

2014 Maths Curriculum Guide — Year 5

Statutory Requirements from the Programme of Study. "Pupils should be taught to:"		CGP Translation		Study Book Page No.	Question Book Page No.
Number – number and place value	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	Section One – Number and Place Value	"I can read, write and partition numbers up to a million."	3	7
	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000		"I can compare numbers up to a million and put them in order of size."	4	8
	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero		"I can count forwards or backwards in thousands, tens of thousands, hundreds of thousands, or millions."	5	9
	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000		"I can count backwards and forwards through zero, and solve problems with negative numbers in."	2	6
	Solve number problems and practical problems that involve all of the above		"I can round to the nearest 10, 100, 1000, 10 000 or 100 000."	6	10
	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals		Covered within relevant book pages.	2-6	6-10
			"I can read Roman numerals up to M, and recognise years written in Roman numerals."	7	11
Number – addition and subtraction	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Section Two – Calculations	"I can use standard written methods to add numbers."	10	12-13
	Add and subtract numbers mentally with increasingly large numbers		"I can use standard written methods to subtract numbers."	11	
	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy		"I can add and subtract numbers mentally."	12	14
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why		"I can round numbers to check my answers, and I can check that my answers are sensible."	13	15
			"I can solve problems involving addition, subtraction, multiplication and division."	23	26
Number – multiplication and division	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers		"I can identify multiples of numbers."	15	18
	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers		"I can find all the factor pairs of a number and the common factors of two numbers."	16	19-20
	Establish whether a number up to 100 is prime and recall prime numbers up to 19		"I can spot prime numbers up to 100 and find the prime factors of numbers."	17	
	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		"I can multiply a four-digit number by a two-digit number."	21	24
	Multiply and divide numbers mentally drawing upon known facts		"I can solve problems by multiplying in my head."	19	23
			"I can divide numbers in my head."	20	

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Number – multiplication and division (cont.)	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	Section Two – Calculations (cont.)	"I can divide a four-digit number by a one-digit number and deal with remainders."	22	25
	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000		"I can multiply and divide a whole number or decimal by 10, 100 or 1000."	18	21-22
	Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)		"I can recognise and use square and cube numbers."	14	16-17
	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes		Covered within relevant book pages.	14-16	17-20
	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign		"I can solve problems involving addition, subtraction, multiplication and division."	23	26
	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates				
Number - fractions (including decimals and percentages)	Compare and order fractions whose denominators are all multiples of the same number	Section Three – Fractions, Decimals and Percentages	"I can compare fractions and order them by their size."	28	29
	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths		"I can recognise and write fractions that are equivalent to each other."	27	28
	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]		"I can swap between mixed numbers and improper fractions. I can add and subtract fractions with the same denominator."	29	30-31
	Add and subtract fractions with the same denominator and denominators that are multiples of the same number		"I can add and subtract fractions by finding a common denominator."	30	
	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams		"I can multiply proper fractions and mixed numbers by whole numbers."	31	32-33
	Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$]		"I can read and write decimals as fractions."	32	34-35
	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents		"I can write thousandths as fractions or decimals."	26	27
	Round decimals with two decimal places to the nearest whole number and to one decimal place		"I can round decimals with two decimal places to the nearest whole number or to one decimal place."	33	36-37
	Read, write, order and compare numbers with up to three decimal places		"I can read, write, compare and solve problems with numbers with up to 3 decimal places."	34	38-39
	Solve problems involving number up to three decimal places				

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Number - fractions (including decimals and percentages) (cont.)	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	Section Three – Fractions, Decimals and Percentages (cont.)	"I know what % means and I can write percentages as fractions or decimals."	35	40-41
	Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25		"I can convert fractions into percentages and decimals."	36	42-43
			"I can solve problems that involve fractions, decimals and percentages."	37	
Measurement	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Section Four – Measurement	"I can convert between different units."	40	44-45
	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints		"I can convert roughly between imperial and metric units."	41	46-47
	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres		"I can measure and calculate the perimeters of shapes."	42-43	48-49
	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes		"I can estimate the area of irregular shapes."	44	50-51
			"I can calculate the area of squares and rectangles and use units like cm ² and m ² ."	45	
	Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water]		"I can estimate volume and capacity."	46-47	52-53
	Solve problems involving converting between units of time		"I can solve problems that involve converting between units."	48	54-55
	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling		"I can solve problems involving money and measurements."	49	
Geometry – properties of shapes	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Section Five – Geometry	"I can recognise 3D shapes from their plans and elevations."	52	56-57
			"I can recognise a 3D shape from its net."	53	
	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles		"I know that angles are measured in degrees. I can estimate angles, and use a protractor to measure them."	54-55	58-59
			"I can use a protractor to draw angles and can identify acute, obtuse, reflex and right angles."		

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Geometry – properties of shapes (cont.)	Identify: <ul style="list-style-type: none"> • angles at a point and one whole turn (total 360°) • angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) • other multiples of 90° 	Section Five – Geometry (cont.)	"I know that angles at a point add up to 360° and that angles on a straight line add up to 180°."	56	60
			"I know that angles at a quarter turn add up to 90° and that angles at a three-quarter turn add up to 270°."	57	61
	Use the properties of rectangles to deduce related facts and find missing lengths and angles		"I can use my knowledge of rectangles to work out the length of missing sides and the size of missing angles."	58	62-63
	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles		"I can tell whether a polygon is regular or irregular based on its sides and its angles."	59	64-65
Geometry – position and direction	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		"I can draw where a shape will be after it has been reflected in a mirror line."	60	66-67
			"I can identify and draw where a shape will be after it has been translated. I can describe translations."	61	68-69
Statistics	Solve comparison, sum and difference problems using information presented in a line graph	Section Six – Statistics	"I can solve problems using data from a line graph."	64	70-71
	Complete, read and interpret information in tables, including timetables		"I can complete, read and interpret information in tables and timetables."	65	72-73