National curriculum to *Power Maths White Rose Maths Edition* matching chart KS2

Year 3

National curriculum programmes of study Year 3		*Power Maths*		
Domain	**Pupils should be taught to:**	**Year 3**	**Year 4**	**Year 5**
Number – number and place value	• Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.	• Textbook 3A – Unit 1, Place value within 1,000, Lessons 3, 10 and 13	• Textbook 4A – Unit 1, Place value – 4-digit numbers (1), Lesson 7	
	• Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).	• Textbook 3A – Unit 1, Place value within 1,000, Lessons 3–8, 10 and 12		
	• Compare and order numbers up to 1,000.	• Textbook 3A – Unit 1, Place value within 1,000, Lessons 2, 11 and 12		
	• Identify, represent and estimate numbers using different representations.	• Textbook 3A – Unit 1, Place value within 1,000, Lessons 1, 2, 4, 5, 7–9 and 11		
	• Read and write numbers up to 1,000 in numerals and in words.	• Textbook 3A – Unit 1, Place value within 1,000, Lesson 3		
	• Solve number problems and practical problems involving these ideas.	• Textbook 3A – Unit 1, Place value within 1,000, Lessons 11 and 12		
Number – addition and subtraction	• Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds.	• Textbook 3A – Unit 2, Addition and subtraction (1), Lessons 1–9 • Textbook 3A – Unit 3, Addition and subtraction (2), Lessons 1–8		

National curriculum programmes of study Year 3		*Power Maths*		
Domain	**Pupils should be taught to:**	**Year 3**	**Year 4**	**Year 5**
	• Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	• Textbook 3A – Unit 2, Addition and subtraction (1), Lessons 5–9 • Textbook 3A – Unit 3, Addition and subtraction (2), Lessons 1–9		
	• Estimate the answer to a calculation and use inverse operations to check answers.	• Textbook 3A – Unit 3, Addition and subtraction (2), Lessons 10 and 11		
	• Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	• Textbook 3A – Unit 2, Addition and subtraction (1), Lessons 2 and 10 • Textbook 3A – Unit 3, Addition and subtraction (2), Lessons 12 and 13		
Number – multiplication and division	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	• Textbook 3A – Unit 4, Multiplication and division (1), Lessons 1–5 • Textbook 3A – Unit 5, Multiplication and division (2), Lessons 1–9		
	• 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.	• Textbook 3A – Unit 4, Multiplication and division (1), Lessons 1–5 • Textbook 3A – Unit 5, Multiplication and division (2), Lessons 1–13 • Textbook 3B – Unit 6, Multiplication and division (3), Lessons 1, 2, 4–6, 8–10, 12 and 13		

National curriculum programmes of study Year 3		*Power Maths*		
Domain	**Pupils should be taught to:**	**Year 3**	**Year 4**	**Year 5**
	• 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.	• Textbook 3A – Unit 5, Multiplication and division (2), Lessons 10–13 • Textbook 3B – Unit 6, Multiplication and division (3), Lessons 3, 7 and 11–13		
Number – fractions	• 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.	• Textbook 3B – Unit 8, Fractions (1), Lesson 4	• Textbook 4B – Unit 10, Decimals (1), Lesson 1	
	• Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.	• Textbook 3C – Unit 11, Fractions (2), Lessons 5–7		
	• Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.	• Textbook 3B – Unit 8, Fractions (1), Lessons 1–4	• Textbook 4B – Fractions (1), Lessons 1, 2 and 9	
	• Recognise and show, using diagrams, equivalent fractions with small denominators.	• Textbook 3B – Unit 8, Fractions (1), Lessons 8–10	• Textbook 4B – Fractions (1), Lessons 5, 6 and 8	
	• Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$].	• Textbook 3C – Unit 11, Fractions (2), Lessons 1–3	• Textbook 4B – Fractions (1), Lessons 3, 4 and 7	
	• Compare and order unit fractions, and fractions with the same denominators.	• Textbook 3B – Unit 8, Fractions (1), Lessons 5–7		

