SS Peter & Paul Catholic Primary School

Maths Knowledge and Skills Progression

What our children know and can do, from Nursery to Year 6 · White Rose Maths · 2026–27

The expected knowledge and skills described here build cumulatively through White Rose Maths from practical Early Years experiences to secure Key Stage 2 mathematical understanding. Each year-group cell summarises the intended end-point of teaching in that strand; prior knowledge is revisited and extended rather than left behind.

All pupils should encounter the ambitious curriculum. Teachers adapt representation, scaffolding, vocabulary and practice in response to assessment; greater depth is shown through explaining, making connections, generalising and applying knowledge rather than simply moving on to the next year's content.

Number: understanding and calculation

Strand	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number sense, counting and place value	Recognises small amounts; says some number names; begins to order numbers and match amounts to words.	Counts reliably using one-to-one correspondence; subitises; explores numbers to 10 and composition; notices patterns beyond 10.	Counts, reads, writes and orders numbers to 100; understands ones and tens; identifies one more and one less.	Understands place value within 100; partitions two-digit numbers; compares, orders and estimates positions on number lines.	Works with three-digit numbers; partitions and compares; counts in multiples; estimates and locates numbers to 1,000.	Uses place value in four-digit numbers; orders and rounds; recognises negative numbers and Roman numerals to 100.	Reads, orders and rounds to 1,000,000; interprets negative numbers; understands powers of 10 and Roman numerals.	Reasons with numbers to 10,000,000; rounds accurately; works across zero and with place value in calculations.
Number facts and mental fluency	Joins counting games and rhymes; recognises small quantities; begins to know number patterns.	Recognises subitised quantities and bonds within 5 and 10; recalls one more/one less and doubles through play.	Uses bonds within 10 and 20, related facts, doubles and halves; counts in 2s, 5s and 10s.	Recalls addition facts to 20; derives related facts; recalls and uses the 2, 5 and 10 times tables.	Extends mental addition/subtraction; recalls multiplication/division facts for the 3, 4 and 8 tables.	Recalls multiplication facts to 12 × 12 and related division facts; chooses efficient mental strategies.	Uses known facts, factors, multiples, primes and square/cube numbers to calculate and check.	Uses number relationships, factors and multiples flexibly, evaluating efficient approaches in multi-step contexts.
Addition and subtraction	Joins and separates small collections; uses more, fewer and same in practical contexts.	Combines two groups, finds one more/less and explores number composition and missing parts.	Adds and subtracts to 20 with objects, pictures and symbols; solves one-step and missing-number questions.	Adds and subtracts two-digit numbers; exchanges when necessary; checks using inverse relationships.	Uses mental methods and formal written column calculations with up to three digits, including exchange.	Adds and subtracts four-digit numbers with written methods; estimates and checks with inverse operations.	Calculates with numbers exceeding four digits and decimals; solves multi-step problems and explains choice of method.	Calculates accurately with large integers and decimals; uses order of operations and inverse checks.
Multiplication and division	Creates equal sets through play; joins repeating groups and sharing games.	Explores equal groups, doubling, halving, sharing and grouping with practical objects.	Counts in 2s, 5s, 10s; uses arrays, equal groups, doubles and simple sharing or grouping.	Calculates with 2, 5 and 10 tables; uses grouping and sharing; explains odd/even and inverse relationships.	Uses 3, 4 and 8 tables; multiplies/divides two-digit numbers by one digit, including remainders.	Knows facts to 12 × 12; applies factor pairs and efficient 2-/3-digit by one-digit calculations.	Multiplies up to four-digit numbers by one/two digits; uses short division, factors and multiples.	Uses long division and multiplication accurately; explains remainders and order-of-operations reasoning.

Expected standard is a secure foundation, not a ceiling. Teachers revisit key ideas using retrieval, representations, precise language and rich reasoning. See the White Rose schemes and full calculation policy for the sequence of small steps and representations.

