Year 5

Maths Overview 2024-2025

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Daily Fluency
Autumn	Place value		Number – addition and subtraction			Number – multiplication and division				Assessment	Number Fractions A				Consolidation	I can find factor pairs of a number I can recall square numbers up to 144 and their square roots.
Spring	Number- Multiplication and division			Number – Fractions B		Number - Decimals & Percentages			Assessment	Measures Perimeter and area		Statistics				Arithmetic strategies Including: ◦ Counting in powers of 10 ◦ Negative numbers ◦ X / 10, 100, 1000
Summer	Geometry – Properties of shape		Geometry Position and direction		Assessment	Number – Decimals (calculations)		Number – Negative Numbers	Measurement Converting Units		Measures - Volume					Arithmetic strategies Including: ◦ Calculating with fractions ◦ Decimals ◦ Long multiplication

Statements in blue have been identified as 'ready to progress' objectives: key concepts which are essential building blocks for the next steps in learning.
These objectives must be embedded so that children are fluent.

Autumn Term

Knowledge and Skills	Teaching sequence
Block 1: Place Value • Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. **(5NPV2)** • Count forwards or backwards in steps of powers of 10 for any given number up to 1000000. (**5NPV2)** • Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 **(5NPV3)** • Solve number problems and practical problems that involve all of the above. **(5NPV3)** • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. **(5NPV3)**	Step 1 Roman numerals to 1,000 Step 2 Numbers to 10,000 Step 3 Numbers to 100,000 Step 4 Numbers to 1,000,000 Step 5 Read and write numbers to 1,000,000 Step 6 Powers of 10 Step 7 10/100/1,000/10,000/100,000 more or less Step 8 Partition numbers to 1,000,000 Step 9 Number line to 1,000,000 Step 10 Compare and order numbers to 100,000 Step 11 Compare and order numbers to 1,000,000 Step 12 Round to the nearest 10, 100 or 1,000 Step 13 Round within 100,000 Step 14 Round within 1,000,000
Block 2: Addition and subtraction • Add and subtract numbers mentally with increasingly large numbers. • Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Step 1 Mental strategies Step 2 Add whole numbers with more than four digits Step 3 Subtract whole numbers with more than four digits Step 4 Round to check answers Step 5 Inverse operations (addition and subtraction) Step 6 Multi-step addition and subtraction problems Step 7 Compare calculations Step 8 Find missing numbers
Block 3: Multiplication and Division • Multiply and divide numbers mentally drawing upon known facts. **(5NF1)** • Multiply and divide whole numbers by 10, 100 and 1000. **(5MD1)** • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. **(5MD2)** • Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3) **(5MD2)** • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. **(5MD2)** • Know and use the vocabulary of prime numbers and recall prime numbers up to 19, prime factors and composite (non-prime) numbers. **(5MD2)**	**Step 1 Multiples (NF-1, MD-2)** **Step 2 Common multiples (NF-1, MD-2)** **Step 3 Factors (NF-1, MD-2)** **Step 4 Common factors (NF-1, MD-2)** Step 5 Prime numbers **Step 6 Square numbers (NF-1, MD-2)** Step 7 Cube numbers **Step 8 Multiply by 10, 100 and 1,000 (MD-1)** **Step 9 Divide by 10, 100 and 1,000 (NF-2, MD-1)** **Step 10 Multiples of 10, 100 and 1,000 (MD-1)**

Block 4: Fractions	
• Compare and order fractions whose denominators are multiples of the same number. **(5F2)** • Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. **(5F2)** • 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 $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5} = 1\,{}^{1}/_{5}$] **(5F2)** • Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	**Step 1 Find fractions equivalent to a unit fraction (F-2)** **Step 2 Find fractions equivalent to a non-unit fraction (F-2)** **Step 3 Recognise equivalent fractions (F-2)** Step 4 Convert improper fractions to mixed numbers Step 5 Convert mixed numbers to improper fractions Step 6 Compare fractions less than 1 Step 7 Order fractions less than 1 Step 8 Compare and order fractions greater than 1 Step 9 Add and subtract fractions with the same denominator Step 10 Add fractions within 1 Step 11 Add fractions with total greater than 1 Step 12 Add to a mixed number Step 13 Add two mixed numbers Step 14 Subtract fractions Step 15 Subtract from a mixed number Step 16 Subtract from a mixed number – breaking the whole Step 17 Subtract two mixed numbers

Spring Term

Knowledge and Skills	**Teaching sequence**
Block 1: Multiplication and division • Multiply and divide numbers mentally drawing upon known facts. **(5NF1)** • Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers. **(5MD3)** • 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. **(5MD4)** • Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign. **(5MD3, 5MD4)**	**All steps relate to NF-1** **Step 1 Multiply up to a 4-digit number by a 1-digit number (MD-3)** **Step 2 Multiply a 2-digit number by a 2-digit number (area model) (MD-3)** **Step 3 Multiply a 2-digit number by a 2-digit number (MD-3)** **Step 4 Multiply a 3-digit number by a 2-digit number (MD-3)** **Step 5 Multiply a 4-digit number by a 2-digit number (MD-3)** **Step 6 Solve problems with multiplication** **Step 7 Short division (MD-4)** **Step 8 Divide a 4-digit number by a 1-digit number (MD-4)** **Step 9 Divide with remainders (MD-4)** **Step 10 Efficient division** **Step 11 Solve problems with multiplication and division**

