

**Maths – Year 5**

**Yearly Topic Overview**

**Rising Stars Mathematics**



**PARISH**  
CE Primary School

These medium-term plans give a complete at-a-glance overview of the structure of Maths at Parish for Year 5 detailing the order of teaching, key concepts, questions and vocabulary and a suggestion of what could be covered each term with some flexibility. Each length of topic (in weeks) differs. Some topics may take 2 weeks to cover, others may take longer depending on the class and cohort. If teachers are confident that children have mastered a concept, then it is acceptable to move on quickly, just as it is important to allow children to spend longer on a topic if necessary to ensure they have fully mastered it before moving on. It is important to remember that the length of a half-term will vary. If the half-term is short, teachers can choose to move a unit into the next term. If a half-term is long, teachers can choose to move a unit back into the preceding term. It is best practice to avoid splitting units between two half-terms, unless the content in each concept is very distinct. Please use these topic overviews as a guide to your class' planning, teaching and learning to provide consistency across the year group.

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Autumn 1</b>	<b>Year 5</b>		
<b>Strand</b>	Numbers in Real Life		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number and Place Value</li> <li>2. Measurement</li> <li>3. Fractions/Decimals/Percentages</li> </ol>		
<b>Key Concepts</b>	Distances Converting Units of Measure Fractions and Decimal Equivalents Reading, writing and ordering decimal numbers	<b>Key Vocabulary</b>	place value, distance, convert, units, round, compare, kilometre, metre, centimetre, millimetre, fractions, numerator, denominator, vinculum, tenths, hundredths, thousandths, decimal equivalents, grams, kilograms
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Read, write, order and compare numbers to at least 500 000 and determine the value of each digit.</li> <li>• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.</li> <li>• Round any number up to 500 000 to the nearest 10, 100, 10 000 and 100 000.</li> <li>• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>• Convert between different units of metric measure, e.g. kilometre and metre; centimetre and metre; centimetre and millimetre.</li> <li>• Solve problems involving converting between units of time.</li> <li>• Read and write decimal numbers as fractions, e.g. <math>0.71 = \frac{71}{100}</math>.</li> <li>• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</li> <li>• Convert between different units of metric measure, e.g. grams and kilograms</li> <li>• Round decimals with two decimal places to the nearest whole number and to one decimal place.</li> <li>• Read, write, order and compare numbers with up to three decimal places.</li> <li>• Solve problems involving number up to three decimal places</li> </ul>		
<b>Key questions</b>	Can I order, compare and round numbers to 1 000 000? Can I convert between units of measure? Can I read, write, compare, round and order fractions? Can I read, write and order decimals involving up to two decimal places?		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Autumn 1</b>	<b>Year 5</b>		
<b>Strand</b>	Methods for Addition and Subtraction		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number – addition and subtraction</li> <li>2. Measurement</li> </ol>		
<b>Key Concepts</b>	Mental calculation strategies Written methods for addition and subtraction	<b>Key Vocabulary</b>	addition, subtraction, rounding, mental calculation, written calculation, columnar addition, columnar subtraction
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Add and subtract numbers mentally with increasingly large numbers.</li> <li>• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li> <li>• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> <li>• Add and subtract whole numbers with four digits, including using written methods (columnar addition and subtraction).</li> <li>• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>		
<b>Key questions</b>	<p>Can I use mental strategies to perform addition and subtraction calculations involving four or more digits?</p> <p>Can I use formal written methods to perform addition and subtraction calculations involving four or more digits?</p>		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Autumn 2</b>	<b>Year 5</b>		
<b>Strand</b>	Methods for Multiplication and Division		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number - multiplication and division</li> <li>2. Measurement</li> </ol>		
<b>Key Concepts</b>	Exploring multiples, factors, squares and cubes Mental calculation strategies for multiplication and division Written methods for multiplication and division	<b>Key Vocabulary</b>	multiplication, division, multiples, factors, factor pairs, squares, cubes, common factors, long multiplication, short division, remainders
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li> <li>• Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</li> <li>• Multiply and divide numbers mentally drawing upon known facts.</li> <li>• Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</li> <li>• Multiply numbers up to 4 digits long by a single- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.</li> <li>• Divide numbers up to 4 digits long by a single-digit number using the formal written method of short division and interpret remainders appropriately for the context.</li> </ul>		
<b>Key questions</b>	Can I identify square and cube numbers, multiples and factors? Can I use mental strategies to perform multiplication and division calculations? Can I use formal written methods to perform calculations involving multiplying or dividing by one-digit numbers?		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

