Year 6

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		Baseline assessment	Number – all four operations				Number - fractions		Assessment	Number - fractions		Measurement – converting units	Geometry: Properties of shapes,	Consolidation	Arithmetic strategies Including: ◦ Long multiplication ◦ Division – short then long ◦ Fractions of amounts ◦ x/ 10,100, 1000 ◦ BODMAS
Spring	Number Decimals		Number Fractions, decimals and percentages		Statistics		Position and direction	Measurement Area and Volume		Assessment	Algebra	Ratio	Converting measures			Arithmetic strategies Including: ◦ Long division ◦ Fractions – four operations ◦ Decimals ◦ Percentages
Summer	Reasoning – areas of weakness		SATs Week	Number - Ratio scale factors	Residential visit	Problem solving	Residential visit	POST SATs PROJECTS: Logic problems All possibilities Calculator skills Design a zoo challenge								◦ Arithmetic – fluent in 5 ◦ BODMAS ◦ Algebra ◦ **Problem of the Day – White Rose**

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 up to 10,000,000 and determine the value of each digit. • Round any whole number to a required degree of accuracy. • Use negative numbers in context, and calculate intervals across zero. • Solve number and practical problems that involve all of the above.	**Step 1 Numbers to 1,000,000 (NPV-2)** **Step 2 Numbers to 10,000,000 (NPV-2)** **Step 3 Read and write numbers to 10,000,000 (NPV-2)** **Step 4 Powers of 10 (NPV-1)** **Step 5 Number line to 10,000,000 (NPV-4)** **Step 6 Compare and order any integers (NPV-3)** **Step 7 Round any integer (NPV-3)** Step 8 Negative numbers
Block 2: Number - Addition and subtraction, multiplication and division • Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. • Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication. • Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context. • Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context. • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Solve problems involving addition, subtraction, multiplication and division. • Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.	Step 1 Add and subtract integers Step 2 Common factors Step 3 Common multiples Step 4 Rules of divisibility Step 5 Primes to 100 Step 6 Square and cube numbers Step 7 Multiply up to a 4-digit number by a 2-digit number **Step 8 Solve problems with multiplication (6AS/MD-2)** Step 9 Short division **Step 10 Division using factors (6AS/MD-2)** Step 11 Introduction to long division Step 12 Long division with remainders **Step 13 Solve problems with division (6AS/MD-2)** **Step 14 Solve multi-step problems (6AS/MD-2)** Step 15 Order of operations Step 16 Mental calculations and estimation **Step 17 Reason from known facts (6AS/MD-2)**
Block 3: Number – Fractions • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions > 1	**Step 1 Equivalent fractions and simplifying (F-1)** **Step 2 Equivalent fractions on a number line (F-1)** **Step 3 Compare and order (denominator) (F-2, F-3)** **Step 4 Compare and order (numerator) (F-3)** Step 5 Add and subtract simple fractions

• Generate and describe linear number sequences (with fractions) • Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example 14 x 12 = 18] • Divide proper fractions by whole numbers [for example 13 ÷ 2 = 16] • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example 38] • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	Step 6 Add and subtract any two fractions Step 7 Add mixed numbers Step 8 Subtract mixed numbers Step 9 Problems Step 10 Multiply fractions by integers Step 11 Multiply fractions by fractions Step 12 Divide a fraction by an integer Step 13 Divide any fraction by an integer Step 14 Mixed questions with fractions Step 15 Fraction of an amount Step 16 Fraction of an amount – find the whole
Block 4: Measurement – converting units • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. • Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3dp.	Step 1 Metric measures **Step 2 Convert metric measures (NPV-4)** Step 3 Calculate with metric measures Step 4 Miles and kilometres Step 5 Imperial measures
Block 5: Geometry – properties of shapes, circles and angles • Draw 2-D shapes using given dimensions and angles. **(G-1)** • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons. **(G-1)** • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	Step 1 Measure and classify angles Step 2 Calculate angles Step 3 Vertically opposite angles **Step 4 Angles in a triangle (G-1)** **Step 5 Angles in a triangle – special cases (G-1)** **Step 6 Angles in a triangle – missing angles (G-1)** **Step 7 Angles in a quadrilateral (G-1)** **Step 8 Angles in polygons (G-1)** Step 9 Circles **Step 10 Draw shapes accurately (G-1)** Step 11 Nets of 3-D shapes

