

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting Place Value: Counting Place Value: Counting	EYFS 8 & 4 Year olds Develop fast recognition of up to 3 objects, without having to count them individually('subitising') Recite numbers past 5 Say one number for each tem 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 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. Reception Count objects, actions and sounds Subsitise Count beyond ten	Year 1 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	Year 2 Count in steps of 2,3, and 5 from 0, and in tens from any number, forward and backward	Year 3 Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Year 4 Count in multiples of 6, 7, 9, 25 and 1000 Count backwards through zero to include negative numbers	Year 5 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	Year 6



Place Value: Represent	3 & 4 Year olds Experiment with their own symbols and marks as well as numerals Reception Link the number symbol (numeral) with its cardinal number value. Explore the composition of numbers to 10.	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	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	Identify, represent and estimate numbers using different representations Read and write numbers to 1000 in numerals and in words	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	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	Read, write (order and compare) numbers up to 10 000 000 and determine the value of each digit
Place Value: using place value to compare	3 & 4 Year olds Compare quantities using language: 'more than', 'fewer than' Solve real world mathematical problems with numbers up to 5. Reception Compare numbers using language: 'more than', 'less than', 'fewer', 'same as' Understand the 'one more than/one less than' relationship between consecutive numbers.	Given a number, identify one more and one less	Recognise the value of each digit in a two-digit number (tens, ones) Compare and order numbers from 0 up to 100; use <,> and = signs	Recognise the place value of each digit in a three-digit number (hundreds, tens, one's) Compare and order numbers up to 1000	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	(Read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit	(Read, write) order and compare numbers to at least 10 000 000 and determine the value of each digit



Value: Problems and Rounding	a	Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas	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 and positive numbers	Interpret negative numbers in context 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 Use negative numbers in context, and calculate intervals across zero
Place Va					Solve number problems and practical problems that involve all of the above	Solve number and practical problems that involve all of the above



		•					
ition and Subtraction: Recall, Represent, Use	Reception Automatically recall number bonds for numbers 0-10	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 one number to another cannot Recognise and use the inverse relationship between addition and subtraction and use this to check	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	
Addition 8							



	A -1 -1	A -1 -111-44	A - - - 4 4	A -1 -1114	A - - 4	Df
Addition and Subtraction: Calculations	Add and subtract one-digit and two-digit numbers to 20, including zero	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: A two-digit number and ones A two-digit number and ones Two two-digit numbers Adding three one-digit numbers	Add and subtract numbers mentally, including: A three-digit number and ones A three-digit number and tens A three-digit number and hundreds Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Add and subtract whole numbers with more than 4 digits, including formal written methods (columnar addition and subtraction) Add and subtract numbers mentally with increasingly large numbers	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
Addition and Subtraction: Solve Problems	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems	Solve problems with addition and subtraction: Using concrete objects and pictorial representation, including numbers, quantities and measures Applying their increasing knowledge of mental and written methods	Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	Solve addition and subtraction two- step problems in contexts, deciding which operations and methods to use and why	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why



Multiplication and 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	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Recall multiplication and division facts for multiplication tables up to 12 X 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	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.	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
Multipl				numbers and	





						and large numbers
Multiplication and 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	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, involving problems in contexts	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	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	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	Solve problems involving addition, subtraction, multiplication and division
Multiplication and Division:					Solve problems including addition, subtraction, multiplication and division and a combination of these, including the meaning of the equals sign	Use their knowledge of the order of operations to carry out calculations involving the four operations



Fractions: Recognise and Write	Find, recognise and name a half as one of two equal parts of an object, quantity or shape Find, recognise and name a quarter as one of four equal parts of an object, quantity or shape	Recognise, find and name fractions ½, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity	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 nonunit fractions with small denominators Recognise and use fractions as numbers: unit fractions and nonunit fractions with small denominators	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by 10	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	
Fractions: Compare		Recognise the equivalence of 2/4 and ½	Recognise and show, using diagrams, equivalent fractions with small denominators Compare and order unit fractions, and fractions with the same denominators	Recognise and show, using diagrams, families of common equivalent fractions	Compare and order fractions whose denominators are all multiples of the same number	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions including fractions > 1



Fractions: Calculations		Write simple fractions for example ½ of 6 = 3	Add and subtract fractions with the same denominator within one whole	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 Divide proper fractions by whole numbers
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		
Decimals: Recognise and				Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to 1/4, 1/2, 3/4	Read and write decimal numbers as fractions – 0.71 = 71/100 Recognise and use thousandths and relate them to tenths, hundredths and decimal fractions	Identify the value of each digit in numbers given to three decimal places



ompare			Round decimals with one decimal place to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal	
Decimals: Compare			Compare numbers with the same number of decimal places up to two decimal places	Read, write, order and compare numbers with up to three decimal places	
Decimals: Calculations & Problems			Find the effect of dividing a one-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	Solve problems involving a number up to three decimal places	Multiply and divide numbers by 10, 100 and 1000 givihng 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



Fractions, Decimals and Percentages			Solve simple measure and money problems involving fractions and decimals to two decimal places	Recognise the percent symbol and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with a 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	Associate a fraction with division and calculate decimal fraction equivalents Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
				multiple of 10 or 25	



