Futures Are Limitless

Falmouth Primary Academy

Intent

At Falmouth Primary Academy, our mathematics curriculum is designed to ensure that every child develops a deep, secure, and adaptable understanding of mathematical concepts. Rooted in the belief that *Futures Are Limitless*, we empower pupils to become confident, resilient mathematicians who can apply their knowledge with fluency and reasoning in a range of contexts.

We follow a small-steps approach to learning, breaking down concepts into manageable, sequential steps that build on prior knowledge. This ensures that all pupils, regardless of starting point, can access and master the curriculum. Regular assessment checkpoints are embedded throughout to identify gaps, inform teaching, and provide timely support or challenge.

Our curriculum promotes mathematical thinking, problem-solving, and a growth mindset. We aim to instil a belief in every child that they *can* succeed in maths and that their potential is not fixed.

Futures Are Limitless

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Implementation: Year 5

Autumn Term

Block 1: Place Value (up to 1,000,000)

Declarative	Procedural	Conditional
• Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals. ACP: Multiple choice quiz – What is the year? • Read and write numbers to at least 1,000,000 and determine the value of each digit. ACP: Write numbers given orally in words and numerals. Quick-fire quiz to determine the value of different digits. • Count forwards and backwards in steps of powers of 10 for any given number up to 1,000,000. ACP: On whiteboards, write the number that is 10/100/1000 etc more than a given number.	• Order and compare numbers to at least 1,000,000. ACP: Choose < or > to make the statements correct. Order groups of four numbers. • Compose and decompose numbers up to 1,000,000 using standard and non-standard partitioning. ACP: How many ways can you partition a given number? • Round any number up to 1,000,000 to the nearest 10, 100, 1 000, 10 000 or 100 000. ACP: Round numbers to a given degree of accuracy.	• Reason about the location of any 6-digit number in the linear number system. ACP: What numbers are the arrows pointing to? • Solve number problems and practical problems that involve all declarative and procedural knowledge. ACP: Low stakes test.

Block 2: Addition and Subtraction

Declarative	Procedural	Conditional
	• Add and subtract numbers mentally with increasingly large numbers. ACP: Calculate addition and subtraction questions mentally and explain choice of method. • Add and subtract whole numbers with more than 4-digits, including using formal written methods (columnar addition and subtraction). ACP: Low stakes test including column addition and subtraction and missing number questions.	• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. ACP: Give children completed calculations and ask them to use rounding to check the answers. • Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. ACP: Answer a variety of word problems involving addition and subtraction.

Block 3: Multiplication and Division A

Declarative	Procedural	Conditional
• Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. ACP: TTRS, Rapid Recall and 99 Club (continuous) • Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}). ACP: Addition and subtraction questions with squared and cubed numbers. • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19.	• Multiply and divide whole numbers by 10, 100 and 1 000. ACP: Quick-fire questions on whiteboards. • Multiply and divide numbers mentally drawing upon known facts. ACP: Calculate answers mentally and explain methods used. • Find factors and multiples of positive whole numbers, including common factors and common multiples, finding all factor pairs of a number, and express a given number as a product of 2 or 3 factors.	• Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes. ACP: Low stakes test.

ACP: Identify whether given numbers are prime or composite. Explain reasoning.	ACP: Find common factors and multiples of pairs of numbers.	
Block 4: Fractions A		
Declarative	Procedural	Conditional
• Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths, and understand they have the same position in the linear number system. ACP: Children write equivalent fractions for any given fraction. • Recognise mixed numbers and improper fractions and write mathematical statements > 1 as a mixed number. ACP: Identify proper fractions, improper fractions and mixed numbers.	• Compare and order fractions whose denominators are all multiples of the same number. ACP: Compare pairs of fractions/Order groups of four fractions. • Convert from mixed numbers to improper fractions and vice versa. ACP: Quick quiz on whiteboards. • Add and subtract fractions with the same denominator and denominators that are multiples of the same number. ACP: Low stakes test involving addition and subtraction.	• Solve problems involving fractions. ACP: Low stakes test.