National curriculum programmes of study Year 3		*Power Maths*		
Domain	**Pupils should be taught to:**	**Year 3**	**Year 4**	**Year 5**
	• Solve problems that involve all of the above.	• Textbook 3C – Unit 11, Fractions (2), Lessons 4 and 8		
Measurement	• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	• Textbook 3B – Unit 7, Length and perimeter, Lessons 1–8 • Textbook 3B – Unit 9, Mass, Lessons 1–7 • Textbook 3B – Unit 10, Capacity, Lessons 1–6		
	• Measure the perimeter of simple 2-D shapes.	• Textbook 3B – Unit 7, Length and perimeter, Lessons 9–11		
	• Add and subtract amounts of money to give change, using both £ and p in practical contexts.	• Textbook 3C – Unit 12, Money, Lessons 1–5		
	• Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.	• Textbook 3C – Unit 13, Time, Lessons 1–5 and 7		
	• Estimate and read time with increasing accuracy to the 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.	• Textbook 3C – Unit 13, Time, Lessons 3–5 and 7–12		

National curriculum programmes of study Year 3		*Power Maths*		
Domain	**Pupils should be taught to:**	**Year 3**	**Year 4**	**Year 5**
	• Know the number of seconds in a minute and the number of days in each month, year and leap year.	• Textbook 3C – Unit 13, Time, Lesson 6		
	• Compare durations of events [for example to calculate the time taken by particular events or tasks].	• Textbook 3C – Unit 13, Time, Lessons 8–10		
Geometry – properties of shapes	• Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.	• Textbook 3C – Unit 14, Angles and properties of shapes, Lessons 4 and 7–9		
	• Recognise angles as a property of shape or a description of a turn.	• Textbook 3C – Unit 14, Angles and properties of shapes, Lessons 1–3		
	• 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.	• Textbook 3C – Unit 14, Angles and properties of shapes, Lessons 1–3		
	• Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	• Textbook 3C – Unit 14, Angles and properties of shapes, Lessons 4–6		• Textbook 5C – Unit 12, Geometry – properties of shapes, Lessons 9–11
Statistics	• Interpret and present data using bar charts, pictograms and tables.	• Textbook 3C – Unit 15, Statistics, Lessons 1–7		
	• 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.	• Textbook 3C – Unit 15, Statistics, Lessons 1, 3 and 5		

Year 4

National curriculum programmes of study Year 4		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 4**	**Year 5**
Number – number and place value	• Count in multiples of 6, 7, 9, 25 and 1,000.	• Textbook 4A – Unit 1, Place value – 4-digit numbers (1), Lesson 3 • Textbook 4A – Unit 2, Place value – 4-digit numbers (2), Lesson 2	
	• Find 1,000 more or less than a given number.	• Textbook 4A – Unit 1, Place value – 4-digit numbers (1), Lesson 7	
	• Count backwards through zero to include negative numbers.		• Textbook 5C – Unit 15, Negative numbers, Lessons 1 and 2
	• Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).	• Textbook 4A – Unit 1, Place value – 4-digit numbers (1), Lessons 1, 2, 5, 6 and 8 • Textbook 4A – Unit 2, Place value – 4-digit numbers (2), Lessons 1 and 2	
	• Order and compare numbers beyond 1,000.	• Textbook 4A – Unit 2, Place value – 4-digit numbers (2), Lessons 3 and 4	
	• Identify, represent and estimate numbers using different representations.	• Textbook 4A – Unit 1, Place value – 4-digit numbers (1), Lessons 4, 6 and 8 • Textbook 4A – Unit 2, Place value – 4-digit numbers (2), Lessons 1, 3 and 4	
	• Round any number to the nearest 10, 100 or 1,000.	• Textbook 4A – Unit 2, Place value – 4-digit numbers (2), Lessons 5–8	

