## Year 6 programme of study (statutory requirements)

Number and	Addition, subtraction,	Fractions (including decimals and	Ratio and	Algebra	Measurement	Geometry:	Geometry:	Statistics
place value	multiplication and	percentages)	proportion			properties of	position,	
	division			Pupils should	Pupils should be taught	shapes	and	Pupils
Pupils should be		Pupils should be taught to:	Pupils should	be taught to:	to:		direction	should be
taught to:	Pupils should be taught to:		be taught to:			Pupils should		taught to:
	<ul> <li>multiply multi-digit</li> </ul>	<ul> <li>use common factors to simplify</li> </ul>		<ul> <li>use simple</li> </ul>	<ul> <li>solve problems</li> </ul>	be taught to:	Pupils	
<ul> <li>read, write,</li> </ul>	numbers up to 4 digits by a	fractions; use common multiples to	<ul> <li>solve</li> </ul>	formulae	involving the calculation		should be	•
order and	two-digit whole number	express fractions in the same	problems		and conversion of units	<ul> <li>draw 2-D</li> </ul>	taught to:	interpret
compare	using the formal written	denomination	involving the	<ul> <li>generate</li> </ul>	of measure, using	shapes using		and
numbers up to	method of long	<ul> <li>compare and order fractions,</li> </ul>	relative sizes	and describe	decimal notation up to	given	<ul> <li>describe</li> </ul>	construct
10 000 000 and	multiplication	including fractions >1	of two	linear number	three decimal places	dimensions	positions on	pie charts
determine the	<ul> <li>divide numbers up to 4</li> </ul>	<ul> <li>add and subtract fractions with</li> </ul>	quantities	sequences	where appropriate	and angles	the full	and line
value of each	digits by a two-digit whole	different denominators and mixed	where missing		<ul> <li>use, read, write and</li> </ul>	<ul> <li>recognise,</li> </ul>	coordinate	graphs
digit	number using the formal	numbers, using the concept of	values can be	<ul> <li>express</li> </ul>	convert between	describe and	grid (all four	and use
<ul> <li>round any</li> </ul>	written method of long	equivalent fractions	found by using	missing	standard units,	build simple 3-	quadrants)	these to
whole number to	division, and interpret	<ul> <li>multiply simple pairs of proper</li> </ul>	integer	number	converting	D shapes,		solve
a required	remainders as whole	fractions, writing the answer in its	multiplication	problems	measurements of	including	<ul> <li>draw</li> </ul>	problems
degree of	number remainders,	simplest form [ for example, $\frac{1}{4} \times \frac{1}{2} =$	and division	algebraically	length, mass, volume	making nets	and translate	
accuracy	fractions, or by rounding, as	- 4 2	facts	<i>.</i>	and time from a smaller	<ul> <li>compare</li> </ul>	simple	•
<ul> <li>use negative</li> </ul>	<ul> <li>appropriate for the context</li> <li>divide numbers up to 4</li> </ul>	/ <sub>8</sub> ]	<ul> <li>solve</li> </ul>	<ul> <li>find pairs of</li> </ul>	unit of measure to a	and classify	shapes on	calculate
numbers in	digits by a two-digit number	<ul> <li>divide proper fractions by whole</li> </ul>	problems	numbers that	larger unit, and vice	geometric	the	and
context, and	using the formal written		involving the	satisfy an	versa, using decimal	shapes based	coordinate	interpret
calculate	method of short division	numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$ ]	calculation of	equation with	notation to up to three	on their	plane, and	the mean
intervals across	where appropriate,	associate a fraction with division and	percentages	two unknowns	decimal places	properties and	reflect them	as an
zero	interpreting remainders	calculate decimal fraction equivalents	[for example,		<ul> <li>convert between</li> </ul>	sizes and find	in the axes.	average.