Spring Term		
Block 1: Multiplication and Division B		
Declarative	Procedural	Conditional
	• 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. ACP: Low stakes test including missing number questions. • 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. ACP: Low stakes test including missing number questions.	• Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. ACP: Scale up a recipe. • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. ACP: Multi-step problems using the four operations.
Block 2: Fractions B		
Declarative	Procedural	Conditional
	• Find non-unit fractions of quantities. ACP: Find the whole. • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. ACP: Low stakes test.	
Block 3: Decimals and Percentages		
Declarative	Procedural	Conditional
• Read and write numbers with up to three decimal places. ACP: Identify the value of the underlined digits. • Read and write decimal numbers as fractions.	• Order and compare numbers with up to three decimal places. ACP: Order three decimals and explain reasoning.	• Solve problems involving numbers up to 3 decimal places. ACP: Low stakes test.

ACP: Match decimals to their equivalent fractions. • Recall decimal fraction equivalents for ½, ¼, 1/5, and 1/10, and for multiples of these fractions. ACP: Quick quiz on whiteboards. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. ACP: Partition decimal numbers in standard and non-standard ways. • Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. ACP: Quickfire questions on whiteboards.	• Round decimals with two decimal places to the nearest whole number and to one decimal place. ACP: Round decimal numbers to a given degree of accuracy.	• Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25. ACP: Solve word problems that require finding decimal and percentage equivalents of fractions.
Block 4: Perimeter and Area		
Declarative	Procedural	Conditional
	• Measure and calculate the perimeter of composite rectilinear shapes in cm and m. ACP: Calculate the perimeter of polygons, including finding missing sides. • Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. ACP: Which shape has the biggest area?	
Block 5: Statistics		
Declarative	Procedural	Conditional
	• Complete, read and interpret information in tables, including timetables. ACP: Complete a two-way table and answer questions about it.	• Solve comparison, sum and difference problems using information presented in a line graph. ACP: Answer a variety of questions about a line graph.

Summer Term		
Block 1: Shape		
Declarative	Procedural	Conditional
• Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. ACP: Quick quiz – name the 3-D shapes shown on the whiteboard. • Know angles are measured in degrees. ACP: Describe turns for children to complete (practical activity).	• Estimate and compare acute, obtuse and reflex angles. ACP: Identify acute, obtuse and reflex angles. • Draw given angles and measure them in degrees. ACP: Low stakes test.	• Use the properties of rectangles to deduce related facts and find missing lengths and angles. ACP: True or False questions. • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. ACP: Quickfire quiz.

• Identify: angles at a point and one whole turn (total 360°); angles at a point on a straight line and ½ a turn (total 180°); other multiples of 90°. ACP: Identify types of angle.		
Block 2: Position and Direction		
Declarative	Procedural	Conditional
	• 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. ACP: Low stakes test.	
Block 3: Decimals		
Declarative	Procedural	Conditional
	• Add and subtract decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places and complements of 1. ACP: Complete an addition pyramid. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1 000. ACP: Quick quiz on whiteboards.	• Solve problems involving number up to three decimal places. ACP: Solve money and measures problems.
Block 4: Negative Numbers		
Declarative	Procedural	Conditional
• Count forwards and backwards with positive and negative whole numbers, including through zero. ACP: Fill in the missing numbers on a number line.		• Interpret negative numbers in context. ACP: Answer questions involving temperature.
Block 5: Converting Units		
Declarative	Procedural	Conditional
	• Convert between different units of metric measure (for example: kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) including using common decimals and fractions. ACP: Quickfire quiz on whiteboards. • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. ACP: Find the length of your pencil in inches.	• Solve problems involving converting between units of time. ACP: Work out how old you are in days/hours/minutes. • Use all four operations to solve problems involving measures. ACP: Low stakes test.
Block 6: Volume		
Declarative	Procedural	Conditional
	• Estimate volume (for example, using 1cm^3 blocks to build cuboids [including cubes] and capacity (for example, using water). ACP: Which cuboid has the largest volume?	• Use all four operations to solve problems involving volume (including decimals). ACP: Answer word problems using the four operations.

