

# Ursuline Catholic Primary School

## Year 6 Maths Curriculum



<u>Autumn</u>	<u>Objectives</u>
<b>Place value of whole numbers</b>	<ul style="list-style-type: none"> <li>• Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>• Round any whole number to a required degree of accuracy</li> <li>• Use negative numbers in context, and calculate intervals across zero</li> <li>• Solve number and practical problems that involve all of the above.</li> </ul>
<b>Place value of decimals</b>	<ul style="list-style-type: none"> <li>• Identify the value of each digit in numbers given to three decimal places</li> </ul>
<b>Properties of number</b>	<ul style="list-style-type: none"> <li>• Identify common factors, common multiples and prime numbers</li> </ul>
<b>Multiplication and division of powers of 10</b>	<ul style="list-style-type: none"> <li>• Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</li> </ul>
<b>Measure</b>	<ul style="list-style-type: none"> <li>• Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> </ul>
<b>Multiplication and Division</b>	<ul style="list-style-type: none"> <li>• Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>• 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</li> <li>• Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</li> <li>• Solve problems involving addition, subtraction, multiplication and division</li> <li>• Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>

<b>Area and Volume</b>	<ul style="list-style-type: none"> <li>Recognise when it is possible to use formulae for area and volume of shapes</li> <li>Recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>Calculate the area of parallelograms and triangles</li> <li>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (<math>\text{cm}^3</math>) and cubic metres (<math>\text{m}^3</math>), and extending to other units [for example, <math>\text{mm}^3</math> and <math>\text{km}^3</math>].</li> </ul>
<b>Addition and Subtraction</b>	<ul style="list-style-type: none"> <li>Perform mental calculations, including with mixed operations and 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 addition, subtraction, multiplication, and division</li> <li>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>
<b>Order of operations</b>	<ul style="list-style-type: none"> <li>Use their knowledge of the order of operations to carry out calculations involving the four operations</li> <li>Numbers that satisfy an equation with two unknowns</li> </ul>
<b>Spring</b>	<b>Objectives</b>
<b>Fractions</b>	<ul style="list-style-type: none"> <li>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>Compare and order fractions, including fractions <math>&gt; 1</math></li> <li>Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>]</li> <li>Divide proper fractions by whole numbers [for example, <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>]</li> <li>Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, <math>\frac{3}{8}</math>]</li> </ul>
<b>Decimals</b>	<ul style="list-style-type: none"> <li>Solve problems involving number up to three decimal places</li> <li>Solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25.</li> <li>Multiply one-digit numbers with up to two decimal places by whole numbers</li> </ul>
<b>Percentages</b>	<ul style="list-style-type: none"> <li>Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</li> <li>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> </ul>
<b>Ratio</b>	<ul style="list-style-type: none"> <li>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</li> <li>Solve problems involving similar shapes where the scale factor is known or can be found</li> <li>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</li> </ul>

<b>Geometry</b>	<ul style="list-style-type: none"> <li>• Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> </ul>
<b>Statistics</b>	<ul style="list-style-type: none"> <li>• Interpret and construct pie charts and line graphs and use these to solve problems</li> <li>• Calculate and interpret the mean as an average.</li> </ul>

<u>Summer</u>	<u>Objectives</u>
<b>Geometry</b>	<ul style="list-style-type: none"> <li>• Draw 2-D shapes using given dimensions and angles</li> <li>• Recognise, describe and build simple 3-D shapes, including making nets</li> <li>• Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>• Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</li> </ul>
<b>Position and Direction</b>	<ul style="list-style-type: none"> <li>• Describe positions on the full coordinate grid (all four quadrants)</li> <li>• Draw and translate simple shapes on the coordinate plane and reflect them in the axes.</li> </ul>
<b>Algebra</b>	<ul style="list-style-type: none"> <li>• Use simple formulae</li> <li>• Generate and describe linear number sequences</li> <li>• Express missing number problems algebraically</li> <li>• Find pairs of numbers that satisfy an equation with two unknowns</li> </ul>
<b>Measures</b>	<ul style="list-style-type: none"> <li>• Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>• Convert between miles and kilometres</li> <li>• [for example, 0.375] for a simple fraction [for example, 3/8]</li> </ul>
<b>Mathematical Curiosity</b>	<ul style="list-style-type: none"> <li>• Mathematical Investigations</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 addition, subtraction, multiplication and division</li> </ul>