estimate the	appropriate	large numbers	out calculations
		use number	mentally, including:	answer to a	estimate and use		involving the four
		bonds and related	- a two-digit number	calculation and	inverse	use rounding to	operations
		subtraction facts	and ones.	use inverse	operations to	check answers to	
		within 20	- a two-digit number	operations to	check answers to	calculations and	solve addition and
		l	and tens.	check answers	a calculation	determine, in the	subtraction
		add and subtract	- two two-digit		and the state of t	context of a	multi-step problems
		one-digit and two-digit	numbers -adding three one-digit	solve problems, including missing	solve addition and subtraction	problem	in contexts, deciding which operations and
		numbers to 20,	numbers	number problems,	two-step	solve addition and	methods to use and
		including zero.		using number	problems in	subtraction	why
			show that addition of	facts, place value,	contexts, deciding	multi-step problems	,
	Ī		two numbers can be		which operations	in contexts,	
		solve one-step	two numbers can be	and more complex	willciroperations	iii contexts,	use estimation to

	problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = 9.	done in any order (commutative) and subtraction of one number from another cannot. 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 recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	addition and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number digit number and tens a three-digit number and hundreds	and methods to use and why	deciding which operations and methods to use and why	check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
Multiplica tion and Division	count in multiples of twos, fives and tens 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	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. count in steps of 2, 5 and 10s from any number, forward and backward. recall and use 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 (x), division (÷) and equals (=) signs. show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	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 recall and use 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, using mental and progressing to formal written methods	recall multiplication and division facts for multiplication tables up to 12 × 12 recognise and use factor pairs and commutativity in mental calculations 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 use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers multiply two-digit and three-digit numbers by a one-digit number using formal written layout	multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers multiply and divide numbers mentally drawing upon known facts solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) 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 identify multiples and factors,	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 solve problems involving addition, subtraction, multiplication and division use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy perform mental

					including finding all factor pairs of a	calculations, including with mixed
					number, and common factors of two numbers	operations and large numbers identify common
					know and use the vocabulary of prime numbers, prime factors and composite	factors, common multiples and prime numbers use their knowledge
					establish whether a number up to 100 is prime and recall prime numbers up to 19	of the order of operations to carry out calculations involving the four operations
					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	
Fractions (including decimals and percenta ges)	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 , 1/4, 2/4 and 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 1/2.	recognise and show, using diagrams, equivalent fractions with small denominators recognise, find and write fractions of a discrete set of objects: unit fractions and non unit fractions and non unit fractions as numbers: unit fractions as numbers: unit fractions and non-unit fractions with small denominators add and subtract fractions with small denominators add and subtract fractions with the same denominator within one whole [for example, 5/7+1/7 = 6/7] 3F–3 reason about the location of any fraction within 1 in the linear number system. count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in	recognise and show, 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	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths compare and order fractions whose denominators are all 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 2/5 + 4/5 = 6/5 = 1 1/5] 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 read and write decimal numbers as fractions [for example, 0.71 = 100 71]	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, ½4 × ½2 = 1/8] 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] identify the value of each digit in numbers given to three decimal places and multiply and divide numbers

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				dividing one-digit numbers or quantities by 10 compare and order unit fractions, and fractions with the same denominators solve problems that involve all of the above.	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 up to two decimal places solve simple measure and money problems involving fractions and decimals to two decimal places	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 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 ½, ¼, ¼, ¾, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	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 recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
Measure ment	3-4 Year Olds: Make comparisons between objects relating to size, length, weight and capacity. Children in Reception: Compare length, weight and capacity	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	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 = 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	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 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	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 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	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 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	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 recognise that shapes with the same areas can have different perimeters and vice versa

		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 tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	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 and the number of hours in a day	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].	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.	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 operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	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]
Geometry - Propertie s of Shape	3-4 Year Olds: Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. Combine shapes to make new ones - an arch, a bigger triangle etc. Children in Reception: Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children	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 distinguish between regular and irregular polygons based on reasoning about equal sides and angles. know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (o) identify: angles at a point and one whole turn (total 3600) angles at a point on a straight line and 2 1 a turn (total 1800) other multiples of 900 use the properties of rectangles to deduce related facts and find missing lengths 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

	recognise a shape can have other shapes within it, just as numbers can						
Geometry - Position and direction	3-4 Year Olds: Understand position through words alone – for example, "The bag is under the table," – with no pointing Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'.	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	
Statistics				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	
Ratio and Proportio n							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

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				and multiples
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
Patterns and Sequence s	3-4 Year Old: Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Begin to describe a sequence			
	of events, real or fictional, using words such as 'first', 'Then			
	Children in Reception: Continue, copy and create repeating patterns			