<ul> <li>solve</li> </ul>	according to the context	[for example, 0.375] for a simple	of measures	- onumoroto	miles and kilometres	unknown		
number and	perform mental	fraction [for example, <sup>3</sup> / ]	such as 15%	<ul> <li>enumerate</li> </ul>	<ul> <li>recognise that</li> </ul>	angles in any		
practical	calculations, including with		of 360] and the	possibilities of	shapes with the same	triangles,		
problems that	mixed operations and large	<ul> <li>identify the value of each digit to</li> </ul>	use of	combinations	areas can have different	quadrilaterals,		
involve all of the	numbers.	three decimal places and multiply and	percentages	of two variables	perimeters and vice	and regular		
above.	<ul> <li>identify common factors,</li> </ul>	divide numbers by 10, 100 and 1000	for comparison	Valiables	versa recognise when it is	polygons ■ illustrate		
	common multiples and	giving answers up to three decimal	<ul> <li>solve</li> </ul>		<ul> <li>recognise when it is possible to use</li> </ul>	and name		
	<ul><li>prime numbers</li><li>use their knowledge of</li></ul>	places	problems		formulae for area and	parts of circles,		
	the order of operations to	<ul> <li>multiply one-digit numbers with</li> </ul>	involving		volume of shapes	including		
	carry out calculations	up to two decimal places by whole	similar shapes		<ul> <li>calculate the area of</li> </ul>	radius,		
	involving the four	numbers	where the		parallelograms and	diameter and		
	operations	<ul> <li>use written division methods in</li> </ul>	scale factor is		triangles	circumference		
	solve addition and	cases where the answer has up to	known or can		<ul> <li>calculate, estimate</li> </ul>	and know that		
	subtraction multi-step	two decimal places	be found		and compare volume of	the diameter is		
	problems in contexts,	<ul> <li>solve problems which require</li> </ul>	<ul> <li>solve</li> </ul>		cubes and cuboids	twice the		
	deciding which operations	answers to be rounded to specified	problems		using standard units,	radius		
	and methods to use and	degrees of accuracy	involving		including centimetre	<ul> <li>recognise</li> </ul>		
	why	<ul> <li>recall and use equivalences between simple fractions, decimals</li> </ul>	unequal		cubed (cm <sup><math>3</math></sup> ) and cubic	angles where		
	<ul> <li>solve problems involving addition, subtraction,</li> </ul>		sharing and		2	they meet at a		
	multiplication and division	and percentages, including in different contexts.	grouping using		metres (m), and	point, are on a		
	<ul> <li>use estimation to check</li> </ul>		knowledge of		extending to other units	straight line, or		
	answers to calculations and		fractions and		[for example mm <sup>3</sup> and	are vertically		
	determine, in the context of		multiples.			opposite, and		
	a problem, an appropriate				km <sup>3</sup> ].	find missing		
	degree of accuracy.					angles.		

## Y6 Notes and Guidance (non-statutory)

	a Guidance (non-stat	<b>3</b> 7	<b>B</b> // ·	A1 1		<b>•</b> •		
Number and place value	Addition, subtraction, multiplication and division	Fractions (including decimals and percentages)	Ratio and proportion	Algebra	Measurement	Geometry: properties of	Geometry: position and	Statistics
		Pupils should practise, use and understand		Pupils should be	Pupils connect conversion	shapes	direction	Pupils
Pupils use the	Pupils practise addition,	the addition and subtraction of fractions with	Pupils recognise	introduced to the	(for example, from	Dura'lla disaut	Duralla dara	connect
whole number	subtraction, multiplication and	different denominators by identifying	proportionality in	use of symbols	kilometres to miles) to a	Pupils draw	Pupils draw	their work
system, including	division for larger numbers,	equivalent fractions with the same	contexts when	and letters to	graphical representation as	shapes and nets	and label a	on angles,
saying, reading and writing	using the formal written methods of columnar addition	denominator. They should start with	the relations between	represent variables and	preparation for understanding	accurately, using measuring tools	pair of axes in all four	fractions and
numbers	and subtraction, short and	fractions where the denominator of one	quantities are in	unknowns in	linear/proportional graphs.	and conventional	quadrants with	percentage
accurately.	long multiplication, and short	fraction is a multiple of the other (for example $1/1 + 1/8 = 5/8$ ) and programs to	the same ratio	mathematical	incal/proportional graphs.	markings and	equal scaling.	s to the
acculatory	and long division (see	example, $\frac{1}{2}$ + 1/8 = 5/8) and progress to varied and increasingly complex problems.	(for example,	situations that	They know approximate	labels for lines	This extends	interpretati
	Mathematics Appendix 1).	Pupils should use a variety of images to	similar shapes,	they already	conversions and are able	and angles.	their	on of pie
		support their understanding of multiplication	recipes).	understand,	to tell if an answer is	-	knowledge of	charts.