Block 2: Fractions • 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 $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5} = 1\,{}^{1}/_{5}$] **(5F2)** • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. • Read and write decimal numbers as fractions [for example 0.71 = $^{71}/_{100}$] **(5F3)** • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. **(5F1, 5F3)**	**All steps relate to NF-1** **Step 1 Multiply a unit fraction by an integer** **Step 2 Multiply a non-unit fraction by an integer** **Step 3 Multiply a mixed number by an integer** **Step 4 Calculate a fraction of a quantity (F-1)** **Step 5 Fraction of an amount (F-1)** **Step 6 Find the whole** **Step 7 Use fractions as operators**
Block 3: Decimals and percentages • Read, write, order and compare numbers with up to three decimal places. **(NPV2)** • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. **(NPV1)** • Round decimals with two decimal places to the nearest whole number and to one decimal place. **(NPV3)** • Solve problems involving number up to three decimal places. **(NPV3)** • 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. • Solve problems which require knowing percentage and decimal equivalents and those fractions with a denominator. **(5F3)**	**Step 1 Decimals up to 2 decimal places (NPV-1, NPV-2)** **Step 2 Equivalent fractions and decimals (tenths) (NPV-4, F-3)** **Step 3 Equivalent fractions and decimals (hundredths) (NPV-4, F-3)** **Step 4 Equivalent fractions and decimals (F-3)** Step 5 Thousandths as fractions Step 6 Thousandths as decimals Step 7 Thousandths on a place value chart **Step 8 Order and compare decimals (same number of d.p) (NPV-3)** **Step 9 Order and compare any decimals with up to 3 d.p (NPV-3)** **Step 10 Round to the nearest whole number (NPV-3)** **Step 11 Round to 1 decimal place (NPV-3)** Step 12 Understand percentages Step 13 Percentages as fractions Step 14 Percentages as decimals Step **15 Equivalent fractions, decimals and percentages (NPV-4)**
Block 4: Measurement - Area and perimeter • Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Calculate and compare the area of rectangles (including squares), and including using standard units, cm2,m2 estimate the area of irregular shapes. **(5G2)**	Step 1 Perimeter of rectangles Step 2 Perimeter of rectilinear shapes Step 3 Perimeter of polygons **Step 4 Area of rectangles (G-2)** **Step 5 Area of compound shapes (G-2)** Step 6 Estimate area
Block 5: Statistics • Solve comparison, sum and difference problems using information presented in a line graph. **(5NPV4)** • Complete, read and interpret information in tables including timetables.	Step 1 Draw line graphs Step 2 Read and interpret line graphs Step 3 Read and interpret tables Step 4 Two-way tables Step 5 Read and interpret timetables

Summer Term

Knowledge and Skills	Teaching sequence
Block 1: Geometry – properties of shape • Identify 3D shapes, including cubes and other cuboids, from 2D representations. • Use the properties of rectangles to deduce related facts and find missing lengths and angles. • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. **(5G1)** • Draw given angles, and measure them in degrees (σ) **(5G1)** • Identify: angles at a point/one whole turn (total 360σ), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180σ) other multiples of 90σ **(5G1)**	Step 1 Understand and use degrees **Step 2 Classify angles (G-1)** **Step 3 Estimate angles (G-1)** **Step 4 Measure angles up to 180° (G-1)** **Step 5 Draw lines and angles accurately (G-1)** Step 6 Calculate angles around a point Step 7 Calculate angles on a straight line Step 8 Lengths and angles in shapes Step 9 Regular and irregular polygons Step 10 3-D shapes
Block 2: 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.	Step 1 Read and plot coordinates Step 2 Problem solving with coordinates Step 3 Translation Step 4 Translation with coordinates Step 5 Lines of symmetry Step 6 Reflection in horizontal and vertical lines
Block 3: Decimals - calculations • Calculate with decimal numbers • Solve problems involving number up to three decimal places. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 **(5MD1)**	Step 1 Use known facts to add and subtract decimals within 1 Step 2 Complements to 1 Step 3 Add and subtract decimals across 1 Step 4 Add decimals with the same number of decimal places Step 5 Subtract decimals with the same number of decimal places Step 6 Add decimals with different numbers of decimal places Step 7 Subtract decimals with different numbers of decimal places Step 8 Efficient strategies for adding and subtracting decimals Step 9 Decimal sequences **Step 10 Multiply by 10, 100 and 1,000 (MD-1)** **Step 11 Divide by 10, 100 and 1,000 (MD-1)** **Step 12 Multiply and divide decimals – missing values (MD-1)**

Block 4: Negative Numbers • Count backwards through zero to include negative numbers. **(4NPV3)** **moved from y4 to cover in greater depth and more focus** • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. (**5NPV3)**	Step 1 Understand negative numbers Step 2 Count through zero in 1s Step 3 Count through zero in multiples Step 4 Compare and order negative numbers Step 5 Find the difference
Block 5: Measures – converting units • Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml] **(5NPV6)** • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. **(5NPV6)** • Solve problems involving converting between units of time. **(5NPV6)**	Step 1 Kilograms and kilometres Step 2 Millimetres and millilitres **Step 3 Convert units of length (NPV-5)** **Step 4 Convert between metric and imperial units (NPV-5)** **Step 5 Convert units of time (NPV-5)** Step 6 Calculate with timetables
Block 6: Measures – Volume • Estimate volume [for example using 1cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] • Use all four operations to solve problems involving measure.	Step 1 Cubic centimetres Step 2 Compare volume Step 3 Estimate volume Step 4 Estimate capacity