Term: Autumn 2	Year 5		
<b>Strand</b>	Triangles and Other Polygons		
<b>Domain</b>	1. Geometry – properties of shape		
<b>Key Concepts</b>	Exploring multiples, factors, squares and cubes Mental calculation strategies Written methods for multiplication and division	<b>Key Vocabulary</b>	polygons, triangles, 2-D, 3-D, shape, multiples, factors, squares, cubes, estimate, angles, degrees, acute, obtuse, reflex, regular, irregular, polygons, multiplication, division
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Know angles are measured in degrees: estimate and compare acute and obtuse angles.</li> <li>• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>• Use the properties of rectangles to deduce related facts and find missing lengths and angles.</li> <li>• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</li> <li>• Draw given angles and measure them in degrees (°).</li> <li>• Identify:               <ul style="list-style-type: none"> <li>• angles at a point and 1 whole turn (total 360°)</li> <li>• angles at a point on a straight line and 1 2 a turn (total 180°)</li> <li>• other multiples of 90°.</li> </ul> </li> <li>• Use the properties of rectangles to deduce related facts and find missing lengths and angles.</li> <li>• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</li> <li>• Draw given angles and measure them in degrees (°).</li> <li>• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>• Identify angles at a point and one whole turn (total 360°)</li> </ul>		
<b>Key questions</b>	Can I identify regular and irregular 2-D shapes? Can I measure and calculate angles? Can I draw angles and triangles using a ruler and protractor?		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Autumn 2</b>	<b>Year 5</b>		
<b>Strand</b>	Different Types of Number		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number and Place Value</li> <li>2. Measurement</li> <li>3. Statistics</li> </ol>		
<b>Key Concepts</b>	Place holders and comparing Positive and negative numbers Roman numerals	<b>Key Vocabulary</b>	place holders, compare, order, positive numbers, negative numbers, value, rounding, Roman numerals
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Read, write, order and compare numbers to at least 500 000 and determine the value of each digit.</li> <li>• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.</li> <li>• Round any number up to 500 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>• Solve number problems and practical problems that involve all of the above.</li> <li>• Interpret negative numbers in context.</li> <li>• Count forwards and backwards with positive and negative whole numbers, including through zero.</li> <li>• Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</li> <li>• Solve problems involving units of time.</li> </ul>		
<b>Key questions</b>	<p>Can I read, write, order and compare numbers to at least 1 000 000?</p> <p>Can I interpret negative numbers in context?</p> <p>Can I read and use Roman numerals?</p>		

# Maths Yearly Topic Overview – Year 5



Subject: Maths

<b>Term: Spring 1</b>	<b>Year 5</b>		
<b>Strand</b>	Mental and Written Methods for Addition and Subtraction		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number – addition and subtraction</li> <li>2. Measurement</li> <li>3. Statistics</li> </ol>		
<b>Key Concepts</b>	Mental or written methods? Estimation and rounding Checking using the inverse	<b>Key Vocabulary</b>	addition, subtraction, columnar addition, columnar subtraction, estimate, round, inverse, decimal notation, compare, sum, difference, line graph, bar chart
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction).</li> <li>• Add and subtract numbers mentally with increasingly large numbers.</li> <li>• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> <li>• Solve problems involving number up to three decimal places.</li> <li>• Use addition and subtraction to solve problems involving mass using decimal notation</li> <li>• Solve comparison, sum and difference problems using information presented in a line graph and bar charts.</li> <li>• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li> </ul>		
<b>Key questions</b>	<p>Can I use written methods to solve addition and subtraction calculations?</p> <p>Can I use a variety of methods to check addition and subtraction calculations?</p>		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Spring 1</b>	<b>Year 5</b>		
<b>Strand</b>	Fractions, Decimals and Percentages		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number – fractions including decimals and percentages</li> <li>2. Measurement</li> </ol>		
<b>Key Concepts</b>	Comparing and ordering fractions Improper fractions and mixed numbers Equivalences Percentages	<b>Key Vocabulary</b>	compare, order, fractions, numerator, denominator, vinculum, unit fraction, non-unit fraction, improper fraction, mixed numbers, equivalences, decimals, tenths, hundredths, thousandths, percentages, percent
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Compare and order fractions whose denominators are all multiples of the same number.</li> <li>• Identify, name and write equivalent fractions of a given fraction, represented visually.</li> <li>• Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number (e.g. <math>2\frac{5}{5} + 4\frac{5}{5} = 6\frac{5}{5} = 11\frac{5}{5}</math>).</li> <li>• Solve problems involving measures</li> <li>• Read and write decimal numbers as fractions (e.g. <math>0.71 = \frac{71}{100}</math>).</li> <li>• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</li> <li>• 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.</li> </ul>		
<b>Key questions</b>	Can I compare and order fractions whose denominators are all multiples of the same number? Can I recognise mixed numbers and improper fractions? Can I identify equivalent fractions? Can I understand and use percentages?		



# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Spring 2</b>	<b>Year 5</b>		
<b>Strand</b>	Special Numbers, Operators and Scaling		
<b>Domain</b>	<ol style="list-style-type: none"> <li>Number – multiplication and division</li> <li>Number – fractions including decimals and percentages</li> </ol>		
<b>Key Concepts</b>	Primes, squares and cubes Using fractions as operators for multiplication Using scaling for multiplication and division	<b>Key Vocabulary</b>	multiplication, division, factors, factor pairs, common factors, multiples, composite numbers, prime numbers, square numbers, cubed numbers, fractions, numerator, denominator, vinculum, decimals, tenths, hundredths, thousandths, percentages, percent
<b>Objectives</b>	<ul style="list-style-type: none"> <li>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li> <li>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</li> <li>Recall primes up to 19.</li> <li>Recognise and use square numbers and cube numbers, and the notation for squared (2 ) and cubed (3 ).</li> <li>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</li> <li>Solve problems that require knowing percentage and decimal equivalents of 1 2, 1 4, 1 5, 2 5, 4 5 and those fractions with a denominator of a multiple of 10 or 25.</li> <li>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul>		
<b>Key questions</b>	<p>Can I identify and use prime, square and cube numbers?</p> <p>Can I solve multiplication and division calculations using fractions as operators?</p> <p>Can I solve multiplication and division calculations using scaling?</p>		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Spring 2</b>	<b>Year 5</b>		
<b>Strand</b>	2D and 3D Shapes		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Geometry – position and direction</li> <li>2. Geometry – properties of shape</li> </ol>		
<b>Key Concepts</b>	Reflecting and translating 2-D shapes Identifying 3-D shapes Angles	<b>Key Vocabulary</b>	2-D, 3-D, shape, reflection, translation, symmetry, horizontal, vertical, cubes, cuboid, angles, degrees, acute, obtuse, reflex, order, compare, regular, irregular, polygon, whole turn, straight line, half turn
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.</li> <li>• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</li> <li>• Draw given angles and measure them in degrees (°).</li> <li>• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>• Identify:                             <ul style="list-style-type: none"> <li>• angles at a point and 1 whole turn (total 360°)</li> <li>• angles at a point on a straight line and half a turn (total 180°).</li> </ul> </li> </ul>		
<b>Key questions</b>	Can I describe transformations of 2-D shapes? Can I identify 3-D shapes? Can I draw, measure and calculate angles?		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Summer 1</b>	<b>Year 5</b>		
<b>Strand</b>	Negative Numbers, Fractions and Decimals		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number – Number and place value</li> <li>2. Number – Fractions including decimals and percentages</li> <li>3. Measurement</li> </ol>		
<b>Key Concepts</b>	Negative numbers and millions Fractions Decimal fractions	<b>Key Vocabulary</b>	
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</li> <li>• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.</li> <li>• Interpret negative numbers in the context of temperature.</li> <li>• Count forwards and backwards with positive and negative whole numbers, including through zero.</li> <li>• Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.</li> <li>• Solve number problems and practical problems that involve all of the above</li> <li>• Compare and order fractions whose denominators are all multiples of the same number.</li> <li>• Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number, e.g. <math>2\frac{5}{10} + 4\frac{5}{10} = 6\frac{5}{10} = 11\frac{5}{10}</math>.</li> <li>• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</li> <li>• Round decimals with two decimal places to the nearest whole number and to one decimal place.</li> <li>• Read, write, order and compare numbers with up to three decimal places.</li> <li>• Solve problems involving numbers up to three decimal places.</li> </ul>		
<b>Key questions</b>	<p>Can I use negative numbers, large numbers and fractions?            Can I compare and order fractions?            Can I recognise and convert between mixed numbers and improper fractions?            Can I read, write, order, compare and round decimal fractions?</p>		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Summer 1</b>	<b>Year 5</b>		
<b>Strand</b>	Addition and Subtraction Using Measurement		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number – addition and subtraction</li> <li>2. Number – Fractions including decimals and percentages</li> <li>3. Measurement</li> </ol>		
<b>Key Concepts</b>	Mental and written calculations Adding and subtracting fractions	<b>Key Vocabulary</b>	addition, subtraction, whole numbers, columnar addition, columnar subtraction, convert, metric, decimal notation, mixed numbers, improper fractions, fractions, denominator, numerator, vinculum, multiples, factors, sum, difference, line graph,