Implementation: Year 6

Autumn Term		
Block 1: Place Value (up to 10,000,000)		
Declarative	Procedural	Conditional
• Read and write numbers up to 10,000,000 and determine the value of each digit. ACP: Read and write numbers (numerals and words) represented pictorially.	• Order and compare numbers up to 10,000,000. ACP: Order a set of numbers from smallest to greatest. • Compose and decompose numbers up to 10 million using standard and non-standard partitioning. ACP: Find different ways to partition a given number. • Round any whole number to a required degree of accuracy. ACP: Quick-fire quiz on whiteboards. • Use negative numbers in context and calculate intervals across zero. ACP: Use a number line (positive and negative) to answer questions relating to temperature.	• Solve number problems and practical problems that involve all declarative and procedural knowledge. ACP: Low stakes test.
Block 2: Four Operations		
Declarative	Procedural	Conditional
• Sustain fluency in multiplication table facts, and corresponding division facts, through continued practice. ACP: Ongoing during Rapid Recall and 99 Club. • Identify common factors, common multiples and prime numbers. ACP: Quick-fire quiz on whiteboards.	• Perform mental calculations, including with mixed operations and large numbers. ACP: Quick-fire quiz on whiteboards. • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. ACP: Low stakes test. • Divide numbers up to 4 digits by a two-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. ACP: Low stakes test. • Divide numbers up to 4 digits by a two-digit whole number using the formal written method of short division where appropriate, interpreting remainders according to the context. ACP: Low stakes test. • Use their knowledge of the order of operations to carry out calculations involving the four operations. ACP: Quick-fire quiz on whiteboards.	• Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. ACP: Low stakes test. • Solve problems involving addition, subtraction, multiplication and division. ACP: Low stakes test. • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. ACP: Use estimation to check answers to completed questions.

Block 3: Fractions		
Declarative	Procedural	Conditional
	• Use common factors to simplify fractions; use common multiples to express fractions in the same denominations. ACP: Quick-fire quiz – simplify given fractions (include those that cannot be simplified). • Compare and order fractions, including fractions > 1. ACP: Use <, > and = to compare pairs of fractions (include mixed numbers and improper fractions). • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. ACP: Low stakes test. • Multiply simple pairs of proper fractions, writing the answer in its simplest form. Divide proper fractions by whole numbers. ACP: Low stakes test. • Calculate fractions of amounts and find the whole from a fraction of an amount. ACP: Low stakes test.	• Solve problems involving addition and subtraction of fractions. • Solve problems involving multiplication and division of fractions. ACP: Low stakes test.
Block 4: Converting Units		
Declarative	Procedural	Conditional
• Use, read and write standard units of measurement. ACP: Choose the most appropriate unit for each measurement.	• 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 up to three decimal places. ACP: Low stakes test. • Convert between miles and kilometres. ACP: Compare pairs of distances – miles and km.	• Solve problems involving the calculation of units of measure, using decimal notation up to three decimal places where appropriate. ACP: Low stakes test (KL assessment).

Spring Term		
Block 1: Ratio		
Declarative	Procedural	Conditional
		• Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. ACP: Low stakes test. • Solve problems involving similar shapes where the scale factor is known or can be found.

		ACP: Calculate missing lengths of similar shapes where the scale factor can be found. • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. ACP: Work out the ratio of coloured objects from the given fractions. • Solve problems involving the calculation of percentages and the use of percentages for comparison. ACP: Work out the percentage of girls if 16 out of 50 children are boys.
Block 2: Algebra		
Declarative	Procedural	Conditional
	• Use simple formulae. ACP: Use simple formulae to describe pictorial representations. • Generate and describe linear number sequences. ACP: Complete a table for a function machine. Work out the missing function when given inputs and outputs. • Express missing number problems algebraically. ACP: Write the expressions for 'I'm thinking of a number' statements. • Find pairs of numbers that satisfy an equation with two unknowns. ACP: Use clues to find the two unknown numbers. • Enumerate possibilities of combinations of two variables. ACP: Find all the possible values of two variables.	• Solve problems where symbols and letters are used to represent variables and unknowns in mathematical situations that children already understand such as missing numbers, lengths, coordinates and angles. ACP: Low stakes test.
Block 3: Decimals		
Declarative	Procedural	Conditional
• Identify the value of each digit in numbers given to three decimal places. ACP: Quick-fire quiz on whiteboards.	• Multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places. ACP: Quick-fire quiz on whiteboards. • Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. ACP: Use equivalent fractions (tenths, hundredths or thousandths) to find decimal equivalents. • Use written division methods in cases where the answer has up to 2 decimal places. ACP: Use division to convert fractions to decimals.	• Solve problems which require answers to be rounded to specified degrees of accuracy. ACP: Low stakes test.

