

YEAR 6 MATHEMATICS LONG-TERM PLAN

Teaching for Mastery curriculum

ACADEMIC YEAR
2026 / 2027

Curriculum basis: NCETM Curriculum Prioritisation, the National Curriculum for England and the DfE Ready-to-Progress criteria. Suggested timings are indicative and should be adapted responsively.

Reviewed: _____

Maths Lead: _____

ONGOING FLUENCY, ARITHMETIC AND RESPONSIVE REVIEW Year 6 pupils receive regular arithmetic, retrieval and responsive review alongside the main mathematics lesson. Practice is selected from assessment evidence, strengthens connected understanding and supports readiness for statutory assessment and secondary mathematics.

Half term	Unit	NCETM unit	Indicative time	Curriculum strand	Ready-to-Progress	PD / guidance	Online unit
Autumn 1	1	Calculating using knowledge of structures (1)	6 weeks	Addition, subtraction, multiplication and division	6AS/MD-1, 6AS/MD-2	1.28, 1.29	Open
Autumn 1	2	Multiples of 1,000	2 weeks	Number and place value / calculation	National Curriculum	1.26	Open
Autumn 2	3	Numbers up to 10,000,000	4 weeks	Number and place value	6NPV-1–4	1.30	Open
Autumn 2	4	Draw, compose and decompose shapes	2 weeks	Geometry	6G-1	DfE Year 6 guidance	Open
Autumn 2 / Spring 1	5	Multiplication and division	4 weeks	Multiplication and division	6AS/MD-2	2.18, 2.23–2.25	Open
Spring 1	6	Area, perimeter, position and direction	2 weeks	Measurement / geometry	National Curriculum	2.30	Open
Spring 1/2	7	Fractions and percentages	6 weeks	Fractions / decimals / percentages	6F-1–3	3.8–3.10	Open
Spring 2	8	Statistics	1 week	Statistics	National Curriculum	School-selected resources	Open
Spring 2	9	Ratio and proportion	2 weeks	Ratio and proportion	6AS/MD-3	2.27	Open
Summer 1	10	Calculating using knowledge of structures (2)	1 week	Calculation	6AS/MD-2	1.29	Open
Summer 1	11	Solving problems with two unknowns	2 weeks	Algebra / calculation	6AS/MD-4	1.31	Open
Summer 1	12	Order of operations	1 week	Calculation	National Curriculum	2.22, 2.28	Open
Summer 1	13	Mean average	1 week	Statistics / multiplicative reasoning	National Curriculum	2.26	Open

Sequencing note: Follow the NCETM order unless a reviewed curriculum decision indicates otherwise. Summer 2 should be used for responsive consolidation, rich application, statutory breadth and secondary transition. Statutory assessment preparation must diagnose and strengthen understanding rather than replace the curriculum.

YEAR 6 CURRICULUM PRIORITIES AND STATUTORY BREADTH

Big mathematical ideas in Year 6

- Distinguish additive and multiplicative relationships, and use equivalence, inverse and compensation to derive efficient calculations.
- Understand powers-of-ten relationships from hundredths to ten million, including decimal fractions and contextual rounding.
- Use formal multiplication and division fluently while reasoning about factors, multiples, remainders and operation order.
- Simplify, compare and calculate with fractions; connect fractions, decimals and percentages flexibly.
- Solve ratio, scale-factor and unequal-sharing problems and represent relationships algebraically, including two unknowns.
- Compose and decompose shapes, calculate area and volume, and reason with coordinates, transformations and angle properties.
- Interpret statistical representations and understand mean as equal sharing, while preparing pupils for secondary mathematics.

Year 6 Ready-to-Progress criteria

- **6NPV–1** Understand powers-of-ten relationships from one hundredth to ten million, and make a number 10, 100, 1,000, one tenth, one hundredth or one thousandth times the size.
- **6NPV–2** Recognise the place value of each digit in numbers up to ten million, including decimal fractions, and compose and decompose them using standard and non-standard partitioning.
- **6NPV–3** Reason about the location of numbers up to ten million, including decimal fractions, in the linear number system, and round appropriately in context.
- **6NPV–4** Divide powers of 10 from one hundredth to ten million into 2, 4, 5 and 10 equal parts, and read scales and number lines with these equal divisions.
- **6AS/MD–1** Understand that two numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships.
- **6AS/MD–2** Use a given additive or multiplicative calculation to derive or complete a related calculation using arithmetic properties, inverse relationships and place value.
- **6AS/MD–3** Solve problems involving ratio relationships.
- **6AS/MD–4** Solve problems with two unknowns.
- **6F–1** Recognise when fractions can be simplified, and use common factors to simplify fractions.
- **6F–2** Express fractions in a common denomination and use this to compare fractions that are similar in value.
- **6F–3** Compare fractions with different denominators, including fractions greater than 1, choosing between reasoning and common-denomination strategies.
- **6G–1** Draw, compose and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.