Spring Term

Knowledge and Skills	Teaching sequence
Block 1: Number – Decimals • Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. **(6NPV2)** • Multiply one-digit numbers with up to 2 decimal places by whole numbers. • Use written division methods in cases where the answer has up to 2 decimal places. • Solve problems which require answers to be rounded to specified degrees of accuracy. •	Step 1 Place value within 1 Step 2 Place value – integers and decimals Step 3 Round decimals Step 4 Add and subtract decimals **Step 5 Multiply by 10, 100 and 1,000 (NPV-4)** **Step 6 Divide by 10, 100 and 1,000 (NPV-4)** Step 7 Multiply decimals by integers Step 8 Divide decimals by integers Step 9 Multiply and divide decimals in context
Block 2: Number - Percentages • Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. • Recall and use equivalences between simple fractions, decimals and percentages including in different contexts	Step 1 Decimal and fraction equivalents Step 2 Fractions as division Step 3 Understand percentages Step 4 Fractions to percentages Step 5 Equivalent fractions, decimals and percentages Step 6 Order fractions, decimals and percentages Step 7 Percentage of an amount – one step Step 8 Percentage of an amount – multi-step Step 9 Percentages – missing values
Block 3: Statistics • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. • Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate the mean as an average.	Step 1 Read and interpret pie charts Step 2 Pie charts with percentages Step 3 Line graphs Step 4 Dual bar charts Step 5 The mean *steps re-ordered for continuity of skills from FDP into pie chart
Block 4: Geometry – position and direction • Describe positions on the full coordinate grid (all four quadrants). • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. **(6G1)**	Step 1 The first quadrant Step 2 Read and plot points in four quadrants Step 3 Solve problems with coordinates Step 4 Translations Step 5 Reflections

Block 5: Measurement – Area and perimeter • Recognise that shapes with the same areas can have different perimeters and vice versa. **(6G1)** • Recognise when it is possible to use formulae for area and volume of shapes. • Calculate the area of parallelograms and triangles. **(6G1)** • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3)	**Step 1 Shapes – same area (G-1)** **Step 2 Area and perimeter (G-1)** **Step 3 Area of a triangle – counting squares (G-1)** **Step 4 Area of a right-angled triangle (G-1)** **Step 5 Area of any triangle (G-1)** **Step 6 Area of a parallelogram (G-1)** Step 7 Volume – counting cubes Step 8 Volume of a cuboid
Block 6: Number – algebra • Use simple formulae • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. **(6MD4)** • Enumerate possibilities of combinations of two variables.	Step 1 1-step function machines Step 2 2-step function machines Step 3 Form expressions Step 4 Substitution Step 5 Formulae Step 6 Form equations Step 7 Solve 1-step equations Step 8 Solve 2-step equations **Step 9 Find pairs of values (6AS/MD-4)** **Step 10 Solve problems with two unknowns (6AS/MD-4)**
Block 7: Ratio • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. **(6MD3)** • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. **(6MD3)**	**Step 1 Add or multiply? (6AS/MD-1)** Step 2 Use ratio language Step 3 Introduction to the ratio symbol Step 4 Ratio and fractions **Step 5 Ratio problems (6AS/MD-1, 6AS/MD-3)** **Step 6 Proportion problems (6AS/MD-1, 6AS/MD-3)** **Step 7 Recipes (6AS/MD-1, 6AS/MD-3)**
Block 8: Measurement – converting units • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. • Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3dp.	Step 1 Metric measures **Step 2 Convert metric measures (NPV-4)** Step 3 Calculate with metric measures Step 4 Miles and kilometres Step 5 Imperial measures

Summer Term	
Knowledge and Skills	**Teaching sequence**
Block 1: Problem Solving in a range of contexts • Solve problems involving addition, subtraction, multiplication and division. • Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy. • Solve problems which require answers to be rounded to specified degrees of accuracy. • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	Revision of key focus areas – use of gaps analysis from assessment to inform planning.
Block 2: Assessment – SATs Testing	
Block 3: Ratio • Solve problems involving similar shapes where the scale factor is known or can be found. **(6MD3)**	**Step 1 Scale drawing (6AS/MD-1, 6AS/MD-3)** **Step 2 Use scale factors (6AS/MD-1, 6AS/MD-3)** **Step 3 Similar shapes (6AS/MD-1, 6AS/MD-3)**
Block 4: Problem Solving • Solve problems involving addition, subtraction, multiplication and division. • Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy. • Solve problems which require answers to be rounded to specified degrees of accuracy. • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	Money and real-life context work Calculator skills Design a zoo challenge Logic problems Find all possibilities