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Add and subtract numbers mentally with increasingly large numbers.</li> <li>• Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction).</li> <li>• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> <li>• Convert between different units of metric measure.</li> <li>• Use addition and subtraction to solve problems involving measurement using decimal notation.</li> <li>• Solve problems involving units of time.</li> <li>• Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt;1</math> as a mixed number.</li> <li>• Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</li> <li>• Start to solve comparison, sum and difference problems using information presented in a line graph.</li> <li>• Start to solve problems involving units of time</li> </ul>		
<b>Key questions</b>	<p>Can I add and subtract large numbers and decimals with up to three decimal places?</p> <p>Can I add and subtract fractions with denominators that are multiples of the same number?</p>		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Summer 1</b>	<b>Year 5</b>		
<b>Strand</b>	Exploring Fractions, Decimals and Percentages		
<b>Domain</b>	<ol style="list-style-type: none"> <li>1. Number – addition and subtraction</li> <li>2. Number - multiplication and division</li> <li>3. Measurement</li> </ol>		
<b>Key Concepts</b>	Exploring fractions Working with decimals Calculating and converting percentages	<b>Key Vocabulary</b>	addition, subtraction, multiplication, division, fractions, numerator, denominator, vinculum, decimals, tenths, hundredths, thousandths, percentages, percent, equivalents, commutativity
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Compare and order fractions whose denominators are all multiples of the same number.</li> <li>• Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number (e.g. <math>2\frac{5}{10} + 4\frac{5}{10} = 6\frac{5}{10} = 11\frac{5}{10}</math>).</li> <li>• Multiply fractions by whole numbers</li> <li>• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>• Read and write decimal numbers as fractions (e.g. <math>0.71 = \frac{71}{100}</math>).</li> <li>• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</li> <li>• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</li> <li>• 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.</li> <li>• Identify, name and write equivalent fractions of tenths and hundredths.</li> </ul>		
<b>Key questions</b>	Can I compare and order fractions whose denominators are all multiples of the same number? Can I use decimal numbers to four decimal places? Can I calculate and convert percentages?		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Summer 2</b>	<b>Year 5</b>		
<b>Strand</b>	Factors, Scaling and Long Multiplication and Division		
<b>Domain</b>	<ol style="list-style-type: none"> <li>Number – Multiplication and division</li> <li>Measurement</li> </ol>		
<b>Key Concepts</b>	Factors Mental calculation and scaling 4-digit and long multiplication Division with remainders	<b>Key Vocabulary</b>	multiplication, division, factors, factor pairs, common factors, highest common factor, prime factors, lowest common multiple, multiples, squares, cubes, scaling, long multiplication, long division, remainder
<b>Objectives</b>	<ul style="list-style-type: none"> <li>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li> <li>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</li> <li>Multiply and divide numbers mentally drawing upon known facts.</li> <li>Solve problems involving addition, subtraction, multiplication and division and a combination of these.</li> <li>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> <li>Multiply numbers up to four digits by a single- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.</li> <li>Divide numbers up to four digits by a single-digit number using the formal written method of short division and interpret remainders appropriately for the context.</li> </ul>		
<b>Key questions</b>	Can I identify and use factors and prime factors? Can I perform mental multiplication and division calculations? Can I multiply four-digit numbers by one-digit numbers? Can I divide four-digit numbers by one-digit numbers?		

# Maths Yearly Topic Overview – Year 5



Subject: **Maths**

<b>Term: Summer 2</b>	<b>Year 5</b>		
<b>Strand</b>	Perimeter, Area and Volume		
<b>Domain</b>	1. Measurement		
<b>Key Concepts</b>	Finding perimeters Areas and perimeters Volume and capacity	<b>Key Vocabulary</b>	perimeter, regular, irregular, rectilinear, area, volume, capacity, centimetres, metres, square centimetres, square metres, lengths, angles, multiples, factors, factor pairs, common factors, cuboids, cubes, estimate
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</li> <li>• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</li> <li>• Use the properties of rectangles to deduce related facts and find missing lengths and angles.</li> <li>• Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>), and estimate the area of irregular shapes.</li> <li>• Identify multiples and factors, including all factor pairs, and common factors of two numbers</li> <li>• Estimate the volume of cuboids e.g. using cm cubes, and capacity, e.g. using water.</li> </ul>		
<b>Key questions</b>	<p>Can I measure and calculate perimeter of composite shapes?</p> <p>Can I calculate the area and perimeter of irregular shapes?</p> <p>Can I calculate volume of cuboids?</p>		