Birchwood Junior School

Whole-School Mathematics Skills Progression

Years 1 to 6

Year groups are shown in columns. Each row tracks a related mathematical skill horizontally, showing how pupils move from early representations and fluency towards increasingly independent, efficient and complex application.

Place Value

Skill strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Read, write and represent numbers	I can read, write and represent numbers to 100.	I can read, write and represent numbers to at least 100.	I can read, write and represent numbers to 1,000.	I can read, write and represent numbers to 10,000.	I can read, write and represent numbers to 1,000,000.	I can read, write and represent numbers to 10,000,000.
Partition and compose numbers	I can partition 2-digit numbers into tens and ones.	I can partition and recombine 2-digit numbers in standard and non-standard ways.	I can partition and recombine numbers to 1,000.	I can partition and recombine numbers to 10,000.	I can partition numbers to 1,000,000.	I can compose and decompose integers and decimals flexibly.
Find more or less	I can find 1 more or 1 less than a number.	I can find 10 more or less than a 2-digit number.	I can find 1, 10 or 100 more or less than a number.	I can find 1, 10, 100 or 1,000 more or less.	I can find 10, 100, 1,000, 10,000 or 100,000 more or less than numbers to 1,000,000.	I can use powers of 10 to make numbers 10, 100 or 1,000 times larger or smaller.
Position and estimate on number lines	I can position numbers on number lines within 100.	I can position and estimate 2-digit numbers on number lines.	I can position and estimate numbers to 1,000 on number lines.	I can position and estimate numbers to 10,000 on number lines.	I can position numbers up to 1,000,000 on scaled number lines.	I can position and estimate integers and decimals on number lines.
Compare and order	I can compare numbers using <, > and =.	I can compare and order 2-digit numbers.	I can compare and order numbers to 1,000.	I can compare and order numbers to 10,000.	I can compare and order numbers up to 1,000,000.	I can compare and order integers and decimals using place value.
Round numbers				I can round whole numbers to the nearest 10, 100 and 1,000.	I can round numbers to the nearest 10, 100, 1,000, 10,000 and 100,000.	I can round integers and decimals to the required degree of accuracy.
Negative numbers					I can identify, count and calculate with negative numbers across zero.	I can use negative numbers in context and calculate intervals across zero.
Roman numerals				I can read Roman numerals to 100.	I can identify Roman numerals to 1,000.	I can apply Roman numeral knowledge where appropriate.

Addition and Subtraction

Skill strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Use number facts	I can use number bonds within 10 and 20.	I can use known addition and subtraction facts fluently within 20 and derive related facts.	I can apply number bonds within 10 to related facts to 100.	I can use known facts and place value to calculate mentally.	I can use known facts and place value to support efficient calculation.	I can select and apply known facts efficiently to complex calculations.
Mental calculation	I can add and subtract 1-digit numbers and ones within 20.	I can add and subtract 1s and 10s from 2-digit numbers.	I can add and subtract 1s, 10s and 100s from 3-digit numbers.	I can add and subtract mentally using place-value and compensation strategies.	I can calculate mentally where appropriate with increasingly large numbers.	I can choose and justify efficient mental strategies with integers and decimals.
Formal addition	I can represent addition using practical and pictorial methods.	I can add two 2-digit numbers using appropriate representations and written methods.	I can add numbers with up to 3 digits using formal column addition, including exchange.	I can add numbers with up to 4 digits using formal column addition.	I can add numbers up to 1,000,000, including exchanges.	I can add integers and decimals using efficient formal written methods.
Formal subtraction	I can represent subtraction using practical and pictorial methods.	I can subtract two 2-digit numbers using appropriate representations and written methods.	I can subtract numbers with up to 3 digits using formal column subtraction, including exchange.	I can subtract numbers with up to 4 digits using formal column subtraction.	I can subtract numbers up to 1,000,000, including exchanges across zero placeholders.	I can subtract integers and decimals using efficient formal written methods.
Inverse and missing numbers	I can use related addition and subtraction facts.	I can use the inverse relationship to check and find missing numbers.	I can use inverse operations to check calculations and solve missing-number problems.	I can use inverse operations to check answers and solve missing-number calculations.	I can use inverse operations to complete missing-number calculations involving numbers to 1,000,000.	I can use inverse operations and algebraic reasoning to solve missing-value problems.
Estimate and check	I can check answers using practical representations and known facts.	I can estimate and check answers using inverse operations.	I can estimate answers and use inverse operations to check.	I can estimate and use inverse operations to check the reasonableness of answers.	I can use rounding to estimate sums and differences and check calculations.	I can use estimation, inverse operations and number sense to evaluate accuracy.
Problem solving	I can solve one-step addition and subtraction problems.	I can solve one-step and simple two-step problems.	I can solve addition and subtraction problems involving 2-digit and 3-digit numbers.	I can solve two-step addition and subtraction problems in context.	I can solve multi-step addition and subtraction problems involving numbers to 1,000,000.	I can solve complex multi-step problems, choosing operations and methods efficiently.