Block 4: Fractions, Decimals and Percentages		
Declarative	Procedural	Conditional
• Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. ACP: Quick-fire quiz on whiteboards.	• Calculate percentages of quantities. ACP: Low stakes test. • Compare and order fractions, decimals and percentages. ACP: Order a set of FDPs from smallest to greatest.	• Solve problems involving fractions, decimals and percentages. ACP: Low stakes test.
Block 5: Area, Perimeter and Volume		
Declarative	Procedural	Conditional
• Recognise that shapes with the same areas can have different perimeters and vice versa. ACP: Draw rectangles with the same area but different perimeters. • Recognise when it is possible to use formulae for area and volume of shapes. ACP: Quick-fire quiz on whiteboards.	• Calculate the area of parallelograms and triangles. ACP: Low stakes test. • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units (eg mm^3 and km^3). ACP: Low stakes test.	
Block 6: Statistics		
Declarative	Procedural	Conditional
	• Interpret pie charts and line graphs. ACP: Answer questions relating to pie charts and bar charts. • Construct pie charts and line graphs. ACP: Collect data (two variables) and represent it as a line graph. • Calculate and interpret the mean as an average. ACP: Calculate the mean of a set of data.	• Solve problems using pie charts and line graphs. ACP: Work out the number of people represented by each segment of a pie chart.

Summer Term		
Block 1: Shape		
Declarative	Procedural	Conditional
• Recognise simple 3-D shapes. ACP: Quick-fire quiz – name 3-D shapes displayed on whiteboard. • Describe the properties of 3-D shapes. ACP: Complete a table describing the properties of 3-D shapes. • Name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. ACP: Label parts of a circle.	• Draw 2-D shapes using given dimensions and angles. ACP: Use a ruler and protractor to draw 2-D shapes. • Build simple 3-D shapes including making nets. ACP: Match 3-D shapes to nets. Draw nets accurately to make 3-D shapes. • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons. ACP: Low stakes test. • Recognise angles where they meet at a point, are on a straight line or are vertically opposite, and find missing angles. ACP: Find missing angles on a straight line, around a point and vertically opposite.	
Block 2: Position and Direction		
Declarative	Procedural	Conditional
• Describe positions on the full co-ordinate grid (all four quadrants). ACP: Write down the co-ordinates of points drawn in all four quadrants.	• Draw and translate simple shapes on the co-ordinate plane. ACP: Draw a shape from given co-ordinates and translate it as instructed. • Reflect simple shapes in the axes. ACP: Draw a shape from given co-ordinates and reflect it in the x-axis.	• Find missing co-ordinates of shapes drawn in all four quadrants. ACP: Find missing co-ordinates without gridlines.

Impact

The impact of our maths curriculum is evident in the confidence, competence, and curiosity our pupils demonstrate in their mathematical learning. Through small-step progression and responsive teaching, children develop secure foundations that enable them to tackle increasingly complex problems with independence and resilience.

Assessment checkpoints ensure that misconceptions are swiftly addressed and that learning is personalised to meet the needs of all learners. As a result, pupils make strong progress and are well-prepared for the next stage of their education.

Our pupils see themselves as mathematicians. They approach challenges with perseverance, articulate their reasoning clearly, and apply their skills across the curriculum and in real-life contexts. Most importantly, they leave Falmouth Primary Academy with the belief that their *futures are limitless*—and that mathematics is a key to unlocking those futures.