National curriculum programmes of study Year 4		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 4**	**Year 5**
	• Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	• Textbook 4A – Unit 3, Addition and subtraction, Lesson 1	
	• 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.		• Textbook 5A – Unit 1, Place value within 1,000,000 (1), Lesson 1
Number – addition and subtraction	• Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	• Textbook 4A – Unit 3, Addition and subtraction, Lessons 1–9	
	• Estimate and use inverse operations to check answers to a calculation.	• Textbook 4A – Unit 3, Addition and subtraction, Lessons 9–12	• Textbook 5A – Unit 3, Addition and subtraction, Lesson 8
	• Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	• Textbook 4A – Unit 3, Addition and subtraction, Lessons 13–16	
Number – multiplication and division	• Recall multiplication and division facts for multiplication tables up to 12 × 12.	• Textbook 4A – Unit 5, Multiplication and division (1), Lessons 1–9 • Textbook 4B – Unit 6, Multiplication and division (2), Lessons 2–5	
	• 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.	• Textbook 4A – Unit 5, Multiplication and division (1), Lessons 10–12 • Textbook 4B – Unit 6, Multiplication and division (2), Lessons 2, 3 and 11–14	
	• Recognise and use factor pairs and commutativity in mental calculations.	• Textbook 4B – Unit 6, Multiplication and division (2), Lesson 1, 11, 15 and 16	

National curriculum programmes of study Year 4		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 4**	**Year 5**
	• Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	• Textbook 4B – Unit 6, Multiplication and division (2), Lessons 7–9	
	• 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.	• Textbook 4B – Unit 6, Multiplication and division (2), Lessons 6, 10, 15 and 16	
Number – fractions (including decimals)	• Recognise and show, using diagrams, families of common equivalent fractions.	• Textbook 4B – Unit 8, Fractions (1), Lessons 7–9	
	• Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	• Textbook 4B – Unit 10, Decimals (1), Lessons 8–12	
	• 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.	• Textbook 4B – Unit 9, Fractions (2), Lessons 5–8	
	• Add and subtract fractions with the same denominator.	• Textbook 4B – Unit 9, Fractions (2), Lessons 1–4	
	• Recognise and write decimal equivalents of any number of tenths or hundredths.	• Textbook 4B – Unit 10, Decimals (1), Lessons 1–5 and 8–10 • Textbook 4C – Unit 11, Decimals (2), Lessons 1–3	

National curriculum programmes of study Year 4		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 4**	**Year 5**
	• Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.	• Textbook 4C – Unit 11, Decimals (2), Lesson 7	
	• 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.	• Textbook 4B – Unit 10, Decimals (1), Lessons 6, 7, 11 and 12	
	• Round decimals with one decimal place to the nearest whole number.	• Textbook 4C – Unit 11, Decimals (2), Lesson 6	
	• Compare numbers with the same number of decimal places up to two decimal places.	• Textbook 4C – Unit 11, Decimals (2), Lessons 4 and 5	
	• Solve simple measure and money problems involving fractions and decimals to two decimal places.	• Textbook 4B – Unit 9, Fractions (2), Lessons 5 and 7 • Textbook 4C – Unit 12, Money, Lesson 6	
Measurement	• Convert between different units of measure [for example, kilometre to metre; hour to minute].	• Textbook 4B – Unit 7, Length and perimeter, Lesson 1 • Textbook 4C – Unit 13, Time, Lessons 1–5	
	• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	• Textbook 4B – Unit 7, Length and perimeter, Lessons 2–6	
	• Find the area of rectilinear shapes by counting squares.	• Textbook 4A – Unit 4, Measure – area, Lessons 1–4	
	• Estimate, compare and calculate different measures, including money in pounds and pence.	• Textbook 4A – Unit 4, Measure – area, Lesson 5 • Textbook 4C – Unit 12, Money, Lessons 1–6	