National Curriculum domain		Where it is primarily addressed	Long-term planning requirement
Number and place value		Units 2 and 3; reinforced across calculation and measure	Read, write, order and round numbers to 10,000,000; use negative numbers and intervals across zero; solve multi-step number and place-value problems in varied contexts.
Calculation		Units 1, 5, 10 and 12; ongoing arithmetic and review	Use formal methods for all four operations, including long multiplication and division; use common factors and multiples, mental strategies, estimation and the order of operations to solve multi-step problems.
Fractions, decimals and percentages		Unit 7; reinforced in Units 3, 5 and 9	Simplify, compare, add, subtract and multiply fractions; divide proper fractions by whole numbers; calculate with decimals to 3 places; recall and use fraction-decimal-percentage equivalents.
Ratio and proportion		Unit 9; links across scaling, fractions and measure	Solve relative-size, percentage, scale-factor, similar-shape and unequal-sharing problems; connect ratio notation, fractions and multiplicative comparison.
Algebra		Units 10–12; patterns and formulae throughout	Use simple formulae; generate and describe linear sequences; express missing-number problems algebraically; enumerate possibilities and solve equations or problems with two unknowns.
Measurement		Units 6 and 13; integrated across number and ratio	Convert units, including decimal notation; use formulae for area and volume; calculate areas of triangles and parallelograms and volumes of cubes and cuboids; solve contextual measure problems.
Geometry		Units 4 and 6	Draw and construct shapes and nets; use angle facts and circle vocabulary; describe positions in all four quadrants and perform translations and reflections with coordinates.
Statistics		Units 8 and 13	Interpret and construct pie charts and line graphs; connect percentages and angles in pie charts; calculate and interpret the mean as an average.

IMPORTANT COVERAGE CHECK The NCETM units provide a coherent framework but teachers must still check the full statutory Year 6 programme of study. Supplement where necessary—particularly long division, the full range of fraction operations, algebraic notation, circles, transformations in four quadrants, volume, pie charts and integrated problem solving.

PLANNING, REPRESENTATION, ASSESSMENT AND REVIEW

Key representations and manipulatives - Place-value charts, counters and powers-of-ten grids for whole numbers, decimals and scaling across zero. - Bar models, double number lines, ratio tables and tape diagrams for additive, multiplicative, ratio and percentage relationships. - Area models, partial-product representations and place-value counters supporting long multiplication and division. - Fraction strips, number lines and common-denominator models for equivalence, comparison and operations with fractions. - Algebra tiles, function machines, balance models and systematic tables for expressions, equations and two unknowns. - Coordinate grids in four quadrants, nets, dynamic shape diagrams, protractors, square grids and volume cubes for geometry and measure. - Pie charts, line graphs and equal-sharing models for statistics and mean average.	Mathematical language and talk - Use additive relationship, multiplicative relationship, equivalence, compensation, inverse, common factor, common multiple, prime, dividend, divisor and quotient precisely. - Develop ratio language including for every, scale factor, proportion, relative size and unequal sharing. - Explicitly teach expression, equation, formula, variable, unknown, linear sequence and order of operations. - Use simplify, common denominator, percentage, decimal fraction and equivalence accurately across representations. - Expect pupils to justify method choice, test conjectures, prove relationships and communicate multi-step reasoning clearly.	
Assessment checkpoints - Entry: use Year 5 transition evidence to identify priorities in place value, arithmetic, fractions and multiplicative reasoning. - After Unit 3: assess powers of ten, composition, comparison and contextual rounding. - After Unit 5: check formal multiplication and division, derived calculations and interpretation of remainders. - After Unit 7: assess simplification, common denominators, fraction operations and fraction-decimal-percentage links. - Ongoing: use NCETM assessment questions, diagnostic arithmetic and reasoning to select responsive review without narrowing the curriculum. - Before statutory assessment: triangulate independent work, teacher judgement and agreed summative evidence; make access arrangements in line with current guidance. - End of year: confirm statutory breadth and record conceptual strengths and gaps clearly for secondary transition.	Adaptive teaching and responsive pacing - Maintain the same ambitious concepts while adapting representation, vocabulary, scaffold, task quantity and guided practice. - Use frequent diagnostic assessment and short, targeted review; avoid replacing coherent curriculum teaching with indiscriminate test practice. - Retain models for formal procedures and algebra until pupils can explain the underlying structure independently. - Provide depth through proof, generalisation, multiple-solution problems and unfamiliar contexts rather than acceleration into Key Stage 3 content. - Use summer provision flexibly for consolidation, rich investigations and transition based on genuine assessment evidence.	
Before the half term Check prior learning, unit outcomes, statutory objectives, likely misconceptions and required resources.	During teaching Use formative assessment to adapt pacing; annotate this plan where units are extended, condensed or supplemented.	At the review point Record coverage, pupils needing further support and any curriculum refinements for the following cohort.
Core planning sources: NCETM Year 6 curriculum map NCETM Curriculum Prioritisation guidance DfE Mathematics Guidance: Year 6 National Curriculum: Mathematics KS1–2		