Perimeter

Skill strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measure length	I can compare and measure lengths using suitable units.	I can measure length in metres and centimetres.	I can measure side lengths accurately in standard units.	I can measure and convert between appropriate metric units.	I can measure and convert lengths using millimetres, centimetres and metres.	I can convert between standard units accurately in perimeter contexts.
Calculate perimeter			I can calculate the perimeter of simple 2D shapes.	I can calculate the perimeter of rectangles and rectilinear shapes.	I can calculate the perimeter of rectangles, rectilinear shapes and polygons.	I can calculate perimeter efficiently, including missing lengths and algebraic relationships.
Find missing lengths				I can use properties of rectangles to find missing side lengths.	I can use equal opposite sides and known lengths to calculate missing sides.	I can use geometrical properties and relationships to determine unknown lengths.
Mixed units and problem solving				I can solve perimeter problems using consistent units.	I can calculate perimeter where lengths are given in different units and solve perimeter problems.	I can solve multi-step perimeter problems requiring unit conversion and reasoning.

Multiplication and Division

Skill strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Represent equal groups	I can count in equal groups and represent doubles and halves.	I can represent multiplication and division using equal groups, arrays, sharing and grouping.	I can represent multiplication and division using arrays, equal groups and bar models.	I can use arrays and factor pairs to represent multiplicative relationships.	I can use factors, products and place value to represent multiplication and division.	I can represent and reason about multiplicative relationships algebraically and numerically.
Times-table fluency	I can count in 2s, 5s and 10s.	I can recall and use the 2, 5 and 10 times tables.	I can recall and use multiplication and division facts for the 3, 4 and 8 times tables.	I can recall multiplication and division facts for all tables to 12 x 12.	I can apply times-table facts to factors, multiples and larger calculations.	I can apply multiplication facts fluently to fractions, decimals, ratios and formal calculation.
Multiply/divide by powers of 10			I can use place value to scale known facts by 10.	I can multiply and divide whole numbers by 10 and 100.	I can multiply and divide numbers by 10, 100 and 1,000.	I can multiply and divide integers and decimals by 10, 100 and 1,000.
Factors, multiples, primes, squares and cubes				I can identify factor pairs and multiples.	I can identify multiples, factors, common factors, common multiples, primes, square numbers and cube numbers.	I can use factors, multiples, primes, squares and cubes to reason about number relationships and divisibility.
Formal multiplication				I can multiply 2-digit and 3-digit numbers by a 1-digit number.	I can multiply 3- and 4-digit numbers by 1-digit numbers and multiply up to 4-digit numbers by 2-digit numbers.	I can multiply multi-digit numbers using efficient formal written methods.
Formal division		I can use grouping and sharing to divide.	I can divide using known multiplication facts and representations.	I can divide up to 3-digit numbers by a 1-digit number using appropriate methods.	I can use short division to divide up to 4-digit numbers by a 1-digit number.	I can divide multi-digit numbers using short or long division as appropriate.
Remainders			I can interpret simple remainders in grouping contexts.	I can interpret remainders in division problems.	I can complete division with remainders and represent remainders appropriately.	I can interpret remainders as whole numbers, fractions or decimals according to context.
Problem solving	I can solve practical doubling, halving and grouping problems.	I can solve multiplication and division problems using known facts.	I can solve multiplication and division problems using the 3, 4 and 8 times tables.	I can solve multiplication and division problems using all times tables.	I can solve multi-step multiplication and division problems using written and mental methods.	I can solve complex multiplicative problems, selecting efficient operations and methods.

Area

Skill strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Compare and cover space	I can compare how much space shapes cover informally.	I can cover shapes with equal-sized squares to compare space.	I can count equal squares to compare and describe area.	I can recognise area as the amount of surface covered and use square units.	I can use square units to measure and calculate area.	I can reason about area using formulae and derived relationships.
Area of rectangles				I can calculate the area of rectangles by counting squares and using multiplication.	I can calculate the area of rectangles using multiplication.	I can calculate areas of rectangles using formulae, including with decimal measures where appropriate.
Convert units					I can convert dimensions to the same unit before calculating area.	I can convert between appropriate metric units, including understanding the effect on square units.
Compound shapes					I can split rectilinear compound shapes into rectangles and combine their areas.	I can decompose compound shapes into simpler shapes and combine their areas.
Triangles and parallelograms						I can calculate the area of triangles and parallelograms using known relationships and formulae.