National curriculum programmes of study Year 4		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 4**	**Year 5**
	• Read, write and convert time between analogue and digital 12- and 24-hour clocks.	• Textbook 4C – Unit 13, Time, Lessons 3 and 4	
	• Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	• Textbook 4C – Unit 13, Time, Lesson 5	
Geometry – properties of shapes	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	• Textbook 4C – Unit 14, Geometry – angles and 2D shapes, Lessons 3–6	
	• Identify acute and obtuse angles and compare and order angles up to two right angles by size.	• Textbook 4C – Unit 14, Geometry – angles and 2D shapes, Lessons 1 and 2	
	• Identify lines of symmetry in 2-D shapes presented in different orientations.	• Textbook 4C – Unit 14, Geometry – angles and 2D shapes, Lesson 7	
	• Complete a simple symmetric figure with respect to a specific line of symmetry.	• Textbook 4C – Unit 14, Geometry – angles and 2D shapes, Lesson 8	
Geometry – position and direction	• Describe positions on a 2-D grid as coordinates in the first quadrant.	• Textbook 4C – Unit 16, Geometry – position and direction, Lessons 1–3	• Textbook 5C – Unit 13, Geometry – position and direction, Lessons 1 and 2
	• Describe movements between positions as translations of a given unit to the left/right and up/down	• Textbook 4C – Unit 16, Geometry – position and direction, Lessons 5 and 6	
	• Plot specified points and draw sides to complete a given polygon.	• Textbook 4C – Unit 16, Geometry – position and direction, Lessons 3 and 4	• Textbook 5C – Unit 13, Geometry – position and direction, Lessons 1 and 2

National curriculum programmes of study Year 4		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 4**	**Year 5**
Statistics	• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	• Textbook 4C – Unit 15, Statistics, Lessons 1, 3, 4 and 6	
	• Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	• Textbook 4C – Unit 15, Statistics, Lesson 2 and 5	

Year 5

National curriculum programmes of study Year 5		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 5**	**Year 6**
Number – number and place value	• Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.	• Textbook 5A – Unit 1, Place value within 1,000,000 (1), Lessons 2–5 and 8 • Textbook 5A – Unit 2, Place value within 1,000,000 (2), Lessons 1–3	
	• Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.	• Textbook 5A – Unit 1, Place value within 1,000,000 (1), Lessons 6 and 7	
	• Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	• Textbook 5C – Unit 15, Negative Numbers, Lessons 1–4	
	• Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.	• Textbook 5A – Unit 2, Place value within 1,000,000 (2), Lessons 4–6	
	• Solve number problems and practical problems that involve all of the above.	Textbook 5A – Unit 1, Place value within 1,000,000 (1), Lessons 4 and 8 Textbook 5A – Unit 2, Place value within 1,000,000 (2), Lessons 3 and 4	• Textbook 6C – Unit 15, Problem solving, Lesson 1
	• Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.	• Textbook 5A – Unit 1, Place value within 1,000,000 (1), Lesson 1	
Number – addition and subtraction	• Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).	• Textbook 5A – Unit 3, Addition and subtraction, Lessons 3–6	

National curriculum programmes of study Year 5		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 5**	**Year 6**
	• Add and subtract numbers mentally with increasingly large numbers.	• Textbook 5A – Unit 3, Addition and subtraction, Lessons 1 and 2	
	• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	• Textbook 5A – Unit 3, Addition and subtraction, Lesson 7	
	• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	• Textbook 5A – Unit 3, Addition and subtraction, Lessons 9–12	
Number – multiplication and division	• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	• Textbook 5A – Unit 4, Multiplication and division (1), Lessons 1–4	
	• Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	• Textbook 5A – Unit 4, Multiplication and division (1), Lesson 5	
	• Establish whether a number up to 100 is prime and recall prime numbers up to 19.	• Textbook 5A – Unit 4, Multiplication and division (1), Lesson 5	
	• 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.	• Textbook 5B – Unit 7, Multiplication and division (2), Lessons 1–5 and 10	
	• Multiply and divide numbers mentally drawing upon known facts.	• Textbook 5B – Unit 7, Multiplication and division (2), Lessons 2 and 3	

National curriculum programmes of study Year 5		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 5**	**Year 6**
	• 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.	• Textbook 5B – Unit 7, Multiplication and division (2), Lessons 6–10	
	• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000.	• Textbook 5A – Unit 4, Multiplication and division (1), Lessons 8–10	
	• Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}).	• Textbook 5A – Unit 4, Multiplication and division (1), Lessons 6 and 7	• Textbook 6A – Unit 2, Four operations (1), Lesson 8
	• Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	• Textbook 5A – Unit 4, Multiplication and division (1), Lessons 1, 3 and 6–10	
	• Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	• Textbook 5A – Unit 3, Addition and subtraction, Lessons 11 and 12 • Textbook 5B – Unit 7, Multiplication and division (2), Lesson 10	
	• Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	• Textbook 5B – Unit 8, Fractions (3), Lesson 5	
Number – fractions (including decimals and percentages)	• Compare and order fractions whose denominators are all multiples of the same number.	• Textbook 5A – Unit 5, Fractions (1), Lessons 6–8	