Number, proportional thinking and measurement

Strand	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions, decimals and percentages	Shares and matches equal parts in stories, objects and everyday play.	Explores halves, fair sharing and parts/wholes through practical models and number composition.	Recognises halves and quarters of shapes, objects and amounts; uses simple fraction language.	Works with unit and non-unit fractions including thirds; finds fractions of amounts and simple equivalences.	Compares and orders simple fractions; adds/subtracts same-denominator fractions within one whole.	Works with mixed numbers, equivalent fractions, tenths/hundredths and decimals; calculates with same denominators.	Converts and calculates with fractions/decimals/percentages; adds fractions with related denominators.	Calculates with unlike fractions and mixed numbers; converts FDP and solves multi-step percentage problems.
Ratio, proportion and algebra	Copies and continues simple patterns; notices repeats and relationships.	Builds patterns and explores composition, repeated sequences and equality informally.	Finds missing numbers in familiar number sentences and continues simple patterns.	Identifies number patterns and uses inverse facts in missing-number problems.	Explains scaling in multiplicative contexts; recognises relationships in sequences.	Applies scaling and equivalence; reasons about linked operations and number rules.	Solves problems using scaling, factors, decimals and percentage relationships.	Uses ratio notation, scale factors, proportional reasoning and algebraic formulae/equations.
Length, perimeter, area and volume	Compares size and length informally; explores space and	Compares length/height; builds and measures using	Compares and measures length/height with simple	Uses standard units and rulers; compares lengths and solves	Measures perimeter of 2-D shapes; uses mm, cm and m	Finds perimeters and areas of rectangles/rectilinear shapes;	Calculates perimeter/area and estimates volume using cubes;	Calculates area of triangles/parallelograms and

	fitting objects.	direct comparison and everyday units.	units; solves practical problems.	related problems.	and reasons about conversions.	converts standard units.	converts metric and common imperial units.	volume of cuboids; selects suitable formulae and units.
Mass, capacity, temperature, money and time	Explores heavier/lighter, full/empty and everyday times using play and routines.	Compares mass/capacity; explores sequences of daily events and meaningful time words.	Recognises coins and notes; tells o'clock/half-past times; compares mass/capacity.	Calculates with money; tells time to five minutes; measures temperature, mass and capacity.	Uses pounds/pence, measures mass/capacity and reads analogue/digital time to the minute.	Solves multi-step money/time problems; converts units and interprets time with accuracy.	Converts measures and time units; applies decimal calculations to practical measurement.	Solves multi-step measurement problems and uses metric/imperial conversions accurately.

Geometry, data and mathematical habits

Strand	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Properties of shape and angles	Explores, matches and builds with familiar shapes and objects.	Names and compares common 2-D and 3-D shapes; investigates rotation and construction.	Identifies common 2-D/3-D shapes; describes sides, faces and simple properties.	Investigates vertices, edges, faces and symmetry; sorts shapes by properties.	Recognises right angles, turns, parallel and perpendicular lines; describes polygons.	Classifies triangles/quadrilaterals and angles, including acute and obtuse; recognises symmetry.	Measures and draws angles; reasons with angles around a point/on a line and 3-D shapes.	Applies angle facts to triangles/quadrilaterals/polygons; works with circles and 3-D nets.
Position and direction	Explores directions, position and routes through movement and play.	Describes positions and routes with spatial language and simple movement.	Describes whole/half/quarter turns and position relative to objects.	Uses clockwise/anticlockwise turns and describes positional patterns.	Describes turns and position and applies spatial reasoning with right-angle turns.	Plots positions in the first quadrant; describes translation and reflections in grids.	Uses coordinates in the first quadrant and translates/reflection of shapes.	Uses four-quadrant coordinates, translations and reflections accurately.
Statistics and representation of data	Sorts collections and compares how many are in each group.	Organises information through matching/sorting and informal recording.	Collects and presents simple information using tables and pictures.	Constructs and interprets pictograms, tally charts, block diagrams and tables.	Uses bar charts, pictograms and two-way tables to solve comparison questions.	Constructs and interprets bar charts and line graphs; solves comparison problems.	Interprets line graphs and timetables; compares information across datasets.	Uses pie charts, line graphs and the mean to interpret and reason about data.
Reasoning, problem-solving and mathematical communication	Notices likenesses/differences; explores, predicts and talks about practical maths.	Uses examples, models and everyday words to explain what they notice.	Explains methods using objects/pictures and begins to justify simple answers.	Selects representations, explains links and checks answers with inverse facts.	Compares strategies, uses vocabulary accurately and explains why answers are reasonable.	Builds logical explanations, uses models flexibly and tests conjectures.	Selects efficient strategies and justifies decisions in multi-step unfamiliar problems.	Generalises, proves, challenges claims and communicates accurate mathematical arguments.

How this progression informs assessment and responsive teaching

- **Daily evidence:** Questioning, pupil talk, manipulatives and books reveal secure concepts and misconceptions while learning is taking place.
- **Retrieval and fluency:** In Years 3–6, daily LBQ retrieval and weekly arithmetic tests identify areas requiring further practice, explanation or challenge.
- **Checkpoint assessment:** White Rose end-of-unit assessment and termly PiXL support judgements about knowledge retained over time. They complement, rather than replace, teachers' formative assessment.
- **Targeted response:** Teachers use results and pupil conferencing to revisit essential prerequisite knowledge, organise timely support and deepen mathematical explanations.
- **Home–school practice:** Targeted weekly written homework in Years 3–6 revisits taught small steps; responses provide additional evidence of understanding and gaps.