	They undertake mental	with fractions. This follows earlier work		such as:	sensible.	Pupils describe	one quadrant	
	calculations with increasingly	about fractions as operators (fractions of),	Pupils link	<ul> <li>missing</li> </ul>		the properties of	to all four	Pupils both
	large numbers and more	as numbers, and as equal parts of objects,	percentages or	numbers,	Using the number line,	shapes and	quadrants,	encounter
	complex calculations.	for example as parts of a rectangle.	360° to	lengths,	pupils use, add and	explain how	including the	and draw
	Pupils continue to use all the	Pupils use their understanding of the	calculating angles of pie	coordinates and	subtract positive and negative integers for	unknown angles and lengths can	use of negative	graphs relating two
	multiplication tables to	relationship between unit fractions and	charts.	angles	measures such as	be derived from	numbers.	variables,
	calculate mathematical	division to work backwards by multiplying a	charts.	<ul> <li>formulae in</li> </ul>	temperature.	known	numbers.	arising
	statements in order to	quantity that represents a unit fraction to	Pupils should	mathematics		measurements.	Pupils draw	from their
	maintain their fluency.	find the whole quantity (for example, if 1/4 of	consolidate their	and science	They relate the area of		and label	own
		a length is 36cm, then the whole length is	understanding of		rectangles to	These	rectangles	enquiry
	Pupils round answers to a	36 × 4 = 144cm).	ratio when	<ul> <li>equivalent</li> </ul>	parallelograms and	relationships	(including	and in
	specified degree of accuracy,	They practise calculations with simple	comparing	expressions (for example, a	triangles, for example, by	might be	squares),	other
	for example, to the nearest	fractions and decimal fraction equivalents to	quantities, sizes	+ b = b + a	dissection, and calculate	expressed	parallelogram	subjects.
	10, 20, 50 etc, but not to a	aid fluency, including listing equivalent	and scale	,	their areas, understanding	algebraically for	s and	<b>T</b> 1
	specified number of	fractions to identify fractions with common denominators.	drawings by solving a variety	<ul> <li>generalisatio</li> </ul>	and using the formulae (in	example, $d = 2 \times$	rhombuses,	They should
	significant figures.		of problems.	ns of number	words or symbols) to do this.	r; a = 180 - (b + c).	specified by coordinates in	connect
	Pupils explore the order of	Pupils can explore and make conjectures about converting a simple fraction to a	They might use	patterns	1113.	0).	the four	conversion
	operations using brackets; for	decimal fraction (for example, $3 \div 8 =$	the notation a:b	<ul> <li>number</li> </ul>	Pupils could be introduced		quadrants,	from
	example, 2 + 1 x 3 = 5 and (2	0.375). For simple fractions with recurring	to record their	puzzles (for	to compound units for		predicting	kilometres
	+ 1) x 3 = 9.	decimal equivalents, pupils learn about	work.	example, what	speed, such as miles per		missing	to miles in
		rounding the decimal to three decimal		two numbers	hour, and apply their		coordinates	measurem
	Common factors can be	places, or other appropriate approximations	Pupils solve	can add up to).	knowledge in science or		using the	ent to its
	related to finding equivalent	depending on the context.	problems		other subjects as		properties of	graphical
	fractions.	Pupils multiply and divide numbers with up	involving		appropriate.		shapes.	representat
		to two decimal places by one-digit and two-	unequal guantities for				These might be expressed	ion.
		digit whole numbers. Pupils multiply	example, 'for				algebraically	Pupils
		decimals by whole numbers, starting with	every egg you				for example,	know when
		the simplest cases, such as $0.4 \times 2 = 0.8$ ,	need three				translating	it is
		and in practical contexts, such as measures	spoonfuls of				vertex (a, b) to	appropriate
		and money.	flour', ' <sup>3</sup> / of the				(a-2, b+3); (a,	to find the
		Pupils are introduced to the division of	5				b) and (a+d,	mean of a
		decimal numbers by one-digit whole number, initially, in practical contexts	class are boys'.				b+d) being	data set
		involving measures and money. They	These problems are the				opposite	
		recognise division calculations as the	foundation for				vertices of a square of side	
		inverse of multiplication.	later formal				d.	
		Pupils also develop their skills of rounding	approaches to				ч.	
		and estimating as a means of predicting	ratio and					
		and checking the order of magnitude of their	proportion.					
		answers to decimal calculations. This	-					
		includes rounding answers to a specified						
		degree of accuracy and checking the						
		reasonableness of their answers.						