National curriculum programmes of study Year 5		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 5**	**Year 6**
	• Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	• Textbook 5A – Unit 5, Fractions (1), Lessons 1–3	
	• 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$].	• Textbook 5A – Unit 5, Fractions (1), Lessons 4 and 5 • Textbook 5A – Unit 6, Fractions (2), Lessons 3–9 • Textbook 5B – Unit 8, Fractions (3), Lessons 1–4 and 7	
	• Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	• Textbook 5A – Unit 6, Fractions (2), Lessons 1–11	
	• Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	• Textbook 5B – Unit 8, Fractions (3), Lessons 1–7	• Textbook 6A – Unit 5, Fractions (2), Lesson 1
	• Read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$].	• Textbook 5B – Unit 9, Decimals and percentages, Lessons 3–5	
	• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	• Textbook 5B – Unit 9, Decimals and percentages, Lessons 6–8 • Textbook 5C – Unit 14, Decimals, Lessons 12–15	
	• Round decimals with two decimal places to the nearest whole number and to one decimal place.	• Textbook 5B – Unit 9, Decimals and percentages, Lessons 11 and 12	

National curriculum programmes of study Year 5		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 5**	**Year 6**
	• Read, write, order and compare numbers with up to three decimal places.	• Textbook 5B – Unit 9, Decimals and percentages, Lessons 1, 2, 9 and 10 • Textbook 5C – Unit 14, Decimals, Lesson 11	
	• Solve problems involving number up to three decimal places.	• Textbook 5C – Unit 14, Decimals, Lessons 1–10 and 12–15	
	• 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.	• Textbook 5B – Unit 9, Decimals and percentages, Lessons 13–15	
	• 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.	• Textbook 5B – Unit 9, Decimals and percentages, Lesson 15	
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].	• Textbook 5C – Unit 16, Measure – converting units, Lessons 1–3	
	• Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.	• Textbook 5C – Unit 16, Measure – converting units, Lessons 4–6	
	• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	• Textbook 5B – Unit 10, Measure – perimeter and area, Lessons 1–4	

National curriculum programmes of study Year 5		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 5**	**Year 6**
	● 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.	● Textbook 5B – Unit 10, Measure – perimeter and area, Lessons 5–8	
	● Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water].	● Textbook 5C – Unit 17, Measure – volume, Lessons 1–3	
	● Solve problems involving converting between units of time.	● Textbook 5C – Unit 16, Measure – converting units, Lessons 7 and 8	
	● Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	● Textbook 5C – Unit 16, Measure – converting units, Lessons 9 and 10	
Geometry – properties of shapes	● Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	● Textbook 5C – Unit 12, Geometry – properties of shapes, Lesson 12	
	● Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.	● Textbook 5C – Unit 12, Geometry – properties of shapes, Lessons 1–3	
	● Draw given angles, and measure them in degrees (°).	● Textbook 5C – Unit 12, Geometry – properties of shapes, Lessons 3 and 4	

National curriculum programmes of study Year 5		*Power Maths*	
Domain	**Pupils should be taught to:**	**Year 5**	**Year 6**
	• Identify: - 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°.	• Textbook 5C – Unit 12, Geometry – properties of shapes, Lessons 1, 5 and 6	
	• Use the properties of rectangles to deduce related facts and find missing lengths and angles.	• Textbook 5C – Unit 12, Geometry – properties of shapes, Lesson 7	
	• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	• Textbook 5C – Unit 12, Geometry – properties of shapes, Lesson 8	
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.	• Textbook 5C – Unit 13, Geometry – position and direction, Lessons 3–6	
Statistics	• Solve comparison, sum and difference problems using information presented in a line graph.	• Textbook 5B – Unit 11, Graphs and tables, Lessons 1–3	
	• Complete, read and interpret information in tables, including timetables.	• Textbook 5B – Unit 11, Graphs and tables, Lessons 4–6	