				Solve problems including the relative sizes of
				two quantities where missing values can be
				found by using integer multiplication and division facts
Ratio and Proportion				Solve problems involving the calculation of percentages and the use of percentages for comparison
Ratio a				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





	3 & 4 Year olds	Compare, describe and	Choose and use	Measure, compare	Convert between	Convert between	Solve problems
	Make comparisons	solve practical problems	appropriate	add and subtract	different units of	different units of	involving the
	between objects relating	for:	standard units to	lengths	measure -	metric measure	calculation and
	to size, length, weight	Lengths and	estimate and	(m/cm/mm); mass	kilometre to metre		conversion of
	and capacity.	heights	measure	(kg/g); volume	and hour to minute	Understand and	units of measure,
		Mass/weight	length/height in any	capacity (I/mI)		use approximate	using decimal
	Reception	Capacity and	direction (m/cm);		Estimate, compare	equivalences	notation up to
S	Compare length, weight	volume	mass (kg/g);		and calculate	between metric	three decimal
¥	and capacity.	Time	temperature;		different measures	units and	places where
Measures			capacity (litres/ml)			common imperial	appropriate
ea		Measure and begin to	to the nearest			units such as	
		record the following:	appropriate unit,			inches, pounds	Use, read, write
sing		Lengths and	using rulers,			and pints	and convert
- <u>-</u>		heights	scales,				between
ĵ		❖ Mass/weight	thermometers and			Use all four	standard units,
		 Capacity and 	measuring vessels			operations to	converting
Measurement:		volume				solve problems	measurements of
l ä		❖ Time (hours,	Compare and order			involving .	length, mass,
ē		minutes, seconds)	lengths, mass,			measure using	volume and time
5			volume/capacity			decimal notion	from a smaller
as			and record the			including scaling	unit of measure
Je			results using >,<				to a larger unit
_			and =				and vice versa,
							using decimal
							notion up to three
							decimal places
							Convert between
							miles and
							kilometres



	Recognise and know the	Recognise and use	Add and subtract	Estimate, compare	Use all four	
	value of different	symbols for pounds	amounts of money	and calculate	operations to	
	denominations of coins and	and pence;	to give change,	different measures,	solve problems	
	notes	combine amounts	using both £ and p	including money in	involving	
		to make a particular	in practical	pounds and pence	measure	
Money		value	contexts			
ת ב						
₽		Find different				
		combinations of				
l t		coins that equal the				
l e		same amounts of				
Measurement:		money				
5						
as		Solve simple				
<u>ĕ</u>		problems in a				
2		practical context				
		involving addition				
		and subtraction of				
		money of the same				
		unit; including				
		giving change				





Measure the perimeter of 2-D shapes Measure and calculate the perimeter of 2-D shapes Measure and calculate the perimeter of 2-Incentification and metres Find the area of rectilinear shapes by counting squares) and metres Find the area of rectangles (including squares) and including using standard units, square centimetres and square metres and compare the area of or area and volume of shapes with the same area scan have different perimeters and compare the area of rectangles (including using standard units, square centimetres and square metres and square metres and square metres and square metres and estimate the area of compare the area of parallelograms and triangles Calculate and compare the area of rectangles (including using standard units, square centimetres and square metres and estimate the area of or parallelograms and triangles. Calculate the area of rectangles (including using standard units, square centimetres and estimate the area of or parallelograms and triangles. Calculate the area of rectangles (including using standard units, square centimetres and estimate the area of or parallelograms and triangles.
estimate the area of irregular shapes Estimate volume of cubes and cuboids using standard units including cubic centimetres and cubic metres and extending to other units (kn



Geometry: 2-D Shapes	3 & 4 Year olds Talk about and explore 2D shapes (for example, circles, rectangles and triangles) 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. Reception Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.	Recognise and name common 2-D shapes (for example, rectangles (including squares), circles and triangles)	Identify and describe 2-D shapes, including the number of sides and line of symmetry in a vertical line Identify 2-D shapes on the surface of 3-D shapes Compare and sort common 2-D shapes and everyday objects	Draw 2-D shapes	Comapre3 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	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles Use the properties of rectangles to deduce relates facts and find missing lengths and angles	Draw 2-D shapes using 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



-		3 & 4 Year olds Talk about and explore 3D	Recognise and name common 3-D shapes (for	Recognise and name common 3-D shapes (for	Make 3-D shapes using modelling materials; recognise	Identify 3-D shapes, including cubes and other cuboids, from 2-	Recognise, describe and build simple 3-D shapes
	Geometry: 3-D Shapes	shapes (for example, cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round' Reception Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.	example, cuboids, (including cubes), pyramids and spheres)	example, cuboids, (including cubes), pyramids and spheres) Compare and sort common 2-D shapes and everyday objects	3-D shapes in different orientations and describe them	D representations	including making nets



Geometry: Angles and 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	measure estimate compare obtuse a angles	e acute, and reflex ven angles asure them in	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
----------------------------	--	--	--	--	--	--	---	--



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 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 been changes	Describe positions on the full coordinate grid Draw and translate simple shapes on the coordinate plane, and reflect them in the axes
Statistics: Present and Interpret			Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	Interpret and present data using bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Complete, read and interpret information in tables, including timetables	Interpret and construct pie charts and line graphs and use them to solve problems
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	Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Solve comparison, sum and difference problems using information presented in a line graph	Calculate and interpret the mean as an average

