



Progression map - maths

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Substantive Knowledge (What pupils know)	Numbers to 10; counting; composition of number; patterns; shape; measure; spatial awareness	Numbers to 100; place value; addition and subtraction within 20; basic multiplication and division; fractions (halves and quarters); shape and measure	Numbers to 1000; addition and subtraction; multiplication and division facts; fractions; money; time; statistics; shape	Numbers to 1000; formal written methods; multiplication and division; fractions; measurement; perimeter; statistics	Numbers to 10,000; multiplication tables to 12 x 12; fractions and decimals; area; geometry; statistics	Numbers to 1,000,000; fractions, decimals and percentages; perimeter and area; volume; geometry; statistics	Numbers to 10,000,000; fractions, decimals and percentages; ratio; algebra; geometry; statistics; volume
Procedural Knowledge (What pupils do as mathematicians)	Count, compare, sort, represent, explore patterns and explain thinking	Represent numbers, calculate, compare, solve simple problems and explain methods	Select strategies, use equipment, solve one- and two-step problems and explain reasoning	Apply formal methods, reason mathematically and solve increasingly complex problems	Select efficient methods, justify answers and identify patterns and relationships	Apply knowledge across domains, solve multi-step problems and evaluate strategies	Reason, generalise, prove, justify and solve complex multi-step problems independently
Number & Place Value	Count, subitise and compare numbers to 10	Count, read, write and compare numbers to 100	Count, read, write and compare numbers to 1000	Understand place value to 1000	Understand place value to 10,000	Understand place value to 1,000,000	Understand place value to 10,000,000 and beyond



Addition & Subtraction	Combine and separate quantities practically	Add and subtract within 20 and then 100	Use efficient methods for addition and subtraction within 1000	Use formal written methods up to 3 digits	Use formal written methods up to 4 digits	Use formal written methods with larger numbers and decimals	Apply efficient written methods to solve multi-step problems
Multiplication & Division	Explore equal groups and sharing	Count in multiples of 2, 5 and 10	Recall and use multiplication and division facts for 2, 5 and 10	Recall and use 3, 4 and 8 times tables	Recall all multiplication facts to 12×12	Multiply and divide numbers up to 4 digits	Apply multiplication and division fluently in complex contexts
Fractions	Explore halves through sharing	Recognise and find halves and quarters	Recognise, find, name and write simple fractions	Compare and order fractions and count in fractions	Understand equivalent fractions and decimal equivalents	Compare, order and calculate with fractions	Calculate with fractions fluently and solve problems
Decimals & Percentages	Begin to recognise patterns and quantities	Not taught as a discrete domain	Understand simple links between money and number	Introduced through tenths	Recognise decimal equivalents to fractions	Understand decimals and percentages and their equivalence	Use decimals and percentages fluently in calculation and problem solving
Ratio & Proportion	N/A	N/A	N/A	N/A	N/A	Solve simple ratio and proportion problems	Apply ratio and proportion in a range of mathematical contexts
Algebra	N/A	N/A	N/A	N/A	N/A	Use simple formulae and identify patterns	Use algebraic notation, formulae and equations



Measurement	Compare size, mass, capacity, length and time through practical exploration	Measure and compare length, mass, capacity and time	Use standard units of measure accurately	Measure perimeter and solve measurement problems	Measure area and convert units	Calculate perimeter, area and volume	Solve complex measurement and conversion problems
Geometry – Shape	Recognise, describe and manipulate 2D and 3D shapes	Recognise and name common 2D and 3D shapes	Describe properties of shapes	Draw and identify angles and shapes	Classify shapes and understand symmetry	Measure and calculate angles	Solve problems involving shape, position and direction
Geometry – Position & Direction	Use positional language	Describe position, direction and movement	Interpret position and movement	Draw and interpret simple coordinates	Describe positions using coordinates	Translate and reflect shapes	Solve problems using coordinates and transformations
Statistics	Sort and compare objects and groups	Interpret simple pictograms and tables	Construct and interpret pictograms, tally charts and block diagrams	Interpret and present data using bar charts and tables	Interpret charts, tables and line graphs	Solve comparison, sum and difference problems using data	Interpret and analyse increasingly complex data sets
Reasoning	Explain thinking using practical resources	Explain answers using mathematical language	Justify answers and explain methods	Use mathematical reasoning to explain patterns and relationships	Generalise and justify conclusions	Evaluate strategies and justify efficiency	Construct mathematical arguments and prove solutions
Problem Solving	Solve practical problems in play and everyday situations	Solve one-step problems involving number and measure	Solve one- and two-step problems using different representations	Solve problems involving all four operations	Solve increasingly complex multi-step problems	Apply mathematical knowledge across domains	Solve sophisticated multi-step and real-life problems



Mathematical Vocabulary	more, fewer, same, pattern, shape, size, heavy, light	digit, number, equal, add, subtract, half, quarter	partition, array, multiplication, division, fraction, measure	numerator, denominator, perimeter, product, quotient	factor, multiple, equivalent, decimal, area, symmetry	percentage, prime, composite, volume, ratio, proportion	algebra, variable, formula, equation, ratio, probability
Representations & Manipulatives	Counters, cubes, ten frames, sorting objects, numicon	Part-whole models, number lines, tens frames, dienes	Base ten, arrays, number lines, place value charts	Place value counters, bar models, fraction strips	Bar models, place value counters, decimal models	Bar models, place value charts, fraction models	Selection of efficient representations independently
Local / Real-World Mathematics Links	Counting and measuring in everyday school life	Counting, money and measures in the classroom and local environment	Shopping, time and measures in real-life contexts	Measurement and data linked to local studies	Area, perimeter and data linked to local geography and science	Financial literacy, statistics and real-world problem solving	Budgeting, data analysis, ratio and algebra linked to real-life contexts
Expected End Point	Begin to develop a deep understanding of number, pattern and mathematical relationships	Use number confidently within 100 and solve simple problems	Apply calculation strategies and solve problems within 1000	Use formal methods and reasoning to solve mathematical problems	Demonstrate fluency across the Year 4 curriculum and multiplication tables	Apply mathematical understanding flexibly across domains and contexts	Think and work as a mathematician: reason, justify, generalise and solve complex problems with fluency and confidence