Year 6

National curriculum programmes of study Year 6		*Power Maths*
Domain	**Pupils should be taught to:**	**Year 6**
Number – number and place value	• Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.	• Textbook 6A – Unit 1, Place value within 10,000,000, Lessons 1–6
	• Round any whole number to a required degree of accuracy.	• Textbook 6A – Unit 1, Place value within 10,000,000, Lesson 7
	• Use negative numbers in context, and calculate intervals across zero.	• Textbook 6A – Unit 1, Place value within 10,000,000, Lesson 8
	• Solve number and practical problems that involve all of the above.	• Textbook 6A – Unit 1, Place value within 10,000,000, Lessons 1–6 • Textbook 6C – Unit 15, Problem solving, Lessons 1 and 2
Number – addition, subtraction, multiplication and division	• Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.	• Textbook 6A – Unit 3, Four operations (2), Lessons 1 and 2
	• 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.	• Textbook 6A – Unit 3, Four operations (2), Lessons 6 and 7
	• 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.	• Textbook 6A – Unit 3, Four operations (2), Lessons 3–7
	• Perform mental calculations, including with mixed operations and large numbers.	• Textbook 6A – Unit 3, Four operations (2), Lessons 10 and 11
	• Identify common factors, common multiples and prime numbers.	• Textbook 6A – Unit 2, Four operations (1), Lessons 4–7

National curriculum programmes of study Year 6		*Power Maths*
Domain	**Pupils should be taught to:**	**Year 6**
	• Use their knowledge of the order of operations to carry out calculations involving the four operations.	• Textbook 6A – Unit 2, Four operations (1), Lesson 6 • Textbook 6A – Unit 3, Four operations (2), Lessons 8, 9 and 12 • Textbook 6C – Unit 15, Problem solving, Lesson 4
	• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	• Textbook 6A – Unit 2, Four operations (1), Lessons 1–3 • Textbook 6C – Unit 12, Statistics, Lesson 3 • Textbook 6C – Unit 15, Problem solving, Lesson 3
	• Solve problems involving addition, subtraction, multiplication and division.	• Textbook 6A – Unit 3, Four operations (2), Lesson 12 • Textbook 6C – Unit 15, Problem solving, Lessons 4 and 5
	• Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	• Textbook 6C – Unit 12, Statistics, Lesson 3 • Textbook 6C – Unit 15, Problem solving, Lesson 3
Number – fractions (including decimals and percentages)	• Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.	• Textbook 6A – Unit 4, Fractions (1), Lessons 1 and 3
	• Compare and order fractions, including fractions > 1.	• Textbook 6A – Unit 4, Fractions (1), Lessons 2 and 3 • Textbook 6B – Unit 10, Percentages, Lesson 4
	• Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	• Textbook 6A – Unit 4, Fractions (1), Lessons 4–9 • Textbook 6A – Unit 5, Fractions (2), Lesson 7
	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$].	• Textbook 6A – Unit 5, Fractions (2), Lessons 2, 3 and 7
	• Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$].	• Textbook 6A – Unit 5, Fractions (2), Lessons 4–6

National curriculum programmes of study Year 6		*Power Maths*
Domain	**Pupils should be taught to:**	**Year 6**
	• Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$].	• Textbook 6B – Unit 9, Decimals, Lessons 8 and 9
	• Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places.	• Textbook 6B – Unit 9, Decimals, Lessons 1, 2, 4, 5 and 8
	• Multiply one-digit numbers with up to two decimal places by whole numbers.	• Textbook 6B – Unit 9, Decimals, Lesson 6 • Textbook 6B – Unit 10, Percentages, Lesson 8
	• Use written division methods in cases where the answer has up to two decimal places.	• Textbook 6A – Unit 5, Fractions (2), Lessons 8 and 9 • Textbook 6B – Unit 9, Decimals, Lesson 7
	• Solve problems which require answers to be rounded to specified degrees of accuracy.	• Textbook 6B – Unit 9, Decimals, Lessons 1–3 and 7
	• Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	• Textbook 6B – Unit 10, Percentages, Lessons 1–8 • Textbook 6C – Unit 15, Problem solving, Lessons 6–8
Ratio and proportion	• Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	• Textbook 6B – Unit 7, Ratio and proportion, 8 and 9 • Textbook 6C – Unit 15, Problem solving, Lesson 9
	• Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.	• Textbook 6B – Unit 10, Percentages, Lessons 5–7
	• Solve problems involving similar shapes where the scale factor is known or can be found.	• Textbook 6B – Unit 7, Ratio and proportion, Lessons 4–6

National curriculum programmes of study Year 6		*Power Maths*
Domain	**Pupils should be taught to:**	**Year 6**
	• Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	• Textbook 6B – Unit 7, Ratio and proportion, Lessons 1–3 and 7–9 • Textbook 6C – Unit 15, Problem solving, Lesson 9
Algebra	• Use simple formulae.	• Textbook 6B – Unit 8, Algebra, Lesson 6
	• Generate and describe linear number sequences.	• Textbook 6B – Unit 8, Algebra, Lessons 1–5
	• Express missing number problems algebraically.	• Textbook 6B – Unit 8, Algebra, Lessons 4, 5 and 7–9
	• Find pairs of numbers that satisfy an equation with two unknowns.	• Textbook 6B – Unit 8, Algebra, Lessons 10 and 11
	• Enumerate possibilities of combinations of two variables.	• Textbook 6B – Unit 8, Algebra, Lesson 11
Measurement	• Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	• Textbook 6A – Unit 6, Measure – imperial and metric measures, Lessons 2 and 3
	• 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.	• Textbook 6A – Unit 6, Measure – imperial and metric measures, Lessons 1, 2 and 5 • Textbook 6C – Unit 15, Problem solving, Lessons 10 and 11
	• Convert between miles and kilometres.	• Textbook 6A – Unit 6, Measure – imperial and metric measures, Lesson 4
	• Recognise that shapes with the same areas can have different perimeters and vice versa.	• Textbook 6B – Unit 11, Measure – perimeter, area and volume, Lessons 1–3 and 9
	• Recognise when it is possible to use formulae for area and volume of shapes.	• Textbook 6B – Unit 11, Measure – perimeter, area and volume, Lesson 7, 10 and 11

National curriculum programmes of study Year 6		*Power Maths*
Domain	**Pupils should be taught to:**	**Year 6**
	• Calculate the area of parallelograms and triangles.	• Textbook 6B – Unit 11, Measure – perimeter, area and volume, Lessons 4–8
	• Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].	• Textbook 6B – Unit 11, Measure – perimeter, area and volume, Lessons 10 and 11
Geometry – properties of shapes	• Draw 2-D shapes using given dimensions and angles.	• Textbook 6C – Unit 13, Geometry – properties of shapes, Lessons 3 and 10
	• Recognise, describe and build simple 3-D shapes, including making nets.	• Textbook 6C – Unit 13, Geometry – properties of shapes, Lessons 11 and 12
	• Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.	• Textbook 6C – Unit 13, Geometry – properties of shapes, Lessons 3–7 • Textbook 6C – Unit 15, Problem solving, Lessons 13 and 14
	• Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.	• Textbook 6C – Unit 13, Geometry – properties of shapes, Lessons 8 and 9
	• Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	• Textbook 6C – Unit 13, Geometry – properties of shapes, Lessons 1 and 2 • Textbook 6C – Unit 15, Problem solving, Lessons 13 and 14
Geometry – position and direction	• Describe positions on the full coordinate grid (all four quadrants).	• Textbook 6C – Unit 14, Geometry – position and direction, Lessons 1, 2 and 5 • Textbook 6C – Unit 15, Problem solving, Lesson 12
	• Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	• Textbook 6C – Unit 14, Geometry – position and direction, Lessons 3–5

National curriculum programmes of study Year 6		*Power Maths*
Domain	**Pupils should be taught to:**	**Year 6**
Statistics	● Interpret and construct pie charts and line graphs and use these to solve problems.	● Textbook 6C – Unit 12, Statistics, Lessons 1, 2 and 4–8
	● Calculate and interpret the mean as an average.	● Textbook 6C – Unit 12, Statistics, Lessons 9–11